



NSW GOVERNMENT
Department of Planning

Manufacturing & Rural Industries
Major Development Assessment
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Brian Hanley
Shoalhaven Starches Pty Ltd
PO Box 123
NOWRA NSW 2541

Our ref: S06/00614

Dear Mr Hanley

Revised DGR's 2/5/08
to incorp Consideration
of wastewater brine
stream.

Director-General's Requirements
Shoalhaven Starches Ethanol Expansion Project, Bomaderry
Project Application No. 06_0228

The Department has received your application for the proposed ethanol expansion at the Shoalhaven Starches factory at Bomaderry in the Shoalhaven local government area.

Following advice from the Department of Environment and Climate Change (DECC), the Department understands that Shoalhaven Starches intend to install a different wastewater treatment plant to that originally proposed. I have therefore determined that the Director-General's requirements (DGRs) for the project should be reissued. I have attached a copy of the revised DGRs for the project. I have also attached a copy of the additional requirements issued by the DECC, and all previous requirements of Government agencies, which form part of the DGRs.

Please note that under section 75F(3) of the *Environmental Planning and Assessment Act 1979*, the Director-General may alter these requirements at any time.

If your proposal is likely to have a significant impact on matters of National Environmental Significance, it will require an additional approval under the Commonwealth *Environment Protection Biodiversity Conservation Act 1999* (EPBC Act). This approval is in addition to any approvals required under NSW legislation. It is your responsibility to contact the Department of Environment, Water, Heritage and the Arts in Canberra (6274 1111 or <http://www.environment.gov.au>) to determine if the proposal is likely to have a significant impact on matters of National Environmental Significance, and requires an approval under the EPBC Act. The Commonwealth Government has accredited the NSW environmental assessment process for assessing any impacts on matters of National Environmental Significance. As a result, if it is determined that an approval is required under the EPBC Act, please contact me immediately as supplementary Director-General's requirements will need to be issued.

I would appreciate it if you would contact the Department at least two weeks before you propose to submit your Environmental Assessment for the project to determine the:

- fees applicable to the application (see Division 1A, Part 15 of the *Environmental Planning and Assessment Regulation 2000*);
- consultation and public exhibition arrangements that will apply; and
- number of copies (hard-copy or CD-ROM) of the Environmental Assessment that will be required for exhibition purposes.

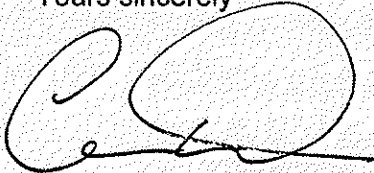
As you may know, the Department will review the Environmental Assessment in consultation with the relevant authorities to determine if it adequately addresses the Director-General's

requirements. If the Director-General considers the Environmental Assessment to be inadequate, you will be required to revise it prior to public exhibition.

The Director-General's requirements will be placed on the Department's website along with other relevant information which becomes available during the assessment of the project. As a result, I would appreciate it if the documents submitted to the Department are in a suitable format for the web, and if you would arrange for an electronic version of the Environmental Assessment for the project to be hosted on a suitable website with a link to the Department's website.

If you have any enquiries about these requirements, please contact Deana Burn on 02 9228 6471.

Yours sincerely

A handwritten signature in black ink, appearing to be 'Chris Wilson', written over a large, faint circular stamp.

A.S. OP

Chris Wilson
Executive Director
Major Project Assessment
As delegate for the Director-General

Director-General's Requirements

Section 75F of the *Environmental Planning and Assessment Act 1979*

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| Application number | 06_0228 |
| Project | Expansion of ethanol production from 126 million litres per annum to 300 million litres per annum. The expansion includes the installation of a gas fired co-generation plant, water treatment, additional fermenters, dryers, evaporators and associated infrastructure. |
| Location | 160 Bolong Rd, Bomaderry |
| Proponent | Shoalhaven Starches Pty Ltd |
| Date of Issue | January 2008 |
| Date of Expiration | January 2010 |
| General Requirements | <p>The Environmental Assessment (EA) must include</p> <ul style="list-style-type: none"> • an executive summary; • a detailed written description and graphical representation of the project including: <ul style="list-style-type: none"> – need for the project; – alternatives considered; – engineering and/or architectural plans; and – various components and stages of the project, and in particular, the proposed staging of the odour reduction works in relation to the proposed expansion works to ensure current odour levels are substantially reduced. • consideration of any relevant statutory provisions including the consistency of the project with the objects of the <i>Environmental Planning and Assessment Act 1979</i>; • a general overview of the environmental impacts of the project, taking into consideration the issues raised during consultation; • a detailed assessment of the key issues specified below, and any other significant issues identified in the general overview of environmental impacts of the project (see above), which includes: <ul style="list-style-type: none"> – a description of the existing environment; – an assessment of the potential impacts of the project including cumulative impacts; – a description of the measures that would be implemented to avoid, minimise, mitigate, offset, manage, and/or monitor the impacts of the project; • a draft Statement of Commitments, outlining environmental management, mitigation and monitoring measures; • a conclusion justifying the project, taking into consideration the environmental impacts of the project, the suitability of the site, and any social, economic and/or environmental benefits that may arise as a result of the project; • a table indicating where each of the Director-General's requirements have been addressed in the EA and appendices; and • a signed statement from the author of the Environmental Assessment certifying that the information contained in the report is neither false nor misleading. |
| Key Issues | <ul style="list-style-type: none"> • Odour (also refer to detailed DECC requirements attached) including: <ul style="list-style-type: none"> – detail the timing for implementation of all findings of the <i>Environmental Audit – Odour Sources, GHD October 2007</i> (Odour Audit) to ensure the existing facility complies with Section 129 of the <i>Protection of the Environment Operations Act, 1997</i> (POEO Act); – identify all odour sources and predict odour emissions from construction and operation of the proposed expansion; |

- assess cumulative odour impacts at residences from the existing facility and the proposed expansion, considering any other developments existing and/or approved in the area;
- describe any additional odour mitigation measures for the proposed expansion, to comply with Section 129 of the POEO Act;
- quantify the odour reduction achieved at residences by proposed odour mitigation measures;
- outline contingency measures for on-going odour management.
- **Wastewater** (also refer to detailed DECC requirements attached) including:
 - clearly describe the wastewater treatment process for the existing facility and the proposed expansion including details of the volume of wastewater generated, treated, reused/recycled, and/or stored on site;
 - detail the key pollutant concentrations of the wastewater before and after treatment with reference to relevant water quality guidelines;
 - where reuse/recycling is proposed in connection with Shoalhaven Council's Recycled Effluent Management System (REMS), provide an assessment of environmental impacts from REMS including capacity, water quality, sustainability of irrigation and impacts on aquatic systems associated with increased discharges;
 - provide a full evaluation of options to manage any brine stream resulting from wastewater treatment and a detailed assessment of the environmental impacts of each option;
 - provide an Irrigation Management Plan that details existing irrigation practices and includes a detailed water balance for proposed changes to irrigation due to expansion. The water balance shall also include analysis of the sustainability of on-going effluent irrigation onto the Environmental Farm;
 - details of wastewater management shall be integrated and consistent with the odour assessment;
 - detail all measures to ensure compliance with Section 120 of the POEO Act including contingency measures to manage wastewater during prolonged periods of wet weather.
- **Water and Soils**
 - detail water supply volumes including a breakdown of potable and non-potable sources for the existing facility and proposed expansion;
 - evaluate the feasibility of measures to reduce and/or minimise water use;
 - detail proposed erosion and sediment controls during construction;
 - detail proposed stormwater management system during construction and operation;
 - identify and detail measures to manage potential acid sulphate soils;
 - identify soil contamination and management measures.
- **Noise** – detail the noise impacts of the existing facility, identify the additional noise sources from the proposed expansion and assess the cumulative noise impact at residences during construction and operation, in accordance with relevant guidelines. Assess operational traffic noise (road and rail) in accordance with relevant guidelines.
- **Transport and Access**
 - prepare a Traffic Impact Study (TIS) in accordance with relevant guidelines;
 - assess the cumulative impact of existing traffic volumes and additional expansion related traffic on the existing road and rail network during construction and operation; including capacity, safety, key intersections, site accesses, internal roadways and parking;
 - detail the upgrade works required to accommodate additional traffic and assess the impacts of upgrade works.
- **Hazards and Risk** – including:
 - a preliminary risk screening in accordance with State Environmental Planning Policy No 33 – Hazardous and Offensive Development (SEPP 33) and Applying SEPP 33 (DUAP, 1994). The screening must include information on the class, quantity and location of the

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| | <p>dangerous goods and hazardous materials related to the project;</p> <ul style="list-style-type: none"> - a Preliminary Hazard Analysis (PHA) prepared in accordance with the Department's publications hazardous industry <i>Planning Advisory Paper No. 6 – Guidelines for Hazardous Analysis</i> (DUAP, 1997) and <i>Multi-Level Risk Assessment</i> (DUAP, 1997). The PHA must undertake assessment on the potential risks arising from the proposed expansion; - detail contingency plans for any potential incidents and equipment failure during the operation of the project - detail a proposed monitoring and maintenance regime to be implemented for the project to ensure performance within acceptable risk limits. <ul style="list-style-type: none"> • Greenhouse <ul style="list-style-type: none"> - a full greenhouse gas assessment, including a quantitative analysis of the scope 1, 2 and 3 emissions of the project, and a qualitative analysis of the impacts of these emissions, in accordance with the requirements of the Australian Greenhouse Office's <i>Factors and Methods Workbook</i> 2006; - evaluate the feasibility of measures to reduce and/or offset emissions, including an - analysis of energy use. • Air Quality <ul style="list-style-type: none"> - quantify current and proposed emission rates for air pollutants from all sources during construction and operation, assess cumulative impacts with reference to relevant guidelines, and identify actions to prevent or mitigate emissions. - detail air handling systems, cooling towers and management systems for control of Legionnaire's disease. • Riverbank Stability, Riparian Management and Flooding <ul style="list-style-type: none"> - detail potential impacts on riverbank stability from proposed works; - provide options for bank stabilisation works including identification of minimum riparian corridor widths in accordance with relevant guidelines; - identify native riparian revegetation works required; - undertake a flood risk assessment identifying impacts on site, upstream and downstream of the site and any attenuation and/or mitigation required. • Waste Management - identify the quantity and type of all liquid and solid waste generated at the site and how this waste would be handled, processed and, if necessary, disposed of. • Visual – assess the visual impact of design and siting of the buildings, landscaping, lighting and any signage. • Flora and Fauna <ul style="list-style-type: none"> - including an assessment of any impacts on critical habitats, threatened species, populations or ecological communities and their habitats in the region; - aquatic ecosystems, including consideration of ecotoxicological analyses. • Heritage – assess both Aboriginal and non-Aboriginal heritage impacts. |
| References | <p>The Environmental Assessment should take into account relevant State government technical and policy guidelines. While not exhaustive, guidelines which may be relevant to the project are included in the attached list.</p> |
| Consultation | <p>During the preparation of the Environmental Assessment, you should consult with the relevant local, State or Commonwealth government authorities, service providers, community groups or affected landowners. The consultation process and the issues raised must be described in the Environmental Assessment.</p> <p>In particular you should consult with:</p> <ul style="list-style-type: none"> • Department of Environment and Climate Change; |

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| | <ul style="list-style-type: none"> • Department of Water and Energy; • Roads and Traffic Authority; and • Shoalhaven City Council. |
| Deemed refusal period | 60 days |

State Government Technical and Policy Guidelines - For Reference

| Aspect | Policy /Methodology |
|---------------------------------------|--|
| Odour | |
| | Technical Framework: Assessment and Management of Odour from Stationary Sources in NSW (DEC) |
| | Technical Notes: Assessment and Management of Odour from Stationary Sources in NSW (DEC) |
| Water and Soils | |
| <i>Wastewater</i> | Environmental Guidelines: Use of Effluent by Irrigation (DEC) |
| | National Water Quality Management Strategy - Guidelines For Water Recycling: Managing Health And Environmental Risks (Phase1) (EPHC, NRMCC & AHMC) |
| | National Water Quality Management Strategy – Australian Guidelines for Water Recycling: Managing Health and Environmental Risks (Phase 2): Augmentation of Drinking Water Supplies – Draft for Public Comment (EPHC, NRMCC & AHMC) |
| | National Water Quality Management Strategy: Guidelines for Sewerage Systems - Effluent Management (ARMCANZ/ANZECC) |
| | National Water Quality Management Strategy: Guidelines for Sewerage Systems - Use of Reclaimed Water (ARMCANZ/ANZECC) |
| | Environmental Guidelines: Use of Effluent by Irrigation (DEC) |
| <i>Riparian Management</i> | Riparian Corridor Management Study (DIPNR 2004) |
| <i>Erosion & Sediment Control</i> | Managing Urban Stormwater: Soils & Construction (Landcom) |
| | Design Manual for Soil Conservation Works - Technical Handbook No. 5 (Soil Conservation Service of NSW) |
| | Soil and Landscape Issues in Environmental Impact Assessment (DLWC) |
| | Wind Erosion - 2nd Edition (DIPNR) |
| <i>Flooding</i> | Floodplain Management Manual (DNR) |
| <i>Water Quality</i> | National Water Quality Management Strategy: Australian Guidelines for Fresh and Marine Water Quality (ANZECC/ARMCANZ) |
| | National Water Quality Management Strategy: Implementation guidelines (ANZECC/ARMCANZ) |
| | National Water Quality Management Strategy: Australian Guidelines for Water Quality Monitoring and Reporting (ANZECC/ARMCANZ) |
| | Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (DEC) |
| | Using the ANZECC Guideline and Water Quality Objectives in NSW (DEC) |
| <i>Groundwater</i> | National Water Quality Management Strategy Guidelines for Groundwater Protection in Australia (ARMCANZ/ANZECC) |
| <i>Contamination</i> | Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites (ANZECC & NHMRC) |
| | National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPC) |
| | Managing Land Contamination - Planning Guidelines SEPP 55 – Remediation of Land (DUAP and EPA) |
| | Contaminated Sites: Sampling Design Guidelines (NSW EPA) |
| | Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites (NSW EPA) |
| Noise | |
| | NSW Industrial Noise Policy (DECC) |
| | Environmental Criteria for Road Traffic Noise (NSW EPA) |
| | Environmental Noise Control Manual (DECC) |
| Transport and Access | |
| | Guide to Traffic Generating Development (RTA) |

| Aspect | Policy /Methodology |
|-------------------------|---|
| | Road Design Guide (RTA) |
| Hazards and Risk | |
| | State Environmental Planning Policy No 33-- Hazardous and Offensive Development (SEPP 33) and Applying SEPP 33 (DUAP, 1994). |
| | Planning Advisory Paper No. 6 -- Guidelines for Hazardous Analysis (DUAP, 1997) |
| | Multi-Level Risk Assessment (DUAP, 1997) |
| Greenhouse Gas | |
| | AGO Factors and Methods Workbook (AGO 2006) |
| | Guidelines for Energy Savings Action Plans (DEUS 2005) |
| | Guidelines for Water Savings Action Plans (DEUS 2005) |
| Air Quality | |
| | Protection of the Environment Operations (Clean Air) Regulation 2002 |
| | Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (DEC) |
| | Approved Methods for the Sampling and Analysis of Air Pollutants in NSW (DEC) |
| Waste | |
| | Waste Avoidance and Resource Recovery Strategy (Resource NSW) |
| | Environmental Guidelines: Assessment Classification and Management of Non-Liquid and Liquid Waste (NSW EPA) |
| Visual | |
| | Control of Obtrusive Effects of Outdoor Lighting (Standards Australia, AS4282) |
| Flora and Fauna | |
| | Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities. Working Draft (DEC) |
| | Draft Guidelines for Threatened Species Assessment under Part 3A of the <i>Environmental Planning and Assessment Act 1979</i> (DEC) |
| Heritage | |
| <i>Aboriginal</i> | Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DEC) |
| | Aboriginal Cultural Heritage Standards and Guidelines Kit (NSW EPA) |
| <i>Non-Indigenous</i> | NSW Heritage Manual (NSW Heritage Office & DUAP) |
| | The Burra Charter (The Australia ICOMOS charter for places of cultural significance) |