



PRELIMINARY ASSESSMENT

PROPOSED BULK LIQUIDS BERTH NO. 2

FISHBURN ROAD, PORT BOTANY

Date : 19th March 2007

1.1 INTRODUCTION

Vopak Terminals Sydney Pty Ltd ('the Proponent') is proposing to submit a Development Application and Environmental Assessment Report for the construction of a second Bulk Liquids Berth (BLB2) facility at Port Botany NSW.

The existing Bulk Liquids Berth (BLB1) is owned and operated by Sydney Ports Corporation. As currently established with BLB1, BLB2 will be an open access/common user facility for the use of all potential bulk liquids customers. In order to minimise the duplication of facilities between BLB1 and BLB2, the proposal for BLB2 will augment existing BLB1 infrastructure for access control, administration and port officers accommodation, together with a new berth structure and ancillaries (user pipelines, fire protection system, hose handling gantries, berthing and mooring equipment).

The Proponent is a company that provides bulk liquid services (storage, transport, bulk handling, packaging and distribution) and access to distribution facilities to independent operators and large corporations. These bulk liquids include fuel-based products used for energy and transport functions throughout NSW.

The Proponent operates two bulk liquid storage terminals in Port Botany, approximately 13 km south of the Sydney CBD. The first is known as the Site A Terminal and is located at 49 Friendship Road. The second facility, known as the Site B Terminal, is located at 20 Friendship Road. Both sites store petroleum products. BLB2 development would take place upon SPC land at the Fishburn Road side (western) of the Site B Terminal, adjacent to the boundary with the Elgas Caverns. Refer Appendix 1 - attached Layout Plan

This Preliminary Assessment has been prepared to initiate the assessment of the proposal under Part 3A of the Environmental Planning and Assessment Act 1979 (the Act).

1.2 BACKGROUND

The Sydney region existing demand for finished petroleum products is approximately 11,600,000 Kilolitres (KI) per annum. Sydney refineries at Caltex Kurnell and Shell Clyde are operating at near full capacity and produce approximately 9,710,000 KI of petroleum products (including petrol, diesel, and aviation products) per annum.

In addition to this current regional production of refined product, there is approximately 1,440,000 KI of products imported into the Sydney region to supplement the refinery output. The products are imported via Shell Gore Bay, Caltex Kurnell (both import crude oil and approximately 590,000 KI of refined products to cover any shortfalls from refinery output quoted above) and BLB1.

BLB1 is utilised by Vopak, Terminals, Elgas, Mobil, Origin and Orica. The volume of imported petroleum fuels via BLB1 is currently 850,000 KI split mainly over various grades of petrol, diesel and aviation products. BLB1 also handles chemicals and gases.

Due to legislated changes to the petroleum product specifications, refinery production is expected to at best remain stable. There may also be a reduction in capacity as a result of legislated changes. In line with this, Caltex have sought development approval for an additional 82,000 KI of storage per annum.

Therefore, combined with increased market demands, there is an increasing requirement to import refined petroleum products (petrol, diesel, aviation fuels etc) to satisfy this shortfall between current production capacities and demand

The Australian Government Greenhouse Report and 2006 industry advice indicates the future increase in market demand for petroleum products of 2% per annum. Part of this increase in market demand is the supply of jet fuel to Sydney Airport. This supply is currently sourced from Shell Clyde, Caltex Kurnell, Mobil Botany and Vopak Site B at Port Botany. Mobil Botany is limited in capacity and the pipeline from Shell Clyde and Caltex Kurnell is at capacity.

Due to refinery capacity limitations, and cognisant of the proposed DA application by Caltex, the only alternative facility available to handle this projected increase in imported petroleum products is the existing BLB1.

While the chemicals market is expected to remain stable, industry sources advise that the gas market will also grow at approximately 2% per annum.

The existing BLB1 is a multi-user facility handling petroleum, chemicals, gas products and future biodiesel products with a maximum discharge rates as set out below:

Product	Maximum Pumping Rate
Petroleum products to Vopak	1,000 kL per hour per marine loading arms with a maximum of two MLA's.
Petroleum products to Mobil at Stephens Rd	350 kL per hour
Chemicals	130 kL per hour average across multiple simultaneous hose discharges
Gas	80 to 500 tonnes per hour depending on the ship
Biodiesel products	150 to 400 kL per hour depending on the product

Each operator at BLB1 has its own infrastructure, marine loading arms (MLA's) and hose discharge points. BLB1 capacity is currently being optimised by Vopak's installation of a second MLA to reduce the pumping time associated with petroleum products.

Other products (chemicals and LPG) are at their maximum pumping capacities as the pumping rates are ship dependent and additional berth equipment would not improve the berth occupancy further. However, even with the optimisation of BLB1, it is recognised that existing customers incur demurrage costs despite the berth utilisation being under 65% or between 200-250 days occupancy per year.

This impact is caused by a number of factors, including:

- Scheduling conflicts – i.e. availability of berthing slots, partly due to lack of international co-ordination in the delivery of petroleum, gas and chemical products into Port Botany
- Operational limitations – i.e. number of loading arms, ship size and discharge performance.

1.2.1 PROJECTED DEMAND

An increase in berth occupancy will be driven by industry growth caused by increasing utilisation of existing storage facilities to their maximum capacity and additional facilities either being installed or planned to be installed in the Port Botany area.

With respect to under-utilised facilities for example, during 2005 and the first half of 2006, Vopak Site B1 was only operating at 25% capacity. By the end of April, 2006 Vopak Site B1 will be at full capacity. This will increase the berth occupancy by approximately 3%.

There are two main contributors to forecast berth occupancy increases due to facilities development:

- Firstly, the development of petroleum import facilities by Vopak. Vopak is currently extending Vopak Site B2 and has sought planning approval for the construction of additional storage facilities and pipelines at Vopak's Site B3 (over \$100m in capital investment).

Vopak Site B2 will be commissioned in February 2007 and will require an additional 8% berth occupancy. When the first stage of Vopak Site B3 is commissioned in November 2008 an additional berth occupancy of 10% will result and then another 9% in January 2011 when the second stage of Vopak Site B3 is commissioned.

In total, the developments at Vopak sites B2 and B3 will result in an additional total requirement of approximately 30% berth occupancy increase. This is equivalent to half of the usable capacity of a single berth.

- Secondly, Vopak, and more tentatively Terminals Pty Limited, have announced plans for biodiesel plants to be installed in the Port Botany area. Each of the biodiesel plants will potentially have capacity for 300,000 KI per annum, giving a total additional BLB1 throughput of 600,000KI. Biodiesel alone could account for in excess of 150 days or 40% berth occupancy increase.

1.3 SITE LOCATION, ADJACENT USES

BLB1 is located in Botany Bay at the end of Charlotte Road Port Botany. It is adjacent to Brotherson Dock which services the containerised import and export sector.

Currently BLB1 provides facilities to import products into:

- Vopak terminals Site A and Site B for petroleum and chemical products
- Mobil terminal at Stephens Road Port Botany ("Mobil Site") for petroleum products
- Terminals site at 43-45 Friendship Road and 11-13 Simblist Road, at Port Botany ("Terminals Site") for fuel and chemical products.
- Elgas site at 30 Friendship Road, Port Botany ("Elgas Site") for LPG
- Orica site at 39 Friendship Road, Port Botany ("Orica Site") for LPG
- Origin site at 47 Friendship Road, Port Botany ("Origin Site") for LPG

It also provides facilities to export products from the following locations:

- Vopak Sites A and B for petroleum and chemical products
- Mobil Site for petroleum products
- Terminals Site for chemical products
- Elgas Site for LPG
- Origin for Py-Gas and ethylene.
- Orica for LPG (small amounts)

Exports currently form only a small portion of the BLB throughput. Based on time at the berth, the major products influencing the berth time are petroleum products and LPG.

The proposed location of BLB 2 is approximately 250m South of the existing BLB 1 along Fishburn Road and will be approximately in alignment with the boundary separating the ELGAS Caverns from Vopak Site B.

Appendix 1 shows the position of BLB1 and an indicative position of BLB2.

1.4 THE PROPOSAL

BLB2 will be an open access/common user berth which will handle the same type of products and will be designed and operated consistent with the current ship capacity and operations of BLB1. The frequency, size and types of vessels envisaged to use BLB2 is consistent with the current use of BLB1.

The key design parameters for BLB2 are as follows:

- 1.4.1. Jetty and berth complete with roadway access, personnel egress and personnel emergency egress;

- 1.4.2. The design life of the BLB2 shall be minimum 50 years.
- 1.4.3 Jetty roadway and berth suitable for maintenance/construction cranes;
- 1.4.4 Ship positioned in 16.5m of minimum water depth;
- 1.4.5 Ship maximum size of 265m LOA and 90,000DWT LR-Class Tankship;
- 1.4.6 Ship minimum size of 68m LOA with berthing flatside of 25m;
- 1.4.7 BLB2 shall be located so that the maximum ship size as above may operate simultaneously at BLB1, BLB2 and future BLB3.
- 1.4.8 Ship's fenders and mooring equipment inclusive of hazardous area classified electrical winching and quick releases;
- 1.4.9 Deck adjacent to ship shall be slightly higher than BLB1 approximately 5m AHD;
- 1.4.10 The Deck width measured away from the ship shall be larger than BLB1;
- 1.4.11 Fire System for berth/ship fires, foam and water compatible and c/w international ship-shore connections;
- 1.4.12 Fire Pump House and Fire Control Room, suitably blast/fire resistant or equivalent located near the shore, complete with deepwell pumps and electrical backup systems;
- 1.4.13 Hydraulic ships' access (gangway) system in addition to clearance required for ships' gangways and/or portable brow;
- 1.4.14 Hydraulic Berth crane suitable for ship provisioning and product transfer hose lifting from berth to ship's manifold (approx 5 tonne SWL);
- 1.4.15 The same number and size of user pipelines, hose connection points and Marine Loading Arms as existing plus a 50% area provision for future needs;
- 1.4.16 Allowance for all existing chemicals, fuels and flammable gases to be handled at BLB1 and BLB2;
- 1.4.17 Users' hose storage area;
- 1.4.18 Deck structural provisions for ease of anchoring Marine Loading Arm's (MLAs);
- 1.4.19 Pipe supports and all pipe routing above deck inclusive of access for inspection and maintenance along their full lengths – unlike BLB1;
- 1.4.20 Forklift access for ship-side operations of hose manifolds;

- 1.4.21 Berthing and Mooring bollards/equipment designed for the above range of ship sizes;
- 1.4.22 Spill containment system, complete with lockable sea drain and pump to shore waste tanker removal facilities and water treatment systems to ISGOTT standards;
- 1.4.23 Potable water metered connections for ships;
- 1.4.24 Wharf Operators hut near berth manifold inclusive of ship/manifold observation windows and separate Laboratory room (note without drainage);
- 1.4.25 Lighting;
- 1.4.26 Safety showers c/w remote activation alarms;
- 1.4.27 Electrical power for equipment and maintenance outlets;
- 1.4.28 Closed Circuit Television (CCTV) System interfaced to existing BLB1 SPC Port Buildings system;
- 1.4.29 All electrical equipment shall conform to the applicable Hazardous Area Classification.
- 1.4.30 Oil spill boom storage and deployment area;
- 1.4.31 Bunkering by barge and/or hose from BLB2 shall be accommodated.

1.5 BLB2 Associated User's Infrastructure:

- 1.5.1. Fencing and electronic gate security interfaced to existing BLB1 SPC Port Buildings system;
- 1.5.2. Shore Amenities Buildings including Sample-testing laboratory, Lunchroom and toilets for 8 Operators, 2 showers;
- 1.5.3 Maintenance Contractors Laydown and shedding area;
- 1.5.4 Shoreline valve pit for the isolation of all product lines to/from the berth;
- 1.5.5 Pipeline supports to BLB1 area and onwards to each users' terminal (upgrade or double deck as required);
- 1.5.6 Quarantined rubbish storage area
- 1.5.7 The current Berth User's are:
 - Vopak Site A Chemicals
 - Vopak Site B Petroleum

- Terminals Pty Ltd
- Hydrocarbons Pty Ltd
- Origin Energy
- Elgas
- Mobil via Terminals Pty Ltd

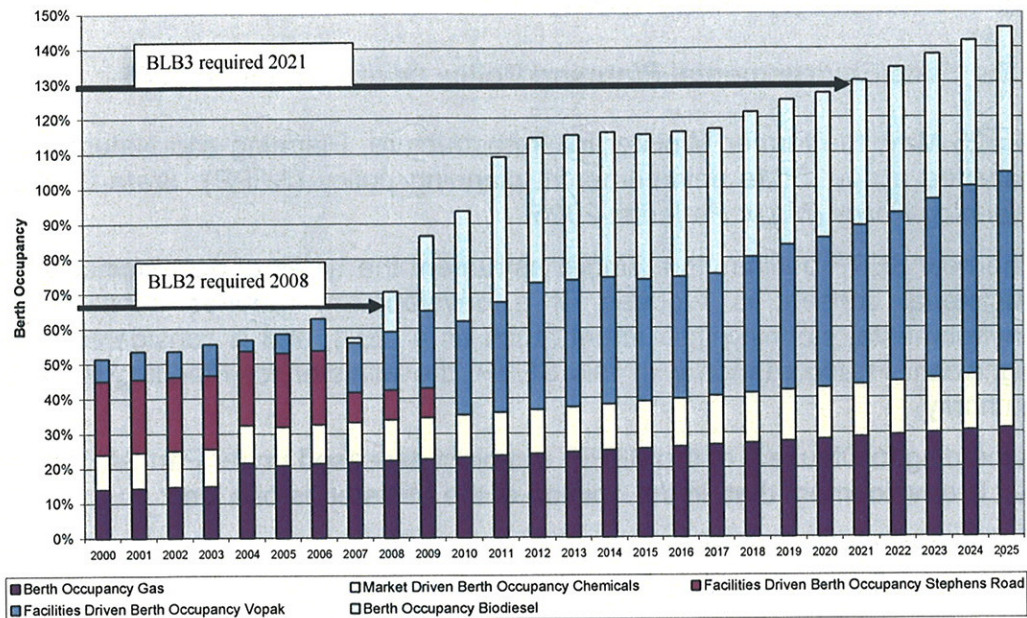
1.6 Facilities shared with BLB1 will include:

- 1.6.1. SPC Land Buildings for Control and Supervision of BLB2;
- 1.6.2. Road access along Fishburn Road from Charlotte and Friendship Roads;
- 1.6.3. Pipeline corridor complete with concrete connecting deck adjacent to BLB1;
- 1.6.4. Upgrade and enlarge the existing Charlotte Road Valve Pit and associated road/pipe culvert for the BLB2 piping and exchanger system for wharflines that connect to both BLB1 and BLB2. Note Charlotte Road Valve has existing a seaside pipe pit and road culverts, with the land side to be developed;
- 1.6.5. Charlotte Road Valve Pit complete with existing foam-fire system (potential pipeline connections teeing to BLB2 from this location).

1.7 JUSTIFICATION AND ALTERNATIVES

1.7.1 Justification

The graph generated below depicts current and future berth occupancy rates utilising data sourced from SPC, government and industry forecasts, combined with facilities development projects scheduled and proposed for the Port Botany area,. Please note that this graph has allowed for the proposed biodiesel capacity to be installed. This biodiesel capacity has a significant effect on berth occupancy and the following biodiesel plant installation timetables have been included in the calculations; Vopak (Stage 1 – 2008, Stage 2 – 2010) and Terminals (Stage 1 – 2009, Stage 2 – 2011).



- a) Cognisant of the graph, and recognising that a berth occupancy greater than 65% will create significant demurrage costs, it is projected that there will be significant issues with BLB1 berth occupancy from 2008/2009.

Based on this projection, it is contended that SPC's ability to meet its strategic and business objectives in the provision of port facilities for sustainable economic benefit to both the organisation and the NSW economy as whole, will be impeded without the provision of a second bulk liquids berth in or around 2009.

Additional research is required by SPC and Vopak to determine when construction of BLB2 will occur. The trigger point for the actual construction of BLB2 is reliant upon the timing of actual commitments by the companies that are investing in the bulk liquid storage facilities cognisant of the estimated lead time to construct the berth.

Based on the trigger point, the timetable for the construction of BLB2 can be agreed and the construction timetable, contracting strategy and funding can be approved in the appropriate timeframes.

1.7.2 Alternatives

There is no effective alternative available; the existing BLB 1 already operates on a 24/7 basis and it will soon be approaching maximum ship handling capacity. The BLB User's Facilities are located in Port Botany which are accessed by pipelines from the BLB and hence dictate that any new BLB would need to be located in the nearby area to minimise pipeline extensions and therefore enable adequate ship pumping rates to occur.

1.8 STATUTORY FRAMEWORK

1.8.1 State Environmental Planning Policy (Major Projects) 2005

On 25 May, the former Minister for Infrastructure, Planning and Natural Resources gazetted a new State environmental planning policy (SEPP): *State Environmental Planning Policy (Major Projects) 2005*.

The new SEPP outlines in a single instrument the types of developments for which Ministerial consent is required. If a development requires consent under an environmental planning instrument (such as a LEP), and is considered to be State significant in accordance with this SEPP, the Minister for Planning is the consent authority.

According to Clause 6 of the SEPP, a project assessed under Part 3A of the EP&A Act is development that, in the opinion of the Minister, is of a kind:

- *described in Schedule 1 or 2, or*
- *described in Schedule 3.*

The proposal is considered to meet the definitions included within Schedule 1 (clause 22)) and Schedule 2 (clause 7(1)).

Schedule 1 ('Part 3A projects – classes of development') includes under Group 8 ('Transport, Energy and Water Infrastructure'):

22 Development for the purpose of shipping berths or terminals or wharf-side facilities (and related infrastructure) that has a capital investment value of more than \$30 million.

Schedule 2 ('Part 3A projects - specified sites') includes:

7 Port and Related Employment Lands

(1) Botany

Development within the area identified on Map 5 to this Schedule for the purpose of:

(a) a shipping berth, shipping terminal or associated building, structure or work, or

(b) a facility that manufactures, stores or uses significant quantities of dangerous goods and meets the criteria in State Environmental Planning Policy No 33—Hazardous and Offensive Development of being potentially hazardous, or

(c) a waste facility that meets the criteria in State Environmental Planning Policy No 33—Hazardous and Offensive Development of being potentially hazardous.

The proposal has a capital investment value of \$30 million and as a result, the proposal is a project to which Part 3A applies and the Minister would be the consent authority.

In addition, the proposal is within Map 5 and is consistent with definitions of (a) and (b) of Schedule 2 specified sites – port and employment related land. As such, the proposal is a project to which Part 3A applies and the Minister would be the consent authority.

1.8.2 Statutory Consultation

To date statutory consultation has been limited to discussions with Sydney Ports Corporation regarding the preferred concept layout plan arrangements for the proposed site and preliminary discussions with the Department of Planning.

1.9 PRELIMINARY ENVIRONMENTAL ASSESSMENT AND SUMMARY OF ISSUES

The preliminary investigations identified a number of benefits that the proposal would produce to both the Port Botany and broader environmental region. These benefits include:

- To ensure New South Wales has adequate berth capacity at a competitive rate to other Australian ports to satisfy existing and future estimated demands for the import and export of bulk liquids.
- To ensure the provision of sufficient berth availability for bulk liquids importers and exporters through Port Botany, through commercially viable facilities, such that users are not subject to excessive demurrage.
- To ensure adequate throughput capacity is available to service the bulk liquids distribution market demand through Sydney.
- Provide sufficient berth capacity to allow bulk liquid import/export industrial developments to be undertaken.
- To optimise the utilisation of existing SPC assets.

1.9.1 Hazards and Risks

Under State Environmental Planning Policy No. 33 - Hazardous and Offensive Development a hazardous industry is a *“development for the purposes of an industry which, when the development is in operation and when all measures proposed to reduce or minimise its impact on the locality have been employed... would pose a significant risk in relation to the locality: (a) to human health, life or property; or (b) to the biophysical environment.”*

An offensive industry is defined as a *“development for the purposes of an industry which, when the development is in operation and when all measures proposed to reduce or minimise its impact on the locality have been employed... would emit a polluting discharge... in a manner which would have a significant adverse impact in the locality or on the existing or likely future development on other land in the locality.”*

The proposal is likely to be classified under Part 3 of SEPP 33 ; Potentially Hazardous and Offensive Development. Such development requires a Preliminary Hazard Analysis to be carried out.

The 1996 Department of Urban Affairs and Planning Port Botany Land Use Safety Study Overview Report which developed and documented cumulative risk contours for existing and future developments in the Port.

The DUAP Report reviewed and included the provision for two (2) future Bulk Liquids Berths within the future development risk contours. The data (dimensions/location and product profile with throughputs) for the calculations of the risk contours for these two future BLB's were provided by the SPC and were based on duplicating BLB1.

As part of this preliminary assessment SPC has reviewed the 1996 Port Botany Land Use Study and has concluded that it remains *"valid and fully applies in relation to a second Bulk Liquids Berth to be located adjacent Fishburn Road Port Botany, on the basis that:*

- *The second BLB will handle the same type of products and operate consistent with the current operations of the existing BLB*
- *All events modelled in the 1996 Study equally apply*
- *The number of "Major" risk facilities has reduced between 1996 and 2007, resulting in the developed use of these storage areas as horehousing facilities classified as lower risk;*
- *All hazards identified in the 1996 Study equally apply*
- *The cumulative risk profile for the developed Port in its present state in 2007 (noting the reduction in risk due to the removal of JORTL and the redevelopment of 6.77ha designated for bulk liquid storage as container and warehousing storage) is consistent with the facilities that existed, were approved or were postulated in the 1996 Study."*

Hence, it is expected that the identified risks for a second BLB will comply with the Department of Planning's guidelines for individual fatality risk, heat radiation, injury risk and property damage risk. Societal risk does not require calculation due to the distances to the nearest residences. The projected risks from the proposed BLB 2 and the associated increase in berth operations are expected to fall within the revised cumulative risk contours published by the Department of Urban Affairs and Planning in 1996.

A PHA will be commissioned during the EA phase in order to confirm this position.

1.9.2 Traffic and Transportation

The net impact of traffic movements within the Port boundaries is expected to be minimal. Terminal operations personnel are already based within the Port areas and currently travel to/from the existing BLB 1 in Charlotte Road. For shipping operations at BLB 2 the same personnel will travel to the existing SPC BLB 1 Security entrance way to gain access to Fishburn Road and hence the BLB 2. The increase in this traffic is proportional to the increase in the number of ships arriving to discharge.

A similar increase is to be expected for the associated visitors (Shipping Agents, Customs Personnel, Stevedores, Maintenance Contractors and Marine Surveyors).

A detailed study of the existing BLB 1 traffic flows together with review of any increase due to BLB 2 will be carried out as an integral part of the EA process.

1.9.3 Air Quality

Air quality impacts need to be considered to determine any potentially adverse impacts on air quality, particularly during operational (shipping discharge/ loading) periods, and is expected to be a requirement of the Department of Environment and Conservation. Such potential impacts have been addressed in both the Vopak Site B3 Expansion EA and the Vopak Site A Biodiesel Project with respect to terminal operations. Other BLB 2 User's will have to review air quality impacts (if any) on their operations which in turn will depend upon which pipeline/ product facilities they intend to install at the proposed BLB 2.

1.9.4 Noise

Noise impacts during construction and operational periods would need to be assessed to determine any potentially adverse impacts as part of the Department of Environment and Conservation's Industrial Noise Policy. Potential noise impacts arising from additional transportation movements would also be considered.

No significant noise issues are associated with the current operation of BLB 1 and therefore a similar situation could be expected for BLB 2.

1.9.5 Marine Environment and Effects of the Proposal

1.9.5.1 Hydrodynamics and Coastal processes

Minimal interferences with the local hydrodynamics and coastal processes is anticipated with the concept design of BLB 2. The Director Generals' Requirements would indicate the level of study required.

1.9.5.2 Effects of Dredging

The concept design for BLB 2 is a steel piled structure which will not require dredging and hence there will be little or no effects

1.9.5.3 Effects of Reclamation

No land reclamation is anticipated

1.9.5.4 Effects of Shipping movements/Navigation

SPC have carried out substantial work/studies and this would be incorporated into the EA proposal

1.9.5.5 Effects of an Oil spill

Once the concept design is confirmed and detailed engineering can commence the issue of Oil Spill Prevention and Containment can be addressed