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NSW Department of Planning
Major Projects Branch
20 Lee St
Sydney NSW 2000

25 March 2009

Attention: Ms. Megan Webb

Subject: Response to Submissions
National Biodiesel Pty Ltd
Soybean Processing and Biodiesel Production Facility
Port Kembla

Dear Megan,

Please find overleaf, an addendum to the Environmental Assessment (EA) *Application Number MP 08_0083* prepared for the Port Kembla Soybean Processing and Biodiesel Production facility, as requested. This document combines formal submissions made by National Biodiesel subsequent to public exhibition of the EA at the request of the NSW Department of Planning (DoP) and the NSW Department of Environment and Climate Change (DECC). Please do not hesitate to contact me should you have any queries.

Kind regards,

Jesse Sherwood
0402 109 113

Soybean Processing and Biodiesel Production Facility

Addendum to Environmental Assessment

Commercial-in-Confidence

National Biodiesel Pty Ltd

25 March 2009

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1. Additional Information Requested by NSW Department of Planning – Major Hazards Branch

The NSW Department of Planning ('DoP") has requested inclusion of Soybean Meal ("meal") and Spent Bleaching Earth ("SBE") for consideration as a supplement to the Environmental Assessment ("EA").

SBE is listed in the Australian Dangerous Goods Code as a Class 4.2 PGIII material and has now been included with its appropriate classification in Table 39 of the PHA (see additions below). Meal, however, will be produced in the Facility with moisture greater than 11%, and substantially free of flammable solvent, and hence is not classed as a Dangerous Good. Further, if on occasion meal is produced with moisture less than 11%, Appendix III, provision 142 (page 254) of the ADG Code specifies that Solvent Extracted Soybean Meal containing not more than 1.5% oil is not subject to the provisions of the ADG Code (see Appendix 1). Nevertheless, at the request of the DoP, Solvent Extracted Meal will be considered in this addendum to allow for production and handling of non-soybean solvent extracted meals.

Note that the meal produced at the Port Kembla Soybean Processing and Biodiesel Production facility has an oil content of less than 1.5% and can be transported immediately without a period of "resting" (see Appendix 1 for UN2217 in ADG6 vol II, page 209). SBE has the potential to self-combust under certain conditions, and is required to be cooled prior to transport (see Appendix 1 for UN3190 and UN3088 in ADG6 vol II page 209).

Table 39 Materials Summary – Amended Entries

Material	DG Class	PG	Storage Details
Meal (Hexane – extracted)	4.2	III	40,000 mt storage shed
Spent Bleaching Earth	4.2	III	40 mt total storage in bin(s) located within isolated, concrete walled section of pretreatment plant

1.1. Soybean Meal

Meal is produced at a rate of approximately 3000 tonnes per day at the Port Kembla facility with an oil content of <0.6%. It is transferred from the dryer/cooler unit via a conveyor to the meal shed. Meal will be reclaimed and conveyed either to road, rail or ship outloading.

It is understood that an incident in 1999 at an oilseed meal plant in Rutherford NSW resulted in three fatalities. Details of this incident suggest that it occurred as a result of a smouldering fire within a silo containing cottonseed meal. An inspection of the bin resulted in an influx of fresh air into the silo and upon contact with an ignition source (the smouldering meal) the vapour/air mixture ignited leading to a backdraft through the hatch. The three personnel inspecting the bin were engulfed by the fire in the backdraft. It is unclear whether the smouldering cottonseed meal was solvent extracted or expeller pressed. However, solvent extraction removes over 99% of the oil making solvent extracted meal much less hazardous than expelled meal, which leaves over 1.5% of oil in the meal.

The higher oil content in expelled meal increases the likelihood that smouldering and spontaneous combustion can occur.

The storage of solvent extracted Meal at the Port Kembla site will be in a large flat bottomed shed. The likelihood exists that the meal could smoulder and spontaneously combust as it is classed as a dangerous good. However, the likelihood of this occurring is very small owing to the very low oil content (<<1.5%) remaining in the meal after the solvent extraction process, and by the fact that it is Soybean Meal, and under Special Provision 142, is not subject to the provisions of the code. The residual solvent content (Hexane) is guaranteed by the technology supplier (Desmet Ballestra) to be less than 250 ppm and is thus unlikely to result in combustion even in the presence of an ignition source. The Final Hazard Analysis will detail the measures in place that will demonstrate that the meal will conform to other requirements of provision 142: being substantially free of flammable solvent. Systems and procedures for monitoring and control of residual oil, moisture and solvent content will also be detailed in the Final Hazard Analysis.

As part of the Safety Management Plan (refer Section 7.4.5 of the EA) an appropriate incident response procedure would be in place to deal with the unlikely event that smouldering meal is identified and will be detailed in the Final Hazard Analysis. At minimum, this would involve containment of the fire, removal of the smouldering meal from adjacent meal, and extinguishing of the smouldering material. Regular inspections will be performed, owing to the 24-hour operation, and personnel presence at the facility. The soybean meal will be protected from water ingress into the shed. It is important to note that the meal will not be stored in a sealed bin, therefore no hatches are able to be opened removing the chance that an influx of fresh air could occur and result in a possible explosion/backdraft. Hence, a repeat of the Rutherford incident cannot occur at the Port Kembla facility.

In addition, the meal storage shed is located at a reasonable distance from the hazardous area in the Biodiesel production facility. Thus it would be highly unlikely that an incident associated with the solvent extracted soybean meal can occur that would have sufficient capacity to affect the adjacent land uses.

1.2. Spent Bleaching Earth

Bleaching Earth (diatomaceous earth and silica) is brought to the site and stored within the Pretreatment structure. It is used in the refining process for removing phosphotides, impurities and minerals (bleaching) from the water degummed oil. After bleaching, oil recovery from the Spent Bleaching Earth (SBE) is achieved via steam blowing before discharge. The vapours are blown directly into a silica contactor. SBE is discussed briefly on pg 134 and in Table 77 pg 186 of the EA.

The oil recovery process reduces the oil content of the SBE to a level normally between 20 and 25%, hence this material can be classified either as Dangerous Good UN3190 (as the clay is inorganic) or UN3088 (as adsorbed oil in organic), refer Appendix 1. The SBE will likely be discharged into and stored in specially designed bins, which will be located in an isolated concrete walled room within the Pretreatment structure. Installed above the storage bins will be sprinkler systems which will activate in instances where initial smouldering is detected. Prior to transport, the SBE will be allowed to cool to further reduce the likelihood of self-combustion. The SBE will either be collected for sale by appropriately licensed dangerous goods contractors, or will be reintroduced into the meal at the grinding step (just

prior to meal storage). It must be noted that the SBE is essentially clay with adsorbed impurities and oil, and unlike meal, it is not combustible.

An increase of oil content in the meal can enhance the potential for spontaneous combustion of the meal. However, the relative increase in oil content of the meal as a result of the addition of SBE containing oil is very low. The oil content of the meal would likely increase from <0.6% to <0.8% as a result of the introduction of the SBE. As the SBE will be introduced at the grinding step, this would result in a homogenous distribution of SBE within the meal, and have no significant change to the material properties of the meal. The final oil content of the [generic] meal remains very low (<<1.5%) and is still classified as a Dangerous Good UN2217, and will be handled as detailed in the preceding section and as generally specified in Section 7.4 of the EA. However, it must be noted again that Solvent Extracted Soybean Meal of less than 1.5% oil content is not subject to the provisions of the Australian Dangerous Goods Code, and hence is not a material that is classed as a Dangerous Good.

At detailed design stage, exact details of handling for the Solvent Extracted Soybean Meal (with and without introduced SBE), and Spent Bleaching Earth will be specified and will form part of the Safety Management Plan and Final Hazard Analysis. Construction of works other than those which will not be affected by the Final Hazard Analysis, HAZOP and Fire Safety Studies will not commence until the Final Hazard Analysis, HAZOP and Fire Safety Studies are approved.

1.3. Appendix 1

1	2	3	4	5	6	7	8	9
2217	SEED CAKE with not more than 1.5% oil and not more than 11% moisture	4.2		III	1[Z]	SP29 SP142	3.8.4.1	Residue remaining after oil has been extracted by a solvent process from oil bearing seeds. Used mainly as an animal feed or fertilizer. The most common seed cakes include those derived from coconut (copra), cottonseed, groundnut (peanut), linseed, maize (hominy chop), niger seed, palm kernel, rape seed, rice, bran, soya bean and sunflower seed and they may be shipped in the form of cake, flakes, pellets, meal etc. May self-heat slowly if wet and ignite spontaneously. Refuse for transport wet, oil-stained or damaged bags.
1386	SEED CAKE with more than 1.5% oil and not more than 11% moisture	4.2		III	1[Z]	SP29 SP36	3.8.4.1	Residue remaining after oil has been extracted by a solvent process or expelled mechanically from oil-bearing seeds. Used mainly as animal feed or fertilizer. The most common seed cakes include those derived from coconut (copra), cottonseed, groundnut (peanut), linseed, maize (hominy chop), niger seed, palm kernel, rape seed, rice, bran, soya bean and sunflower seed and they may be shipped in the form of cake, flakes, pellets, meal etc. May self-heat slowly and, if wet or containing an excessive proportion of unoxidized oil, ignite spontaneously. Refuse for shipment wet, oil-stained or damaged bags . Before shipment this cargo should be properly aged, the duration of ageing required varies with the oil content. If satisfied as a result of tests that such relaxation is justified, the competent authority may permit the seed cakes described under this entry to be transported under conditions governing SEED CAKE (UN2217). Certificates from a recognized authority shall state oil content and moisture content.
3190	SELF-HEATING SOLID, INORGANIC, N.O.S.	4.2		II or III	1[Y]	SP109 SP184 SP274	3.8.4.1	
3088	SELF-HEATING SOLID, ORGANIC, N.O.S.	4.2		II or III	1[Y]	SP109 SP184 SP274	3.8.4.1	

Australian Dangerous Goods Code: List of Special Provisions

142	Solvent extracted soya bean meal containing not more than 1.5 % oil and 11 % moisture, which is substantially free of flammable solvent, is not subject to the provisions of this Code.

2. Additional Information Requested by NSW Department of Environment and Climate Change

The NSW Department of Environment and Climate Change (DECC) has requested additional information regarding dust generated by the SPBP facility during conveyance of the raw material Soybean ("Bean"), and finished product Soybean Meal ("Meal").

Specifically DECC require that *"All conveyors associated with the development must be designed so that the transferred material on the conveyor belt is enclosed",* and *"In the event of non-compliance… the Proponent must detail what additional measures will be implemented to ensure compliance, clearly indicating when these measures would be implemented, and how the effectiveness of these measures would be measured and reported to the EPA*.

This is in addition to the additional operating condition *"There must be no visible dust emissions from the conveyors."*

Three options have been considered at this stage to adhere to the additional operating condition and other requirements as referred to by the DECC *Modified Recommended Conditions of Approval for Soybean Processing and Biodiesel Project, Port Kembla* included in Appendix 2 below.

The three options are:

1. Enclosed Gantry – this option involves a total top and side enclosure of the conveyor with access during maintenance. The design although is common to most conveyors is not off the shelf and depends on the specifics of the conveyors and so will be detailed during final engineering design prior to construction. Gangways would run on the outside of the conveyors to allow access during maintenance and repair.

2. Conveyor Hood/Cover – this involves the installation of a belt cover to the support structure of the conveyor which encloses the conveyor and its transfer material, suppressing dust generation. This type of design has been efficiently used in the sugar mill industry where large amounts of very fine dust is generated even during conveyance.

3. Fully Enclosed Aerobelt – a belt conveyor with a standard head and tail pulley system, however instead of the carry side trough being supported by idlers, it sits on a film of air. This means that there are no moving parts along the length of the conveyor and no need for periodical maintenance. The plenum is fully enclosed also, and the moving film of air prevents a build up of product that may spill onto the side [essentially self-cleaning]. The reduction in agitation from distributed air support in place of localised idlers further reduces the chance of dust generation along the length of the conveyor. It is commonly used in the grain industry, and has been implemented for strict dust and noise control applications within very close proximity to residential areas.

2.1. Appendix 2

Our reference: FIL08/6074:DOC09/8470:GN
Contact: Greg Newman, (02) 4224 4100

Department of Planning
Major Developments Assessment Unit
(Attention: Ms Megan Webb)
GPO Box 39
SYDNEY NSW 2001

Dear Madam

MODIFIED RECOMMENDED CONDITIONS OF APPROVAL FOR SOYBEAN PROCESSING AND BIODIESEL PROJECT, PORT KEMBLA

We refer to our *Recommended Conditions of Approval* letter for the above development which was mailed to the Department of Planning on 12 February 2009 (our reference DOC08/59812). In the letter we advised we were still in discussions with the proponent and gathering additional information for the proposed Condition P2.3.

The Department of Environment and Climate Change (DECC) has received additional information and concluded our discussions with the proponent on this matter. As an outcome of this process we advise that we seek to vary Condition P2.3 and P2.4 and include an additional Operating Condition (O3). Additionally the administrative conditions have been modified to account for the receipt of this additional information. These varied and new conditions are included as Attachment 1 to this letter.

Please call Greg Newman on (02) 4224 4100 in the DECC Wollongong Office to discuss the above matter further.

Yours sincerely

12/3/09

PETER BLOEM
Acting Manager Illawarra
Environment Protection and Regulation

Att: DECC Recommended Conditions of Approval (modifications)

cc: National Biofuels Group
(Attention: Jaco Vosloo)
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