Preliminary Environmental Assessment

PROPOSED
VOPAK PETROLEUM STORAGE SITE B STAGE 4 (B4) at the ELGAS CAVERN SITE

30 FRIENDSHIP ROAD PORT BOTANY NSW

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1. Introduction

Vopak Terminals Sydney Pty Ltd is proposing to construct and operate a Petroleum Storage Terminal to be located within land currently a neighbouring Propane Storage facility at Port Botany NSW. The existing Propane Storage facility is owned and operated by Elgas Pty Ltd at 30 Friendship Road. The proposal would utilise existing infrastructure from the adjacent Vopak Site B and would serve to expand the Vopak Site B capacity for the purposes of storing and distributing Petroleum Fuels (Automotive, Aviation and Marine) and other Crude Oil derivatives (eg. Heavy Fuel Oil (HFO), Bitumen and Base Oils).

NOTE: The proposal is to store Combustible (C1 and C2) products **only** (i.e. no Flammable Class 3) products on the proposed site.

Vopak Terminals Sydney Pty Ltd 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 both crude oil based and bio-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 and stores primarily Chemicals. The second facility, known as the Site B Terminal, is located at 20 Friendship Road and stores primarily Petroleum products. The proposal would take place upon land at the Elgas Terminal (30 Friendship Road) but would integrate with the Vopak Site B Terminal (20 Friendship Road).

This document has been prepared as a pre-cursor to initiating a more detailed Preliminary Assessment Report of the proposal under Part 3A of the Environmental Planning and Assessment Act 1979 (the Act).

The expansion area would take place within the current boundaries of the Elgas Terminal on land (7.15 hectares) described as Lot 2 DP858108 at 30 Friendship Road Port Botany. Vopak and Elgas land within Port Botany is all leased from Sydney Ports Corporation.

The proposal also includes utilisation of existing Vopak Site B infrastructure of Road Tanker Loading and integration into the wider regional fuel distribution network via the use of Pipeline as well as Ship Transfers via both Sydney Ports Corporation existing BLB1 and soon to be completed BLB2 Bulk Liquids Berths

The expansion would be constructed in a two (2) stage approach (known as B4A and B4B) over an anticipated 2 -7 year span.

1.2 Background

1.2.1 The Vopak Site B Terminal

The existing Site B Terminal was established in 1995 to serve an identified need for an independent Bulk Fuel Distribution facility in the greater Sydney Region. The facility caters for the distribution of bulk liquid fuels to the Oil Majors and various Independent Fuel Distribution companies.

The current facility is integrated via pipelines into a wider network of petroleum and liquid fuels transport infrastructure with other facilities such as Sydney Airport and oil industry corporations including Caltex Banksmeadow, Caltex Kurnell and Mobil Silverwater. Consequently, Vopak infrastructure is a critical part of the network to ensure other bulk liquid and cargo distribution facilities operate in an efficient and environmentally safe manner.

The existing Site B facility is expected to reach full capacity during 2011 with an occupancy of more than 95% and a throughput of close to 2 billion litres. Further expansion or throughput is required as volume continues to grow and new business opportunities arise due to a growing market demand for ground, aviation and marine fuels together with possible closures of certain activities at the refineries and the construction of BLB2. There are two (2) probable scenarios to consider : -

- Organic Growth in the Sydney Metropolitan Region
- Significant Step Change (such as a Refinery Closure and subsequent increase in Imports)

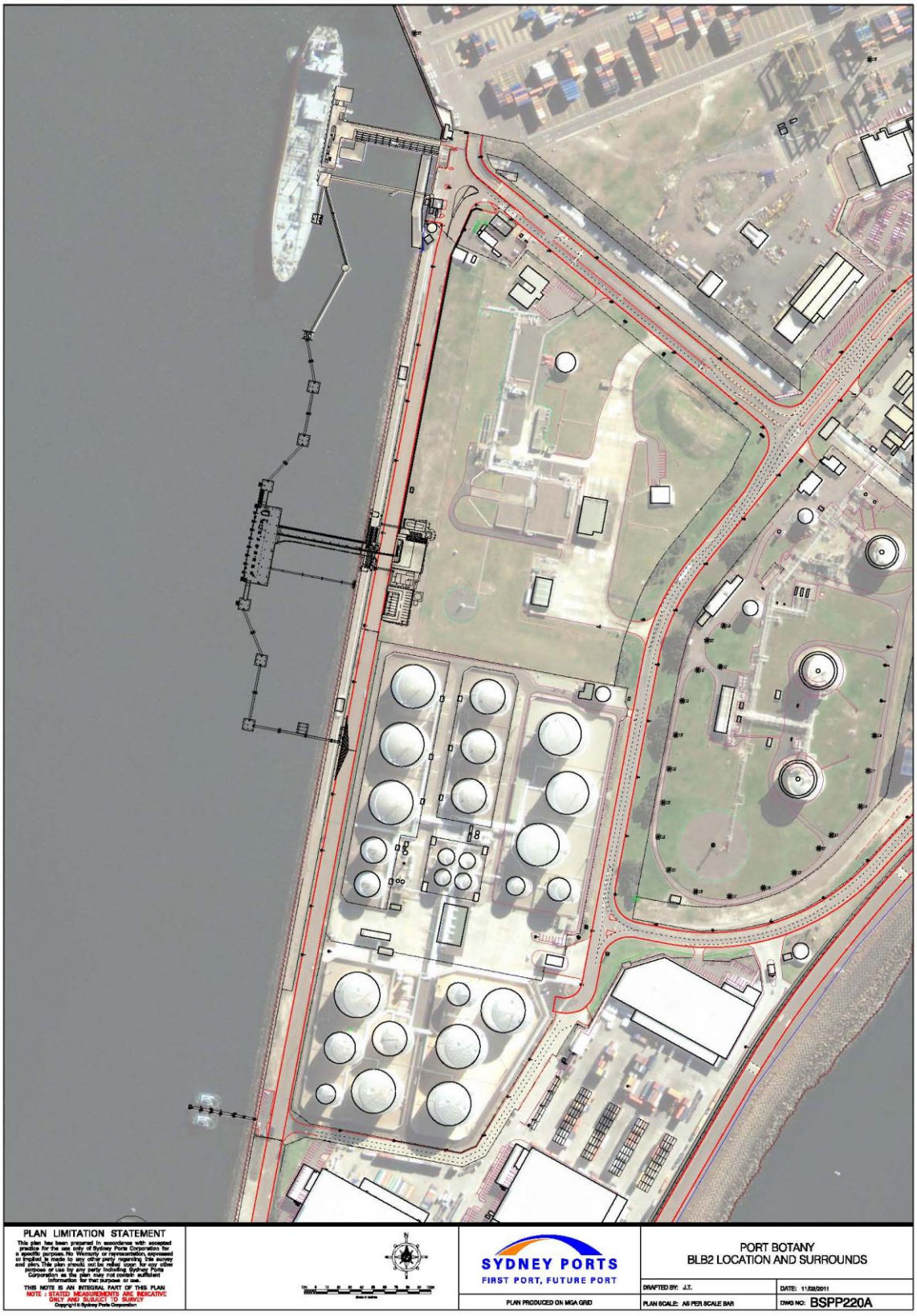
1.3 Site location

The Elgas Terminal is a 7.15 hectare site located at 30 Friendship Road, Port Botany and comprises:

Lot 2 DP 858108

Vopak is currently negotiating an an agreement with Elgas to develop the site, taking into account Elgas's own future site development plans, with a view of Vopak securing a lease with the Sydney Ports Corporation over the areas of the site necessary for the proposed Vopak operations.

Figure 1 Location of the proposal



1.4 The proposal

1.4.1 Generic description

The proposal is the construction and operation of a Petroleum Fuels (Ground, Aviation and Marine) and Petroleum Products (HFO, Bitumen and Base Oils) Storage and Distribution Terminal which will include storage tanks, road tanker loading facilities (only for Bitumen) and associated infrastructure (import/ export pipelines, Tank heating facilities, Vapour Emission Control, drainage, waste water treatment, security and fire protection systems). The proposal is to store Combustible (C1 and C2) products **only** (i.e. no Flammable Class 3) products on the proposed site.
The expansion would be effected in a two (2) stage approach Site B Stage 4 Parts A and B (known as B4A and B4B) over an anticipated 2-7 year span. The first phase, B4A, will be developed during 2012 and 2013 and commissioning will match the completion of BLB2. The second phase, B4B, will be developed in later years. Products to be stored will be dependent on developing import markets like Biodiesel, HFO, Base Oils and Bitumen.

These three (3) B4A tanks will initially be utilised as satellite tanks for Site B (most likely for products such as Diesel, Heavy Fuel Oil and Biodiesel). Ships will discharge their cargos from the Bulk Liquids Berth (existing No. 1 and/or new No. 2) to Site B via the Site B Wharfline/ Manifold systems. New Transfer Pipelines connecting the B4A Terminal to the Site B Terminal and/or BLB2 will be required as part of this project (during Stage B4A).

Elgas is also considering future developments for Butane Storage Facilities within their site. Vopak and Elgas have jointly developed a Site Master Plan Layout that will accommodate their respective future developments.

Refer to attached preliminary layout Plan E325-81-004 Rev C.

To accommodate these new tanks the existing Elgas Cold Vent Facility and the Maintenance Facility Building would be relocated. The existing Elgas Entry and Exit Roadway systems would be also be modified. The existing Vopak Site B Fire Protection system would be extended to service the B4A facilities. A new Electrical Supply facility will need to be constructed.

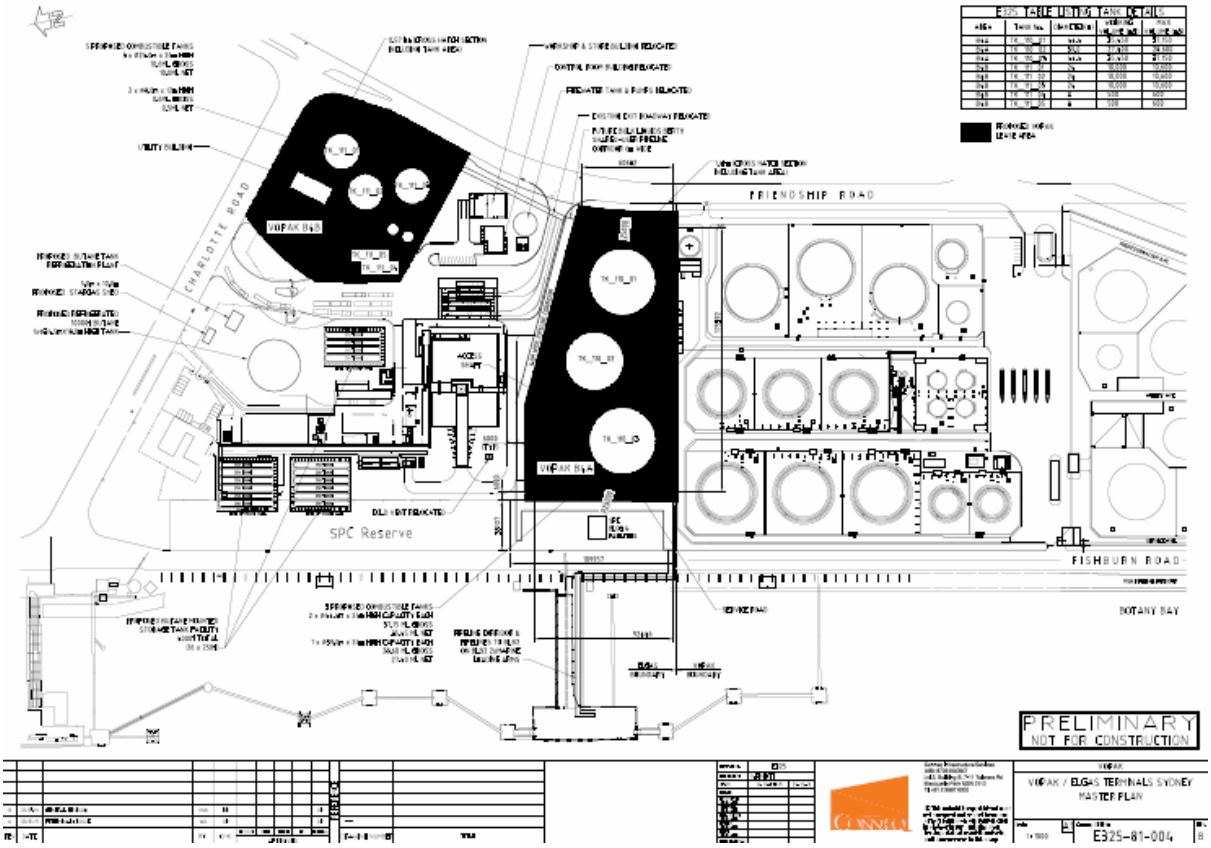
The construction period for Stage B4A would take approximately 40 weeks and would employ between 50 – 70 staff during different phases of construction.

The Second and final Stage of the proposal (known as B4B) will require the construction of five (5) Tanks and a Road Tanker loading Facility (for Bitumen and/or Base Oils only).

The construction period for Stage 2 would take approximately 65 weeks and would employ between 80 –120 staff during different phases of construction. There is extra work involved with the B4B project; primarily the relocation of the existing Elgas Control Room and adjacent Car Park.

The cost of the proposed development would be in the order of $80 million for the total project (Stages B4A and B4B).

Figure 2 Proposed Vopak Lease Areas on the Elgas Site



1.4.2 Storage tanks

For the proposed Stage 1 (B4A) development, two (2) tanks of 37 000 m^3 capacity and one (1) tank of 28 600 m^3 capacity would be constructed together with Bund Walls, Pump Bays and Import/Export pipelines.

For the proposed Stage 2 (B4B) development, three (3) tanks of 10 600 m^3 and two (2) tanks of approximately 600 m^3 capacity together with a Road Tanker Loading Gantry (for Bitumen and/or Diesel/Base Oils would be constructed.

All new storage tanks would be designed and constructed in accordance with:

AS1940: The storage and handling of flammable and combustible liquids; and
AS1692: Tanks for flammable and combustible liquids; or
API: 650 Welded Steel Tanks for Oil Storage

The tanks will be 24m shell height and therefore similar to those in Vopak Site B and will comply with the SPC Height Requirement of 32.5 m ISLW.

Tank No.	Diameter (m)	Working Volume (m3)	Maximum Volume (m3)
B4A -1	44.4	35 450	37 150
B4A -2	39.0	27 400	28 600
B4A -3	44.4	35 450	37 150
B4B-1	24.0	10 000	10 600
B4B -2	24.0	10 000	10 600
B4B -3	24.0	10 000	10 600
B4B -4	8.0	500	600
B4B -5	8.0	500	600

Total Storage Capacity = 135 900 m^3

Total Working Capacity = 129 300 m3

1.4.3 Product Throughput

Combustible Only Petroleum Fuels, both Ground Fuels (Diesel etc.) and High Flash Aviation Fuels (eg. Avcat) together with Biofuels (Biodiesel), Marine Fuels (HFO) and Base Oils are anticipated as likely products to be stored and distributed. Auxiliary products such as Additives and Slops will also be stored in relatively minor quantities. The fully developed (B4A and B4B) Terminal will have a storage capacity of approximately 136 000 m^3 .

The maximum anticipated throughput is between 6 and 10 tank turnovers per year which is equivalent of between **815,000 m^3** and **1 360 000 m^3** per year.

Tank turnovers are dependent on the characteristics of a certain supply chain. Some customers bring big parcels with low frequency and others bring smaller parcels with higher frequency. The trend of bigger ships is certainly going to require bigger tanks and will lead to a lower tank turn. All product (with the possible exception of Biodiesel) would be imported via ship discharges at Bulk Liquids Berth No. 1 and the future BLB No. 2.

Refer to Figure 2 and Figure 3 , Section 1.5.1 for the potential projected Scenarios (Organic Growth and Step Change) Site B Throughputs vs total Storage Capacity Requirements.

If B4A and B4B are predominantly utilised for Diesel/Biodiesel Storage and Distribution as expected, then the following distribution pattern will eventuate:-

Biodiesel

100% out by Road Tanker (as either 10% blend in Diesel (called B10), a 25% blend in Diesel (called B25) or as 100% (called B100)

Diesel

70% out by Road Tanker 6 Tank Turns = 570 000 m^3 (10% of this volume is biodiesel)

10 Tank Turns = 952 000 m^3 (10% of this volume is biodiesel)

30% out by CTP Pipeline Transfer 6 Tank Turns = 245 000 m^3

10 Tank Turns = 408 000 m^3

The existing 5 Bay Road Tanker Loading Gantry at Site B is currently operating at approximately 50% capability and therefore will have the capacity to cater for this extra volume of Road Tankers for the short/medium term. Also, Site B does have sufficient space to enable two (2) more Loading Bays to be added as demand increases. We anticipate that a maximum throughput of 3 500 000 m^3 can be handled via the Road Tanker Loading Gantries at Site B.

If other products such as HFO, Base Oils and Bitumen are stored then the above Diesel/Biodiesel throughput volumes will be reduced considerably.

1.4.4 Pumps

The existing Site B consists of an integrated pump network to transport products. The B4 proposal would require additional pumps , manifold additions/relocations and new pumps to transport petroleum products. The proposal includes:

- each tank would initially have a 500 – 1000 m^3 / hour transfer pump system

(to allow transfer to Site B tankage/ Site B RT Gantry/site B4 B RT Gantry)

- each tank would have associated pumps to allow the following duties for each product type: -

  - Road Tanker Filling (to existing Site B RT Gantry/Site B4 RT Gantry)
  - Recirculation
  - Tank to Tank Transfer
  - Transfer to Site B
  - Transfer offsite to 3rd party via pipeline
  - Transfer to Ship (Export)
  - For Bitumen – a local (B4B) RT Loading facility

1.4.5 Pipeline transfers

Several new pipelines will be required to connect Site B4 to the various transfer manifolds in Vopak Site B. These new pipelines will be product dedicated and will rest in product between shipping discharges to Site B4.

This includes the following pipelines:

For HFO:-

One (1) new 400 mm pipeline connecting Site B4A to Bulk Liquids Berth (BLB) No. 2 for Marine Heavy Fuel Oil (HFO). This pipeline will be electrically heat traced and insulated and remain in product between transfers to/ from the BLB 2.

One (1) new 300 mm pipeline connecting Site B4A to Bulk Liquids Berth (BLB) No. 2 for Vapour Return duties for loading HFO to Bunker Barges at the BLB 2.

For Bitumen:-

One (1) new 400 mm pipeline connecting Site B4B to Bulk Liquids Berth (BLB) No.2 for Bitumen. This pipeline will be electrically heat traced and insulated and remain in product between transfers to/ from BLB 2.

One (1) new 300 mm pipeline connecting Site B4A to Bulk Liquids Berth (BLB) No. 2 for Vapour Return duties for Bitumen

For Diesel :

One (1) new 400 mm pipeline connecting Site B4 to the existing Vopak Manifolds on existing Site B to allow connection to Bulk Liquids Berth (BLB) No. 1 and the new BLB2

For Base Oils/others:-

One (1) new 400 mm pipeline connecting existing Vopak Manifolds on existing Site B to Site B4 tanks

1.4.6 Vapour Emission Control Unit (VECS)

It is anticipated that the storage of Marine Heavy Fuel Oil (HFO) may require a Vapour Emission Control system for tank breathing due to the product characteristics (potential nuisance odours). The unit may be a Carbon Bed Adsorption unit; this requirement and final technology required will be determined during the detailed Engineering phase in consultation with DECCW.

1.4.7 Plant layout

The general layout includes defined areas and boundaries for storage tanks, pumps, manifold transfer points ,Slop Tanks, Additive Tanks and the road tanker loading gantries (Bitumen/Base Oils only). The proposal also includes Fire Protection systems, Utility Services, Electrical and Gas Heating, and Elgas facility relocations/ modifications.

All storage tank areas also include bunded areas to contain spills in accordance with AS1940. This includes bunded areas for 100% of tank volume plus 10% for any overspill. Bunds include common bund areas and separate bund areas depending on the product stored in the tanks.

1.4.8 Utility requirements

The facility itself would be powered by electricity. Other utility requirements and connections may include the following:

Potable water;
Cooling water;
Instrument air;
Hot Oil Heaters;
Natural Gas;
Nitrogen;
Stormwater;
Wastewater Treatment;
Fire Water Storage; and
Fire Fighting Foam Concentrate.

The current Site B wastewater treatment plant is designed for collection and treatment of stormwater collected in bunded areas housing petroleum products and it is anticipated an equivalent system would be required for the B4 project. Also, a First Flush recovery system will be included, where appropriate, for some other areas requiring drainage. An area has been set aside for the treatment plant, refer Plant Layout Plan.

No details have been provided in terms of annual electricity and water usage required for the proposal but would be similar to existing usages at the Site B terminal.

1.4.9 Fire protection

The AS1940 requirements for the proposed tanks will likely not require any significant addition to the existing Site B Fire Protection system capacity which will be extended to supply the B4 project.

All new tanks will comply with AS1940 for both Cooling Water and Foam as required for combustible storage. Existing fire water and fire foam headers are located around the existing Site B Terminal perimeter with a number of hydrants and monitors. Extension only modifications are required to connect this area to the existing water and foam headers as required.

1.4.10 Civil and structural works

The following works would be required as part of the proposal:

Decommissioning and relocation of existing Elgas Cold Vent system and associated facilities.

Earthworks – including removal of excess spoil or unsuitable materials, compaction, excavation of loose sand soils, removal of redundant pipe work and importation of fill materials;

Existing Elgas Car park relocation – paving and appropriate markings;

Relocation Northwards of the Elgas Propane Tanker exit;

Emergency access – perimeter road and appropriate surface material;

In B4B the construction of new Vopak tanker entrance and 4-bay Road Tanker Loading Gantry – tanker exit will merge to be in common with Elgas tanker exit;

In B4B relocation of Elgas Control Room and associated infrastructure

Stormwater system – replaced where appropriate due to excavation works, bunded (potentially contaminated) areas to drain to wastewater treatment system, general hardstand areas to drain to existing stormwater system; and

Bunded areas will comply with relevant Australian and Industry Code Standards.

1.5 Justification and Project alternatives

1.5.1 Justification

The market for New South Wales is in favour of importing fuels as the refineries are operating at maximum capacity and consumption is increasing. Import facilities must remain in pace with the growth of the market. At present Site B is now fully developed.

Elgas is the owner and operator of a LPG cavern situated adjacent to Site B. The capacity expansions would be built on land atop the cavern which is deep underground and able to support the proposed aboveground structures.

As a logical extension for further growth for VTA and increasing economies of scale, we have commenced discussions with Elgas to expand business on its land. The Elgas land is

adjacent to Site B and close to the bulk liquid berth 1 (BLB1) and new bulk liquid berth 2 (BLB2) locations. The land can only be utilised for combustibles as a preliminary risk assessment has shown flammables will not be compliant with Land Use Safety Planning Criteria. This does fit our strategy as Site B currently has a diesel pool of around 100,000 m3 and expected to grow further. VTA's landlord, the Sydney Ports Corporation (SPC), recently approved the development of BLB2 which means that the new berth will be available end of 2012/ early 2013. A further expansion of VTA's terminal would (ideally) match the timing of BLB 2 commissioning to benefit from potential new growth and different products.

Developing the Elgas land has several advantages as operational management is not green-field given the additional tanks can be easily operated from the existing Site B terminal. In addition, the site is close to the berths thus reducing investment in pipelines.

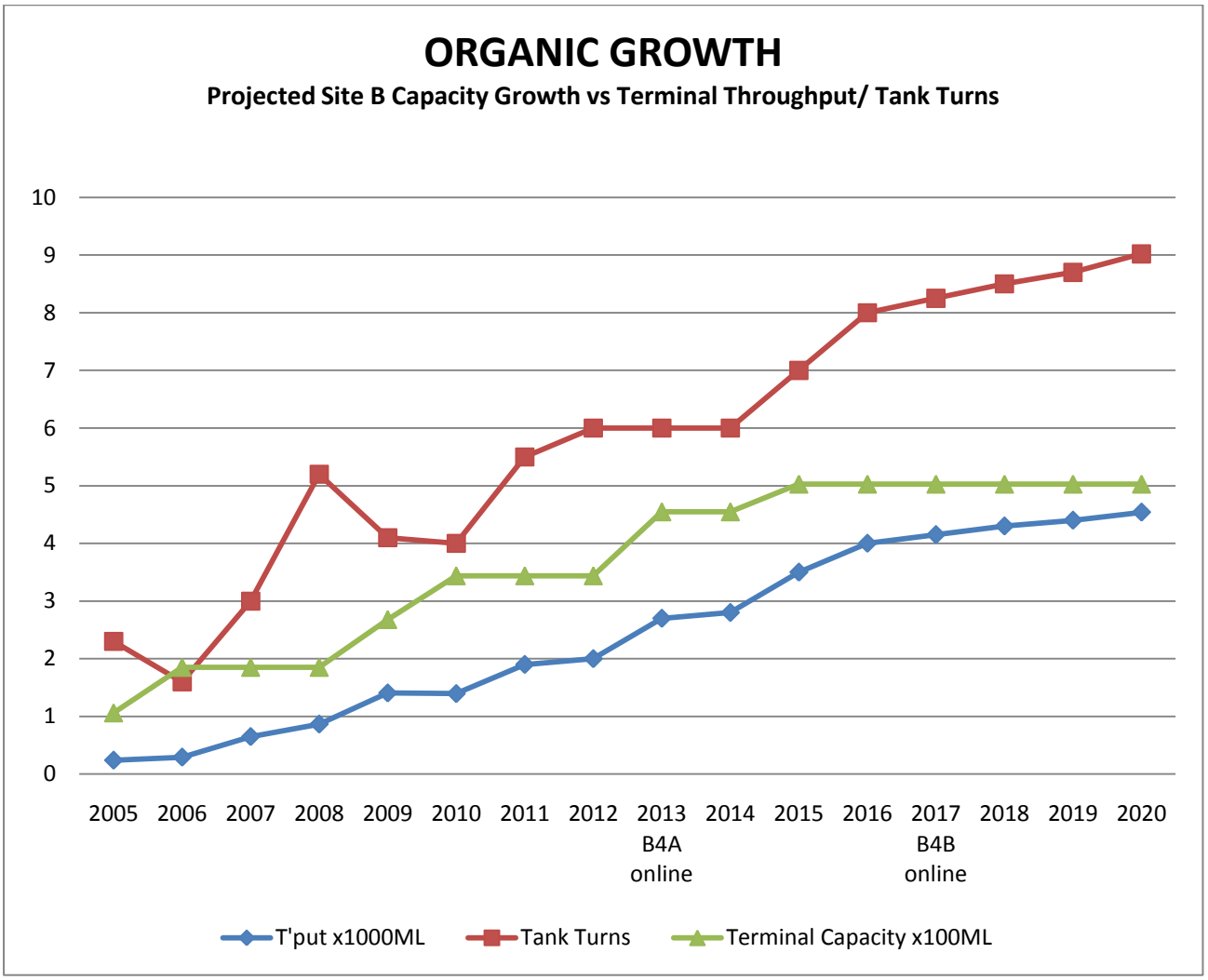
In order to grow our Petroleum business, developing the next phase on Elgas is the most logical choice. It will also improve the economies of scale on Site B in total.

As mentioned in the Introduction, there are two (2) probable scenarios to consider : -

- Organic Growth in the Sydney Metropolitan Region
- Significant Step Change (such as a Refinery Closure and subsequent increase in Imports)

Figure 2 below depicts the Organic Growth only Scenario and Figure 3 depicts the Step Change Scenario.

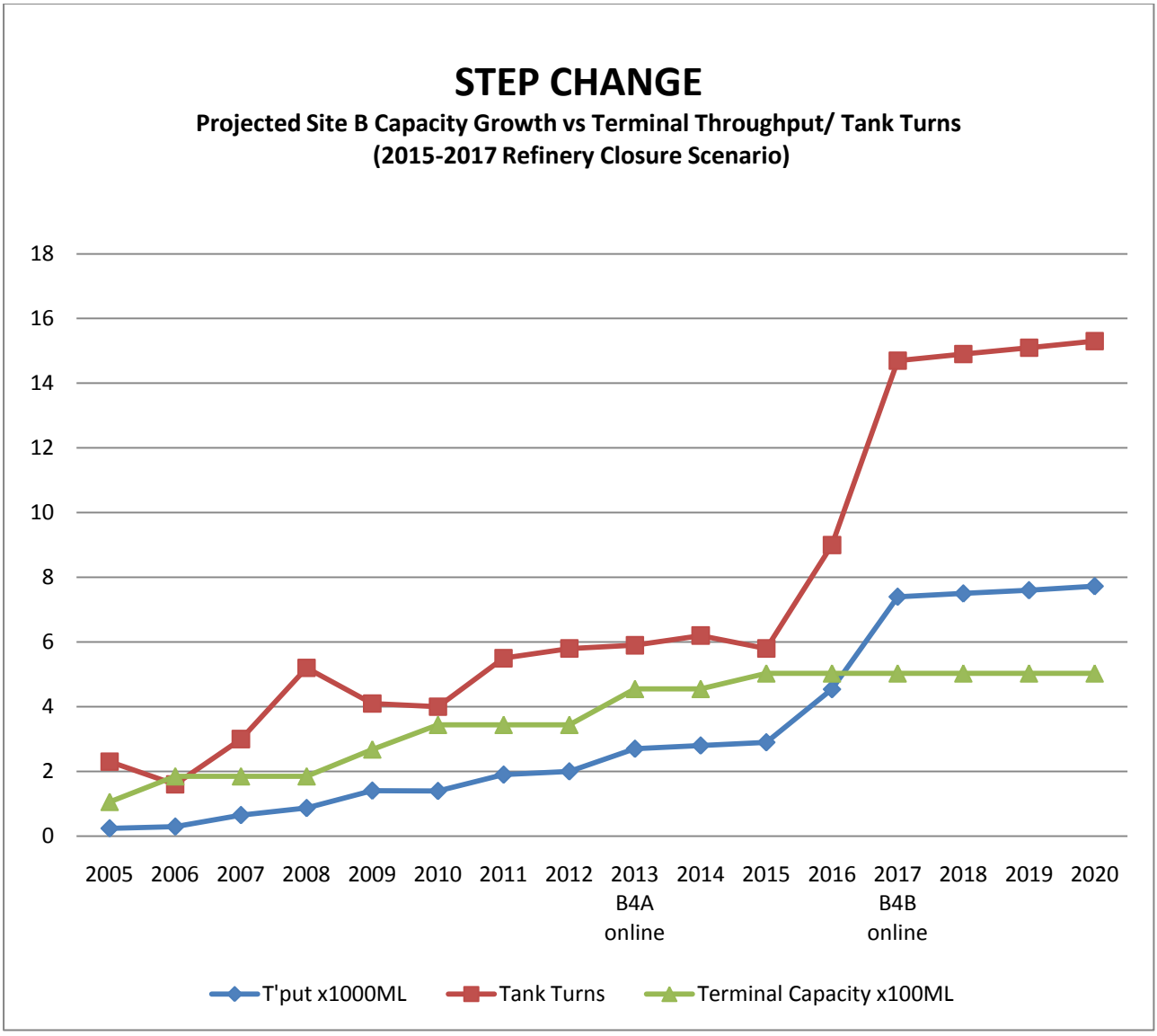
FIGURE 2



NOTE :

Projected Throughputs are for Ground/Aviation Fuels only (i.e. does not include HFO, Bitumen or Base Oil Volumes)

FIGURE 3



NOTE :

10 Tank Turns per Year is adopted for Site B as a practicable Working Maximum (and is highly dependent upon Shipping variables such as Ship Size, Charter Availability, Schedules and Other Port Discharges)

1.5.2 Project Alternatives

The Vopak Site B land (9 hectares) is now fully developed and there is no more SPC leasehold land available within the Port Botany precinct that is suitable for such a development (with the exception of Vopak Site A which is further from the berths).

1.5.3 SPC Lease Evaluation Criteria

The SPC have issued the following set of Criteria to be used to evaluate proponents for land leases :-

Item	Evaluation Criteria
1	Ability to achieve corporate objectives Vopak Response : Proven historical capability (ref: Site B3A, B3B projects)
2	Port, trade and economic benefits Vopak Response : Project involves new markets for Port Botany (HFO/Bitumen) and inevitable increase in petroleum imports
3	Proposed use Vopak Response : essentially an extension of current approved Site B facility/usage
4	Financial capability and capacity of proposed tenant Vopak Response: Access to Capital assured, long term tenant in Port Botany
5	Scope and extent of capital development/investment program: Vopak Response: Capital investment approx. $80 million
6	Demonstrated capability and experience in proposed business: Vopak Response : Refer Site B growth over previous 10 years
7	Commercial terms and conditions Vopak Response : Commensurate with current commercial situation
8	Bond and guarantees Vopak Response : As necessary

1.6 Statutory framework

1.6.1 State Environmental Planning Policy (Major Projects) 2005

On 25 May 2005, 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:

(a) described in Schedule 1 or 2, or
(b) described in Schedule 3.

The proposal is considered to meet the definitions included within Schedule 1 (clause 10(2)) and Schedule 2 (clause 7(1)).

Schedule 1 ('Part 3A projects – classes of development') includes under Group 3 ('Chemical, manufacturing and related industries'):

10(2) Development with a capital investment value of more than $20 million for the purpose of:

(a) bulk liquid storage facilities, or
(b) gas storage facilities, or
(C) chemical storage facilities.

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 Vopak proposal has a capital investment value of $70 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.

1.6.2 Statutory Consultation

To date statutory consultation has been limited to discussions with Sydney Ports Corporation regarding lease arrangements for the proposed site.

1.6.3 Approvals and licenses

The Vopak Site B Terminal is approved for storage of Petroleum Fuels/Products and does not cover the storage of additional fuels, pipelines or petroleum Road Tanker loading facilities on the Elgas site. Therefore, approval for this facility (for both (2) Stages together with associated facilities) is to be obtained based on the proposed capacity.

1.7 Preliminary environmental assessment and summary of issues

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

Surety and supply of Petroleum Fuels to the NSW market;

Productivity gains and economic stability to the NSW economy;

Increased distribution of flammable products via pipeline; and

Increased efficiency at the Vopak Site B facility.

The key environmental impacts identified include:

Hazards & Risks,
Traffic & Transport;
Air Quality; and
Noise.

These key issues are discussed below.

Other environmental issues arising from the operational and construction impacts associated with the proposed development include water quality and surface water management, visual quality, soils and socio-economics.

1.7.1 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."

SHERPA Consulting has been engaged and has undertaken a Risk Review for both the proposed Vopak and Elgas future developments on the site. The study indicates that the risks are expected to 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 and risk to the biophysical environment is considered low. The projected risks from the proposed expansion 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.

All work will be completed in accordance with specified guidelines and the latest version of Australian Standards.

The proponent has extensive fire safety and protection controls. They include the following features:

Foam systems;
Storage tank cooling;
Hydrant/hosereel systems;
Fire water supplies;
Fire extinguishers;
Road tanker loading fire protection;
Spillage Containment;
Spillage Retrieval systems;
Tank nitrogen blanketing systems; and
Fire alarms.

The facilities associated with the proposal would be designed in accordance with the latest version of Australian Standards 1940 (AS1940), AS1670 for fire alarms and AS2941 for pump sets.

1.7.2 Traffic and transportation

Road transport

One of the fundamental concepts behind the proposal is that it would utilise existing land within Port Botany to cater for the anticipated increase in Petroleum Fuel importation for NSW. The addition of new pipelines connecting Elgas (B4 Terminal) to the existing Vopak Site B facility would make effective use of existing infrastructure on Bulk Liquids Berth No. 1 (and the proposed BLB No. 2).

Site B4 transportation patterns will be very similar to the existing Site B transportation pattern. Site B currently feeds an established petroleum market which is undergoing a natural growth change to the current output of road vehicles and hence a similar pattern would occur as a result of this project.

For the new market areas :-

Diesel

70% out by road via existing Site B RT Loading Gantry/New B4 RT Gantry

30% out by CTP Pipeline transfer

Assuming a maximum throughput of 1 360 000 m^3 per year of Diesel (i.e. 10 tank turns) , then the RT traffic generation from the total B4 development would be as follows:-

26 400 RT's per year = 72 RT's per day on average

NOTE : This Average RT/Day figure includes the current Diesel RT Loadings from the existing Site B Terminal. The 2010 Diesel Throughput is of the order of 280 000 m^3 which is the equivalent of 21 RT's per day; hence the maximum net increase is approximately 50 RT's per day (of Diesel).

HFO

160 000 tonnes per year throughput :

- no Road Transport involved (all out by pipeline to BLB1 /BLB2)

Bitumen

160 000 tonnes per year throughput :

- all out by road (expected RT's per day = 10 to 15 on average)

Site B Data :

Assuming 50% of the maximum B4 terminal throughput is distributed by road tanker (ie. assuming all Diesel storage) , this is equivalent to 680 000 m^3 which represents 29 500 road tankers per year (or approximately 54 per day).

Shipping & pipeline transport

As the volume associated with the Site B4 project is new volume (determined by market growth and demand), there would be a net increase in cross-berth movements.

Cargos of the order of 30 000 m^3 per ship for Diesel and 20 000 m^3 per ship for HFO and Bitumen would be expected to service this requirement. Hence :

8 HFO ships per year

8 Bitumen ships per year

23 Diesel ships per year

This is equivalent to 39 vessels per year (for the fully developed project) and is in addition to the number of vessels expected to discharge in the existing Site B facility.

The average time at the berth to discharge 30 000 m^3 of Diesel would be approximately 20 hours (assuming two (2) MLA's could operate simultaneously).

A single dedicated MLA is proposed for each of HFO and Bitumen. Discharge rates into the B4 Terminal would be of the order of 600 -1000 tonnes per hour for each product and cargo sizes are as yet unknown but likely to be of the order of 20 000m^3

It is anticipated that 50% of the B4 terminal throughput (680 000 m^3) will be distributed by pipeline transfers (CTP/HFO).

1.7.3 Air quality

Air quality impacts need to be considered to determine any potentially adverse impacts on air quality, particularly during operational periods, and is expected to be a requirement of the Department of Environment and Conservation. There is an identified need to consider tank emissions and loading losses for VOC's. Essentially, the bulk products to be stored in B4 are not likely to be classified as VOC's (for example, Diesel is not an VOC).

However, Air Quality Studies would be undertaken for the Site B expansion project and we would expect an indication that there will be no significant impacts, however; ground level concentrations for the HFO/Bitumen vapours will need to be predicted around the site and at any nearby sensitive receptors.

1.7.4 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.

Noise Impact Studies done for the recent Site B expansion projects indicates that there will be no significant ongoing noise impacts from either the construction or operational phases of the project.

1.8 Concluding statement

The preliminary assessment indicates that the key issues identified are summarised as follows:

Hazards & risks;
Traffic & transport;
Air quality; and
Noise.

The proposed development is likely to provide benefits such as:

The social and economic impacts associated with the proposal are expected to be positive, as a result of regional development, efficiency and market competition. This will bring about

a boost to productivity levels required to fuel the economy;

Surety and increased supply of petroleum fuels within the Sydney market place. This in turn is likely to contain the influence that increased market demand will have on fuel prices and commercial confidence; and

The proposed development is considered to be in the public interest, as it would allow the facility to operate in more environmentally and socially responsible manner, increase technological capacity, increase productivity and reduce environmental risks associated with the storing and transportation of bulk liquids.

A preliminary Plant Layout Drawing (E325-81-005) is attached