Klekies Pty Ltd

Waste Oil Tank Farm, Lewington Street, Bomen

Preliminary Environmental Assessment for Major Project

September 2006

Contents

Figure Index

Appendices

1. Introduction

1.1 Major Projects Legislation

On August 18, 2006 GHD Pty Ltd was notified by the NSW Department of Planning that the Director-General (as delegate of the Minister) had formed the opinion that the Klekies Pty Ltd proposal for a waste oil tank farm and pre-treatment facility in Wagga Wagga, is a Major Project. This opinion was formed pursuant to clause 6 of the State Environmental Planning Policy – Major Projects under the EPA Act following the Department's receipt of an initial letter of enquiry from the applicant's consultant. This letter is included as Appendix 1 to this report. The notification by the Department is included as Appendix 2.

The purpose of this preliminary assessment is to provide the Minister and Director-General with sufficient information to satisfy sections 75E and 75F of the EPA Act to enable the environmental assessment requirements for the Major Project to be issued by the Director-General.

1.2 Background to the applicant and the proposal

Klekies Pty Ltd started as a private company in 1985 with a plan to collect used engine oil for burning in boilers and hothouses. The two owner-drivers had the foresight to develop a well planned storage and tank farm in West Gosford. This business quickly became an industry leader in environmental waste management, expanding into servicing motor workshops, car dealerships and transport yards, collecting waste oil, waste filters and oily water over a radius exceeding 100 kilometres.

In 1994 Southern Oil Refineries was formed with a goal to establish a used oil refinery for the recovery of base oils. This has resulted in the construction of a specialist used oil refinery at Wagga Wagga based on standard virgin oil refining technologies adapted for the specific contaminants of used oil. This refinery processes 65,000 litres of used oil daily and is the only plant in Australia capable of re-refining used oil back to the original quality standards of virgin base oil as manufactured in the base oil plants of the major oil companies.

Klekies Pty Ltd is wholly owned by Southern Oil Refineries Pty Ltd which is wholly owned by Babcock and Brown Environmental Investments (BEI).

Klekies has recently moved to set up a waste oil transfer station in St Mary's (Sydney) to provide for more centralised collection of used oil in the metropolitan area.

The establishment of the Wagga based tank farm will allow servicing of the Riverina area and the convenient storage of used oil next to the refinery facility.

1.3 The site and surrounds & existing improvements

The existing refinery is located upon Lot 12, DP 862784 and part of Lot 11, DP 862784 and is known as 42 Lewington Street, Bomen. Lot 12 has an area of 5877m^2 and has a gentle fall from east to west toward Lewington Street. Lot 11 has an area of 2.1 ha and also falls to Lewington street.

The existing refinery facility received development consent from the Wagga Wagga City Council in 2005 to upgrade the plant and increase the licensed capacity of the plant to process 30 million litres of clean

oil annually. The facility[1] consists of bulk oil storage at the rear, oil tanker truck loading and unloading area, processing plant comprising processing tower, interconnected vessels, pumps, and pipework that process the oil, and a separate plant utilities area including oil heaters, pumps, compressors and water cooling systems to support the processing plant operation.

The photograph below shows the current site. The bulk oil storage area is divided into two areas, with the rear storage area (comprising the tan coloured tanks) being on part of Lot 11. At present all development pictured forms part of the Southern Oil Refinery site.

Photograph 1: The existing oil refinery

1.4 Zoning of the site

The site is zoned 4 Industrial under the *Wagga Wagga Local Environmental Plan 1985* (the LEP) and sub-zoned 4c Offensive or Hazardous Industry (Urban Living Area) under the *Wagga Wagga Development Control Plan 2005 Urban Living Area* (the DCP). The DCP reference to the 'urban living area' distinguishes between land within the current town or urban boundary and land within the outlying rural areas. The site is in fact around 500 metres from the edge of the town boundary and land sub-zoned for rural industrial purposes under the rural DCP. The oil re-refinery and proposed Klekies Pty Ltd

[1] Kellogg Brown and Root 2005 (July) *Bomen Oil Re-refinery proposed upgrades Statement of Environmental Effects*

waste oil tank farm are permissible with the development consent of the Council. The DCP includes the proposed facility within the category of “Liquid, chemical, oil or petroleum waste works”.

1.5 Local planning context

The Bomen Business Park has been established for many decades, and is Wagga Wagga’a designated area for potentially hazardous and offensive industry and rural industry. The business area is home to transport groups, a Caltex fuel depot, the Cargills abattoir (a major local employer) and the Wagga Livestock Marketing Centre (saleyards). The business park is zoned industrial, with a mix of general industry and potentially offensive or hazardous industry (in the urban LEP) and rural industry in the rural LEP. The local planning context is one of industry which requires and provides distance and visual separation from residential areas. This context is evident in Figure 1 below, comprising an aerial photograph of the Bomen Business Park with the existing refinery site marked in red.

Figure 1: Aerial photograph of Bomen Business park. Source is the Wagga Wagga City Council

The proposed addition of a waste oil tank farm to the existing refinery is compatible with the local planning context.

1.6 Relevant legislation and development controls

Section 1.3 of this report addresses the site zoning under the LEP. In addition to the zoning it is noted that the site and the structures on the site are not scheduled under the LEP or DCP as an item of environmental heritage.

There is one (1) State Environmental Planning Policy (SEPP) relevant to the proposal, which is discussed below.

1.6.1 SEPP 33 – Hazardous and Offensive Development

Under this SEPP development proposals which include storage, processing or use of fuels and chemicals are considered with regard to their volume, dangerous goods class, distance to the boundary of the property and surrounding land uses. The SEPP uses a threshold approach to determine whether a particular proposal exceeds the threshold and requires a preliminary hazard analysis (PHA).

Whilst the lubricating oil to be stored in the tank farm is not classified under the Dangerous Goods Code, the volume of oil proposed exceeds the threshold and therefore requires the preparation of a PHA. The Environmental Analysis, to be submitted following receipt of the Director-General's requirements for the Major Project will include a full hazard assessment from a qualified dangerous goods consultant. As the oil refinery has previously been the subject of a full environmental impact statement and hazard assessment, there is a substantial level of background information available.

The applicant is confident that the waste oil tank farm and pre-treatment facility can be brought into conformity with accepted standards through the positioning of the tanks and the exercising of the safety measures common to these types of facilities.

2. The proposed development

2.1 Purpose of development

The purpose of the development is to store and initially treat used lubrication oil, prior to the oil being re-refined at the facility on the existing site.

2.2 Detailed proposal

2.2.1 Facility location

The waste oil tank farm will be located at the rear of the existing refinery and tank farm, and is expected to occupy an area of around 3-4000m^2.

Provided below is an aerial photograph of the site with the facility location indicated.

Figure 2: Aerial photograph of the site, with new tank farm area indicated in red

2.2.2 Oil collection

The applicant intends to operate two 10,000 litre rigid oil trucks, with one driver each, to collect used lubrication oil from the Riverina region (generally between Tumut and Griffith). The trucks will be on the road typically from 6.00 am to 5.00 pm, and will return to the facility according to tanker volume, location at the time and offloading schedules. Rigid truck movements to the facility are expected to total four (4) individual movements per day – that is, one egress/ingress per truck per day. The trucks will park on the site overnight.

Provision will be made in the layout of this part of the site for future access by truck and dog trailer vehicle and tri-axle semi-trailer vehicle, however these vehicles are not proposed to access the facility at this point.

2.2.3 The tank farm

The tank farm will comprise of approximately eight (8) tanks of 55kL to 555kL in size, holding a total of 905kL or 815 tonnes of waste oil. The tank size and use is summarised below. Note that the conversion rate for oil weight to volume is usually 0.9:1, that is 0.9kg of oil per litre, or 1.11 litres of oil per kilogram.

- 2 x 80 kilolitre tanks = 160 kL or 144 tonnes, used for waste oil storage;
- 2 x 55 kilolitre tanks = 110kL or 99 tonnes, used for waste oil storage;
- 1 x 55 kilolitre tank = 55kL or 55 tonnes, used for waste water storage,
- 1 x 555 kilolitre tank = 555kL or 500 tonnes, used for waste oil storage, and
- 2 x 40 kilolitre tanks = 80kL or 72 tonnes, used in conjunction with a boiler unit to store heated waste oil.

2.2.4 Oil treatment process

Upon oil being delivered to the site, the oil is pumped into a filter box, where particulates are removed down to 800 microns in size. Most oil delivered to the site has a water content of 7-8%. Oil with a water content of 10% or more is directed to a boiler unit where is it heated to 80-90º to separate the oil and water. Following heating and separation, the waste water is removed from the heating tank and into a waste water tank. From there the water proceeds into plant known as the “Quickflow Puraceptor”, which is a full retention oil/water separator. Following separation, the oil goes back into the storage tanks and the water, which is by now free of the majority of oil, is of sufficient quality to be disposed of in the Council sewer.

All oil treated by heating and oil with an acceptable water content is filtered a second time, this time at 400 microns, prior to being pumped to the refinery for full processing.

2.3 Construction required

The new facility will require the relocation to the site and potentially the cutting down of existing tanks. Tanks are reused where possible rather than commissioning new ones. Construction will include provision of a large concrete slab for the tanks with suitable footings, concrete bunding around the tanks, a separate bunded concrete slab with roofing component for the coolant and oil filter storage area, a small site office (prefabricated), a dust sealed access and parking area suitable for the proposed trucks, pumping equipment and plumbing, boiler unit, connection of power and other ancillary requirements.

2.4 Costs of development

The anticipated cost of development is in the vicinity of $600,000.

2.5 Employment

The facility will employ two (2) full time drivers and a part time site manager, estimated to be 2.5 full time equivalents.

2.6 Alternatives to the development

The refinery is the only one of its kind in Australia which processes used oil to such a high standard. There are no logical alternatives to providing the waste oil tank farm on another Bomen site or another location, as the current site is considered to be acceptable from an environmental and operational point of view (subject to this preliminary review and without prejudicing the requirements and conclusions of a full environmental assessment).

3. Preliminary environmental risk analysis

3.1 Waste production

Deliveries to the facility will include used lubrication oil, oil filters and engine coolant. From these products there is a minimal amount of waste produced.

3.1.1 Engine oil filters

Vehicle oil filters will be stored in 44 gallon drums within a bunded and roofed area and removed by contractor to a facility in Belfrayden, which is around 45 minutes drive south west of Wagga Wagga. From there the filters are drained and disposed of in landfill. The Belfrayden facility is EPA licensed.

3.1.2 Engine coolant

Engine coolant will be stored on site in 44 gallon drums in a bunded and roofed area and sent to a separate processing facility in Albury (two (2) hours by road to the south).

3.1.3 Oily waste water

Following heating to separate the lubrication oil and water content, the waste water will be removed from the heating tank and into plant known as the “Quickflow Puraceptor”, which is a full retention oil/water separator. Following separation, the oil goes back into the tanks and water, which is by now free of the majority of oil, is of sufficient quality to be disposed of in the Council sewer.

This process applies to all oily water derived from the bunded areas of the site, including the tank farm and unloading areas, and the coolant and oil filter storage areas.

3.2 Stormwater management

The existing oil refinery directs rain water falling outside the bunded areas into a first flush facility, which has a capacity of some 80,00 litres. This water is inspected, tested as necessary and released into a detention basin at the lower part of the site next to Lewington Street. From here the water is released into the local drainage system.

A similar method of stormwater capture is proposed for the tank farm facility, which may utilise the existing first flush facility or may require an additional or upgraded facility dependent on the site area and volume of water involved.

As stated above, the oily water derived from the bunded areas of the site, including the tank farm and unloading areas, and the coolant and oil filter storage areas, will be directed to the oil/water separator for treatment.

3.3 Traffic and access

The proposed tank farm will be a very small generator of traffic, expected to be four individual movements per day of rigid trucks carrying a maximum of 10,000 litres of oil for inbound movements. There will also be limited movements of employee vehicles, comprising two drivers and a part time operator of the tank farm facility.

This level of traffic generation is minor and within the capacity of local road systems.

3.4 Air quality

The tank farm development is unlikely to have a detrimental affect on the air quality of the surrounding area, due to the limited processing of the oil in this facility. Oil waste products are not burned and released to the atmosphere in this facility. Oil is heated to 80-90º and no emissions result from this process. The vehicle manoeuvring areas will be appropriately sealed to minimise dust emission.

3.5 Noise emission

Noise emission from the tank farm is expected to be minor, and limited to the delivery trucks (a total of four individual movements per day) and the operation of the unloading pumps and filtering equipment. Noise emission is not expected to be significant in the context of the existing refinery and surrounding industrial complexes. The refinery has an existing EPA license which specifies the limitations on the emission of noise. The tank farm will not exceed these criteria.

3.6 Hazard analysis

Section 1.6.1 of this preliminary analysis notes that the proposal would require a preliminary hazard analysis under the provisions of SEPP 33. The Environmental Analysis for this project, to be submitted following receipt of the Director-General's requirements for the Major Project will include a full hazard assessment from a qualified dangerous goods consultant. As the oil refinery has previously been the subject of a full environmental impact statement and hazard assessment, there is a substantial level of background information available.

The new hazard analysis will consider the hazards posed by the new tank farm in conjunction with the existing refinery and tank farm.

3.7 Visual amenity/landscape analysis

The topography of the Bomen Business Park is gently undulating, with more elevated areas to the south west separating small residential areas from the industrial land. The industrial area is formed around the rail line and Bomen Road, with a small number of cross streets including Lewington Street within which the refinery is located (see Figure 1). The Business Park is located within a broad shallow bowl of land with low hills bounding the west, north and east.

The existing oil refinery comprises a number of tall metal refining towers, and a series of large oil tanks at the rear of the refinery, which are a dominant feature of the local industrial area. Equally dominant are the fuel tanks of the adjoining Caltex depot and the mixing tower of a nearby concrete batching plant. The Cargills abattoir comprises a main building of considerable bulk and visual dominance in the local landscape. To the south west the Rodneys Transport depot has four large grain silos with grain elevators which dominate that local landscape.

In the context of existing structures within the industrial area, and the relative isolation of the Business Park to residential or other developed areas, the height and bulk of the additional oil tanks proposed will be similar to the existing tanks, and would not be atypical to the industrial environment.

Provided below are two photographs of the existing refinery and storage tanks which demonstrate this point. The first photo is taken from Bomen Road to the south west, the second taken from near Byrnes Road to the east.

Photograph 2 (above): View of existing refinery from Bomen Road

Photograph 3 (above): View of existing refinery from Byrnes Road

3.8 Ecology

The site is fully cleared and is presently occupied by an approved oil refinery and tank farm. There are no implications for the proposal under the provisions of the NSW Threatened Species Conservation Act 1995 or similar Commonwealth legislation.

3.9 Bushfire hazard

The site and Bomen business park generally is not located in a bushfire prone area according to the NSW Rural Fire Service hazard maps as provided by the Wagga Wagga City Council

3.10 Site security

The site is fully fenced and has three controlled gates across the frontage The refinery has a control room which is manned 24 hours 7 days a week. The refinery operates continuously and is permanently secured. This level of security and the controlled gate access to Lewington Street will benefit the proposed tank farm, which will be subject to the same level of security.

3.11 EPA Licensing

The existing refinery is a Scheduled Premises and the tank farm is also expected to require a license under the Protection of the Environment Operations Act 1997.

3.12 Socio-economic and environmental benefits of the proposal

The proposed waste oil tank farm is to operate in conjunction with the existing Southern Oil Refinery (SOR) premises on site. The SOR group of companies provides an integrated environmental “loop closing” service, whereby used lubrication oils are collected, processed and re-refined and distributed back to customers and the market.

The re-refining process has the advantage of reducing the requirement for raw oil supplies, and represents sustainable development from that perspective.

The additional employment generated by the tank farm proposal will take the number of local employees to 23, providing valuable income to the local economy.

The SOR facility and proposed tank farm is very positive from a regional development point of view, as the facility is the only plant in Australia capable of re-refining used oil back to the original quality standards of virgin base oil as manufactured in the base oil plants of the major oil companies. That such a facility is located in Wagga Wagga in the Riverina region is testament to the strategic location of the region, its transport links and services.

The socio-economic and environmental benefits of the proposal would far outweigh the limited environmental constraints evident, and those constraints are quite manageable and not atypical to the local industrial environment.

4. Summary and preliminary conclusions

The proposed Klekies Pty Ltd waste oil tank farm is a permissible use within the subject Industrial zone of the Wagga Wagga Local Environmental Plan 1985.

The NSW Department of Planning/Director-General has agreed that the proposal is a Major Project, which is scheduled under the Major Projects SEPP – Clause 27(6)(b) of Group 9, Schedule 1.

The purpose of this preliminary environmental analysis is to provide the Department with sufficient information to enable the issuing of the formal environmental assessment requirements.

This preliminary environmental assessment indicates that the proposal has merit and that the potential adverse environmental effects can be managed. It is concluded from this preliminary analysis that the proposed waste oil tank farm is an acceptable development for the site.

It is respectfully requested that the Department issue the Director-General's requirements under Section 75F of the EPA Act 1979 for this Major Project.

Please direct any questions regarding this report to the Anthony Newland, Principal Planner, GHD Wagga Wagga, on telephone 02 6923 7434 or email anthony.newland@ghd.com.au.

5. References

» Kellogg Brown and Root 2005 (July) *Bomen Oil Re-refinery proposed upgrades Statement of Environmental Effects*

Appendix A

Initial letter of enquiry, Part 3A Major Project, Waste Oil Tank Farm, Bomen

Appendix B

Notification by the Director-General of Major Project status

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