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To: Ashley.Cheong@planning.nsw.gov.au
CC: Alex.Chalk@pkct.com.au; Mark.Beale@pkct.com.au
Date: 12/3/2012 1:42 pm
Subject: National Biodiesel Limited Soybean Crushing Facility and Biodiesel Refinery, Port Kembla – Proposed Modification (08_0083 MOPD 1) - Submission by Port Kembla Coal Terminal (PKCT)

Dear Ashley,

I refer to the department's letter dated 15 November 2012 in regard to the National Biodiesel Limited (NBL) Soybean Crushing Facility and Biodiesel Refinery, Port Kembla – Proposed Modification (08_0083 MOPD 1). Port Kembla Coal Terminal (PKCT) offers the following submission.

PKCT has meet with representatives of NBL and discussed a number of areas of the Proposed Modification (08_0083 MOPD 1). The meeting was constructive and NBL provided detailed and timely reply to our questions. It was evident that NBL has a good understanding of the many issues and PKCT encouraged NBL to consider these within the detailed planning, design, and execution phases of their project.

PKCT raised five areas of concern or question, shown below in *italic font and underlined*. NBL provided written response to each shown like this. A further PKCT comment (read as our submission) is provided at each concern or question in bold font **like this**.

1. *PKCT would like NBL to confirm that the proposed works will include appropriately bunding, surface water collection and sediment control measures in place to ensure that no offsite impacts will occur on PKCT lands (during both the construction and operational phases of the project).*

    - Questions 1 & 2 answered together, see below.

    PKCT comment/submission – See below

2. *PKCT has reservations about the potential risks associated with chemical, fuel and other liquid spills on the proposed NBL site, especially considering the close proximity to PKCT's settling lagoon. How is NBL going to ensure that potential offsite impacts affecting PKCT do not eventuate in the near term and additionally as the proposed plant infrastructure ages?*

    - Storm water from the site will be contained and directed to the north of the new Plot 3. Storm water will then pass through an oil/water separator located underground on the Administration site prior to discharge though the existing drain to the Garungaty waterway. Small dedicated oil water separators will also be installed on the bulk storage tank bund and the truck loading facility to ensure that storm water pumped out from these areas into the site storm water system contains minimal oil. (Note: this stormwater flow path is the same as the current site arrangement , where stormwater from the new Plot 3 flows into a small onsite detention pond, before then passing via an underground pipe to the site drain on the future Admin building site, which then discharges into the Garungaty waterway).

    - The bulk storage tanks and associated bunding will be designed in accordance with AS1940. The compound will be surrounded by an outer concrete bund wall approximately 1500mm in height, and there will be 600mm high concrete wall compound subdivisions between the bulk storage tanks.

    - The bulk storage tanks will have an external cladding to ensure that they meet the bund crest locus requirements of AS1940, so that any leakage from the tank is contained within the bund walls.

- The bulk storage tank bunding shall have impervious flooring and sufficient capacity to contain 110% of the largest tank within the bund.
- In accordance with our current DA requirements to ensure the integrity of the bunds are maintained and to prevent and manage spills on site, the following measures will be implemented:
    - An inventory system to accurately measure and report on production losses
    - An early warning leak detection and prevention system, certified by a site auditor accredited under the Contaminated Land Management Act, 1997.
    - A bund, tank and pipeline integrity assessment program
    - A spill prevention and management system including a spill response and prevention plan, a monitoring program, a site security plan and staff training.
- It is intended to install a retaining wall and associated security fence and frog exclusion fence on the southern boundary adjoining the PKCT settling pond so that the land for Plot 3 is stabilised and secured, as it sits higher than the adjoining PKCT land.
- During the construction phase appropriate erosion and sediment controls will be implemented on site in accordance with the relevant requirements in Landcom's (2004) Managing Urban Stormwater: Soils and Construction manual. We will also have a Construction Environmental Management Plan in place, and will ensure that we capture the hazard of contamination on the PKCT settling pond and implement appropriate controls to prevent and contain any such potential contamination during construction.

PKCT comment/submission – PKCT's main item of concern is the close proximity to the south of the proposed refinery plant to our final stage water treatment pond (settling lagoon) and licenced discharge point . This will require diligent and detailed consideration across the comprehensive planning, design and execution works; and across the longevity of the planned operations. PKCT has a number of operational, safety and environmental obligations which we would like to ensure are appropriately managed into the future. We are committed to ensuring these obligations are met within an already challenging industrial/urban/environmental context, we are therefore wary of any new developments which have the potential to introduce environmental and other management issues. We therefore trust that NBL will implement best practice controls, as appropriate, to mitigate any potential impacts to our site and operations.

We need to be certain that over time facility conditions, or maintenance budgets do not lead to a deterioration of the proposed controls replied to by NBL, thereby placing our final stage water treatment pond (settling lagoon) and licenced discharge point in jeopardy. E.g. bund, tank, pipeline and impervious flooring integrity assessment program; spill prevention and management system including spill response and prevention plan, monitoring program, site security plan and staff training; oil water separators, external cladding of bulk storage tanks, inventory system, early warning leak detection and prevention system.

3. *PKCT need assurance that in the unlikely event of a liquid fuel or chemical storage tank fire, combustibility of PKCT's coal stockpiles or damage to other infrastructure will not be a concern. Can NBL provide a written response in relation to this concern that will provide PKCT with some comfort?*

- Revised heat flux diagrams were developed for the new Plot 3 as part of the hazards and risk assessment, focusing on potential fires from the bulk storage of flammable and combustible liquids. (note: the volume of liquid contained in the manufacturing facilities piping and equipment is considered negligible as compared with that in the bulk storage tanks).
- These revised heat flux diagrams have shown that the radiant heat impacts meet the relevant risk criteria – i.e. that the heat flux is such that personnel on neighbouring sites can safely evacuate the area in the event of a fire before there is any risk to personal safety.
- The risks from a fire from the methanol or sodium methylate tanks are mainly contained on Plot 3. The heat flux effects on the neighbouring PKCT water tank and pump house are negligible; the modelled heat flux is a maximum of 4.7kW/m^2 at the edge of the water piping compound and near the edge of the western side of the PKCT access road, which is well below the threshold of 12kW/m^2 at which plastic will melt or vegetation will burn. The heat flux at the PKCT water tank, pump house and the eastern side of the PKCT access road is 1.2kW/m^2 which is equivalent to being out in the hot sun in the middle of summer.
- With regards to the large radiant heat flux radius shown for the biodiesel/soy oil storage tanks, the following items should be considered to put them into perspective
  - These radiant heat fluxes are worst case – i.e. that the entire contents of one of the bulk tanks has emptied into the bund, and that there is a sustained fire from that large pool of liquid
  - The risk of a tank fire occurring is suitably low. The relevant risk of a tank failure is 6.6x10-6/yr, and the corresponding estimate of the risk of a tank failure and fire is 3x10-6/yr and is below the 50x10-6 criteria from HIPAP No. 4.
  - If, in the unlikely occurrence that a leak was to occur, the bund design incorporates 600mm high compound subdivisions which greatly reduce the potential pool size while the leak is rectified, and thus greatly reduces the potential heat flux radii.
  - Both soy oil and biodiesel are non-flammable, and have very high flashpoints (biodiesel typically over 130^{o}C, and soy oil over 250^{o}C). This means that it is very difficult to ignite and sustain a fire from a potential spill (these substances will not burn if you place a lit match on a spilled pool of liquid). It is for this reason that these products are allowed to be safely transported through road tunnels etc, where flammable liquids cannot.
  - In the extreme worst case, as modelled in the radiant heat flux diagrams, the modelled heat flux at the closest PKCT stockpile is below 12.6kW/m^2, the threshold at which plastic will melt or vegetation will burn.
  - Taking all of this into account, there is a negligible risk of a fire occurring from the bulk biodiesel and soy oil tanks that could have any radiant heat impacts on the PKCT stock piles. The radiant heat diagrams are just an extreme worst case to ensure that safety of personnel is adequate in such rare events.
- The site will have a fire system installed in accordance with the requirements of AS1940 to manage the risk of potential fires from the bulk storage tanks.

PKCT comment/submission - We need to be certain that over time facility conditions, or maintenance budgets do not lead to a deterioration of the proposed controls replied to by NBL. E.g. fire system.

4. *Concerns relating to air quality were raised from potential fall-out which may impact on the chemistry of PKCT's settling lagoon as well as potential consequences on vehicles. How is NBL going to ensure that potential offsite impacts affecting PKCT do not eventuate?*

   - Airborne emissions from the neighbouring biodiesel site will be very low for the following reasons:
     - Chemicals will be stored in sealed tanks
     - All reactions and processing occurs within sealed vessels and pipework
     - The majority of process steam is condensed and returned for reuse. The small amount of steam that is not reused is collected as wastewater from the process. There will be some minor steam losses from steam traps.
     - The cooling towers will be designed according to AS 3666, and as such incorporate drift eliminators that remove process water droplets to 0.002% of the recirculating load. This is equivalent to 7.4mL/s of process water lost from the tower. The plume that you often see from cooling towers is just pure water, that has evaporated and condensed in the colder outside air (i.e. like rain clouds). For reference, the chloride level of the cooling water systems is very low – 100ppm. For reference sea water has a chloride content of 35,000ppm.
     - The plant boilers will be run on natural gas, which burns cleanly and efficiently (as compared with coal or fuel oil).
     - The bulk storage tanks will incorporate desiccant breathers or nitrogen blanketing, and vapour recovery systems to minimise potential emissions associated with tank breathing and filling.
   - In accordance with the current DA requirements, NBL will implement an Air Quality Management plan including monitoring and inspections to confirm that emissions comply with manufacturer's guarantees and legislative requirements, and to confirm that all controls are working appropriately and to ensure impacts to the community are minimised.

   PKCT comment/submission - We need to be certain that over time facility conditions, or maintenance budgets do not lead to a deterioration of the proposed controls replied to by NBL. E.g. cooling towers, drift eliminators, etc. With regard to particulate dust controls, it is understood, in discussions with NBL, that trafficable areas will be paved though other areas may be left unsealed. Suitable alternate controls would need to be provided.

5. *PKCT raised the question as to why NBL are not including train delivery connections in the modified plans, yet to mode of transport is considered across the Approval?*
   - Currently there are a few options being considered for potential rail delivery connections to the revised site layout that will require further engineering investigations during detailed design of the plant to determine their feasibility. In the first few years of plant operation it is foreseen that the majority of soybean supply to the site will be via ship, with a small amount by road. As the domestic soybean market develops, the relevant options for ship and rail transport will be investigated to ensure that truck movements are minimised where possible.

   PKCT comment/submission – PKCT understand that a detailed transport study and impact assessment was conducted as part of the Approved Environmental Assessment for the project. PKCT understands that the study identified that that the worst case number of

truck movements will be a maximum of 42.1 movements per day. It is understood that all vehicle traffic to and from NBL will be from Springhill Road/ Tom Thumb Road entrance along Tom Thumb Road.

PKCT other comment/submission

We expect that NBL, in proposing this development, has assessed and accepted the suitability of the site and given consideration to potential impacts of neighbouring environs across the industrial precinct.

PKCT would like to ensure that no odour issues will become evident and cause amenity issues. PKCT understands that a detailed assessment of the potential odour impacts was conducted in section 7.2.5 of the Approved Environmental Assessment for the project and that the current DA requirements for the project states the following with regards to generation of odours:

- ***"The proponent shall not cause or permit the emission of offensive odours from the site, as defined under Section 129 of the POEO Act."***

- ***"The proponent will ensure that no plant-generated offensive odours will exist at detectable levels at the closest sensitive recievers. If any offensive odours are detected that the closest sensitive receivers and proven to originate from the proposed development once in operation, feasible odour-treatment technology will be evaluated and installed."***

We encourage NBL to continue to openly communicate and update PKCT on any future developments regarding this proposed project and look forward to liaising with them in the future.

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