





## Contents

|  |    |
|--|----|
| Decision Document                              | 1  |
| Contents                                       | 2  |
| 1 Purpose of this Document                     | 2  |
| 2 Administrative summary                       | 3  |
| 3 Executive summary of proposal and assessment | 4  |
| 4 Decision table                               | 5  |
| 5 Advertisement and consultation table         | 8  |
| 6 Risk Assessment                              | 9  |
| Appendix A                                     | 10 |

## 1 Purpose of this Document

This decision document explains how DER has assessed and determined the application and provides a record of DER's decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to DER's assessment and decision making under Part V of the *Environmental Protection Act 1986*. Other approvals may be required for the proposal, and it is the proponent's responsibility to ensure they have all relevant approvals for their Premises.

### Works approval and licence conditions

DER has three types of conditions that may be imposed on works approvals and licences. They are as follows;

#### Standard conditions (SC)

DER has standard conditions that are imposed on all works approvals and licences regardless of the activities undertaken on the Premises and the information provided in the application. These are included as the following conditions on works approvals and licences:

Works approval conditions: 1.1.1-1.1.4, 1.2.1, 1.2.2, 5.1.1 and 5.1.2.

Licence conditions: 1.1.1-1.1.4, 1.2.1-1.2.4, 5.1.1-5.1.4 and 5.2.1.

For such conditions, justification within the Decision Document is not provided.

#### Optional standard conditions (OSC)

In the interests of regulatory consistency DER has a set of optional standard conditions that can be imposed on works approvals and licences. DER will include optional standard conditions as necessary, and are likely to constitute the majority of conditions in any licence. The inclusion of any optional standard conditions is justified in Section 4 of this document.

#### Non standard conditions (NSC)

Where the proposed activities require conditions outside the standard conditions suite DER will impose one or more non-standard conditions. These include both premises and sector specific conditions, and are likely to occur within few licences. Where used, justification for the application of these conditions will be included in Section 4.



## 2 Administrative summary

| Administrative details   |   |   |
|--|---|---|
| Application type   | Works Approval <input type="checkbox"/>               | New Licence <input type="checkbox"/>                                |
|  | Licence amendment <input checked="" type="checkbox"/> | Works Approval amendment <input type="checkbox"/>                   |
| Activities that cause the premises to become prescribed premises   | <b>Category number(s)</b>                             | <b>Assessed design capacity</b>                                     |
|  | 17 – Milk processing                                  | 80,000 tonnes per annual period                                     |
| Application verified   | Date: N/A   |   |
| Application fee paid   | Date: N/A   |   |
| Works Approval has been complied with  | Yes <input type="checkbox"/>                          | No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> |
| Compliance Certificate received  | Yes <input type="checkbox"/>                          | No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> |
| Commercial-in-confidence claim   | Yes <input type="checkbox"/>                          | No <input checked="" type="checkbox"/>                              |
| Commercial-in-confidence claim outcome   |   |   |
| Is the proposal a Major Resource Project?  | Yes <input type="checkbox"/>                          | No <input checked="" type="checkbox"/>                              |
| Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the <i>Environmental Protection Act 1986</i> ?          | Yes <input type="checkbox"/>                          | No <input checked="" type="checkbox"/>                              |
| Is the proposal subject to Ministerial Conditions?   | Yes <input type="checkbox"/>                          | No <input checked="" type="checkbox"/>                              |
|  |   |   |
| Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the <i>Environmental Protection Act 1986</i> )? | Yes <input checked="" type="checkbox"/>               | No <input type="checkbox"/>   |
|  |   |   |
| Is the Premises within an Environmental Protection Policy (EPP) Area   | Yes <input type="checkbox"/>                          | No <input checked="" type="checkbox"/>                              |
| Is the Premises subject to any EPP requirements?   | Yes <input type="checkbox"/>                          | No <input checked="" type="checkbox"/>                              |



### **3 Executive summary of proposal and assessment**

Brownes Foods Operations Pty Limited (Brownes) operates the Brunswick Milk Processing Facility under Licence L4437/1988/12. The facility was established in the 1950s by Peters Creameries and is the largest of its kind in the State, processing up to 80,000,000 litres of milk per year. The Brunswick facility is a sister plant to Brownes' principle business in Balcatta.

Operations at the facility involve the processing of whole milk into various dairy products. The process involves the separation, evaporation and pasteurisation of whole milk into yoghurt, dairy desserts, cheese, thickened cream, sour cream, cream and skim milk concentrate. Steam is generated from an on-site natural gas-fired boiler. Wastes generated from the process are predominantly wastewater from the factory cleaning circuits (including solids separated from the wastewater stream), which is biologically treated in a series of lagoons, prior to flood irrigation of pasture.

This licence amendment relates to an expansion of the existing premises boundary to include an additional 14.8 ha of land for the purpose of wastewater disposal. This will allow one of the existing irrigation areas to be rested and will ensure Brownes can maintain sustainable irrigation practices. The existing nutrient and irrigation management plan for the premises has been updated to include the additional area, and indicates that future irrigation can be brought back into compliance with existing licence loading limits for total phosphorus.



## 4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987*, DEC's Policy Statement - Limits and targets for prescribed premises (2006), and DER's Operational Procedure on Assessing Emissions and Discharges from Prescribed Premises. Where other references have been used in making the decision they are detailed in the decision document.

| DECISION TABLE                   |   |                   |  |                     |
|----------------------------------|---|-------------------|--|---------------------|
| Works Approval / Licence section | Condition number<br>W = Works Approval<br>L = Licence | OSC or NSC        | Justification (including risk description & decision methodology where relevant)   | Reference documents |
| General conditions               | L1.2  | N/A               | <b>Operation</b><br>There are no additional general conditions required as part of this amendment.   | N/A                 |
| Premises operation               | L1.3.1<br>L1.3.2<br>L1.3.3                            | OSC<br>OSC<br>OSC | <b>Operation</b><br>Premises operation has not been reassessed as part of this new licence. L1.3.1 is an OSC that was previously omitted and is generally included on licences where process wastewater is treated on-site through a wastewater treatment system.<br>L1.3.2 replaces the existing L1.3.1 and has been amended to change the grease trap/solid screen to the more generic term 'solids separator' consistent with REFIRE templates and the infrastructure requirement changed to reflect concrete lined instead of specifying a liner with a permeability requirement.<br>L1.3.3 has been amended to tabular form and references treated wastewater irrigation in accordance with the updated NIMP submitted to support this amendment application. This NIMP covers the proposed irrigation of the new parcels of land and has been approved through this amendment process. This condition supersedes the previous, prescriptive condition for irrigation of wastewater.<br>L1.3.4 replaces the existing L1.3.2 regarding freeboard requirements of 300mm on the wastewater ponds at all times. |                     |
| Emissions general                | L2.1.1  | OSC               | The descriptive limits and targets still apply and therefore the existing OSC regarding recording and investigation of exceedances of limits or targets remains in the Licence.  | N/A                 |



| DECISION TABLE   |  |            |   |  |
|--|--|------------|---|--|
| Works Approval / Licence section                             | Condition number<br>W = Works Approval<br>L= Licence | OSC or NSC | Justification (including risk description & decision methodology where relevant)  | Reference documents                                      |
| Point source emissions to air including monitoring           | L2.2 and L3.2  | N/A        | <b>Operation</b><br>There will be no point source emissions to air as part of this amendment. No new conditions relating to point source emissions to air or the monitoring of these emissions are required to be added to the licence.                         | N/A  |
| Point source emissions to surface water including monitoring | L2.3 and L3.3  | N/A        | <b>Operation</b><br>There will be no new point source emissions to surface water as part of this amendment. No new conditions relating to point source emissions to surface water or the monitoring of these emissions are required to be added to the licence. | N/A  |
| Point source emissions to groundwater including monitoring   | L2.4 and L3.4  | N/A        | <b>Operation</b><br>There will be no new point source emissions to groundwater as part of this amendment. No new conditions relating to point source emissions to groundwater or the monitoring of these emissions are required to be added to the licence.     | N/A  |
| Emissions to land including monitoring                       | L2.5.1 – 2.5.3<br>L3.5.1                             | OSC        | <b>Operation</b><br>DER's assessment and decision making are detailed in Appendix A.  |  |
| Fugitive emissions   | L2.6   | N/A        | <b>Operation</b><br>Fugitive emissions such as dust and light are not expected to be significant from this amendment. No new conditions relating to dust or light emissions are required to be added to the licence.  | N/A  |
| Odour  | L2.7   | N/A        | <b>Operation</b><br>Odour emissions are not expected to be significant from this amendment. No new conditions relating to odour emissions are required to be added to the licence.  | N/A  |
| Noise  | L2.8   | N/A        | <b>Operation</b><br>Noise emissions are not expected to be significant from this amendment. No new conditions relating to noise emissions are required to be added to the licence.  | <i>Environmental Protection (Noise) Regulations 1997</i> |



| <b>DECISION TABLE</b>                   |   |                   |   |                                      |
|---|---|-------------------|---|--------------------------------------|
| <b>Works Approval / Licence section</b> | <b>Condition number<br/>W = Works Approval<br/>L= Licence</b> | <b>OSC or NSC</b> | <b>Justification (including risk description &amp; decision methodology where relevant)</b>   | <b>Reference documents</b>           |
| <b>Monitoring general</b>               | L3.1.1  | N/A               | <b>Operation</b><br>Reference to AS for soil sampling has been added following the addition of soil sampling requirements (refer Ambient environmental quality monitoring section).   | N/A                                  |
| <b>Monitoring of inputs and outputs</b> | L3.6  | N/A               | No monitoring of inputs/outputs required.   | N/A                                  |
| <b>Process monitoring</b>               | L3.7  | N/A               | No process monitoring required.   | N/A                                  |
| <b>Ambient quality monitoring</b>       | L3.8.1  | N/A               | Ambient soil quality monitoring has been added as Table 3.8.2 as part of a commitment by the proponent to actively monitor soil conditions to detect potential impacts early and implement required actions.<br>Ambient surface water monitoring of the off-site agricultural drain has been removed as runoff is no longer permitted from the irrigation areas through the licence. Water quality within the drain is also subject to numerous external influences (runoff from nearby farms, discharge from the Water Corporation treatment plant, etc.) and recent results have not provided any meaningful information from the plant activities. | Application supporting documentation |
| <b>Meteorological monitoring</b>        | L3.9  | N/A               | No meteorological monitoring required.  | N/A                                  |
| <b>Improvements</b>                     | L4.1  | N/A               | No improvements are required.   | N/A                                  |
| <b>Information</b>                      | L5.1 – L5.3   | N/A               | An assessment of ambient surface water quality and soil quality results against relevant environmental guidelines has been added to the Annual Environmental Report requirements instead of just reporting the results.<br>Submission of copies of original monitoring reports by third parties (upon CEO's request) has been added a non-annual reporting requirement, consistent with the standard REFIRE template.   | N/A                                  |
| <b>Licence Duration</b>                 | N/A   | N/A               |   |                                      |



## 5 Advertisement and consultation table

| Date       | Event   | Comments received/Notes                              | How comments were taken into consideration |
|------------|---|--|--|
| 18/12/2014 | Proponent sent a copy of draft instrument and decision document | No response provided within the allocated timeframe. | N/A.                                       |
|            |   |  |  |





## 6 Risk Assessment

Note: This matrix is taken from the DER Corporate Policy Statement No. 07 - Operational Risk Management

Table 1: Emissions Risk Matrix

| Likelihood     | Consequence   |          |          |          |         |
|----------------|---------------|----------|----------|----------|---------|
|                | Insignificant | Minor    | Moderate | Major    | Severe  |
| Almost Certain | Moderate      | High     | High     | Extreme  | Extreme |
| Likely         | Moderate      | Moderate | High     | High     | Extreme |
| Possible       | Low           | Moderate | Moderate | High     | Extreme |
| Unlikely       | Low           | Moderate | Moderate | Moderate | High    |
| Rare           | Low           | Low      | Moderate | Moderate | High    |



## Appendix A

### **Emissions to land including monitoring**

Treated wastewater is disposed via flood irrigation of 23 ha of kikuyu pasture, spread across 9 ha within the Brownes property (Brownes Area A), in addition to 14 ha on a neighbouring property (Galati Areas B & C). All areas are laser levelled and include raised earthen bunds to prevent uncontrolled runoff. This amendment relates to a proposal to obtain access to additional land for the purpose of wastewater disposal and to allow one of the existing irrigation areas to be rested. These additional areas will be setup the same as the existing irrigation areas, i.e. raised earthen bunding, to prevent uncontrolled runoff and will be incorporated into the existing irrigation schedule.

Galati Areas B & C were added to the licence in 2003 following ongoing compliance issues with nutrient loading rates on the original Brownes Area A; however the unexpected increase in milk intake following the collapse of Challenge Australia Dairy in 2010 placed further pressures on the capacity of the treatment system and subsequent nutrient loading rates across the 3 nominated areas.

The results of a recent soil investigation indicates that Brownes Area A is strongly alkaline with a low capacity to retain phosphorus, and needs to be rested from treated wastewater irrigation. Subsequent investigations have identified a suitable alternative, located directly south of Brownes Area A and covering 14.8 ha. In addition, a smaller area (2.5 ha) located within the Brownes property to the north of the treatment ponds has been identified as a suitable irrigation area (Brownes Area D). It is not intended to restrict irrigation on Brownes Area A through the licence; however DER expects that any future irrigation on this parcel of land is done in an environmentally sustainable manner.

DER has reviewed the proponents assessment of the suitability of the additional irrigation areas and is satisfied that the assessment provided has been undertaken in an appropriate manner. These areas have been found to comprise similar soils as the existing irrigation areas with a medium level of nutrient retention (PBI 140 – 210), suggesting an acceptable level of suitability for irrigation. The proponent has prepared an updated Nutrient and Irrigation Management Plan for this proposal, which supersedes the existing NIMP. The updated NIMP has been assessed and being consistent with the Department of Water's Water Quality Protection Note #22 and is referenced in the licence as the Approved Irrigation Management Plan.

### ***Emission Risk Assessment – Operations***

#### **Emission Description**

*Emission:* Irrigation of treated wastewater, with nutrient concentrations 12 mg/L total nitrogen, 18 mg/L total phosphorus and 20 mg/L biochemical oxygen demand. These concentrations are considered conservative, given an expected decrease in wastewater volume through the treatment system, thereby increasing residence time and treated water quality. 55,000 kL is expected to require discharge from the system in 2015.

*Impact:* The environmental risks associated with disposal to land are high and include:

- Wastewater flowing overland from irrigation sites into surface water systems – the BOD of wastewater can have severe impacts on aquatic ecosystems;
- Ground and surface water pollution from nutrients, organic carbon and salts leaching through the soil profile;
- Soil degradation resulting from high salinity and sodicity of wastewater;
- Soil clogging and soil degradation increasing the likelihood of waterlogging which may lead to the death of plants, a decrease in soil microbial metabolism, erosion and surface runoff of effluent;
- Nutrient, salt and pH toxicity to plants; and
- Acidification of soil.



*Controls:* The proponent proposes the following controls:

- Ensuring adequate land is available for irrigation, which is based on wastewater volume, loading of nutrients, salts and organic matter, rainfall, evaporation, soil type and plants to be irrigated;
- Ensuring the soil type of the irrigation areas is suitable for irrigation, based on the phosphorus retention capacity of the soil to minimise leaching of phosphorus to groundwater
- Bunding to prevent runoff from leaving the dedicated irrigation areas;
- Biennial soil sampling to monitor changes over time and implement actions to ensure sustainability of the irrigation areas.

Risk Assessment

*Consequence:* Moderate.

*Likelihood:* Possible.

*Risk Rating:* Moderate.

Regulatory Controls

Brownes Area D and Galati Area E have been added to Tables 2.5.1, 2.5.2 and 2.5.3 as authorised irrigation areas. The existing emission limits for annual nutrient loadings apply to these new areas. New targets have also been added to Table 2.5.3 for all irrigation areas, being annual nutrient loadings of 230 kg/ha total nitrogen, 50 kg/ha total phosphorus, and 20 kg/ha/d BOD. Exceedance of these targets will require investigation and action to ensure sustainability of the irrigation areas.

Total nitrogen, total phosphorus and total dissolved solids have also been added to Table 3.5.1 for monitoring requirements, in order to demonstrate compliance with the limits and targets.

Residual Risk

*Consequence:* Moderate.

*Likelihood:* Possible.

*Risk Rating:* Moderate.