



**environment
SOUTHLAND**

AUTH-205577-V1

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Air Discharge Permit

Pursuant to Section 104B of the Resource Management Act 1991, a resource consent is hereby granted by the Southland Regional Council (the "Council") to **Mataura Valley Milk Ltd** (the "consent holder") of **P O Box 13466, Christchurch** from **2 December 2008**.

Please read this Consent carefully, and ensure that any staff or contractors carrying out activities under this Consent on your behalf are aware of all the conditions of the Consent.

Details of Permit

Purpose for which permit is granted: To discharge odour and contaminants to air from a milk processing plant and associated facilities

Location	- site locality	State Highway 1, McNab, Gore
	- map reference	F45:000-509
	- receiving environment	Air
	- catchment	Mataura

Legal description of land at the site: Port sections 5 - 8 & 11 - 15 and Section 10, Block XXVI, Town of East Gore; Lots 1 & 2 DP 302422; and Lots 2 - 4 DP 6886.

Expiry date: 2 December 2028

History of Changes and Transfers:

- Legal description and Conditions 1, 2, 3, 6, 8, 10, 11, 17 and 21 amended on 2 February 2018.

Schedule of Conditions

General Conditions

1. (a) This resource consent shall expire on 2 December 2028.

- (b) The Consent Holder shall give the Consent Authority five (5) working days notice of the date when the plant will commence processing milk.

(Note: Pursuant to Sections 123 and 124 of the Resource Management Act 1991, a new consent will be required at the expiration of this consent. The application will be considered in accordance with the plans in effect at that time, and the adverse effects of the proposed activity).

- 2. This consent authorises discharges to air from the following sources:
 - (a) a coal-fired boiler having a net energy output capacity of 18.5 megawatts;
 - (b) a single milk powder drier;
 - (c) a wastewater treatment plant for treating plant process effluent, including air emissions from up to 40 pressure relief valves on the water and treated waterwater pipelines to the Gore District Council's services; and
 - (d) associated processes as described in the application for consent dated 3 July 2008 and variation application dated 15 November 2017.
- 3. (a) There shall be no discharge of odour or particulate matter from the coal-fired boiler, the milk processing plant or any associated activity that is offensive or objectionable to the extent that it causes an adverse effect at or beyond the boundary of the property on which the consent is exercised.
 - (b) Where the discharge is from an air pressure release valve within 100m of a sensitive receptor (i.e. dwelling, school, hospital etc), it shall be fitted with an odour mitigation device that prevents odour effects occurring on that sensitive receptor.
- 4. The processes resulting in discharges to air shall be operated and maintained using either the emission control mechanisms as described in the application, or using processes which provide at least an equivalent level of emission control. Details of any changes shall be included in the Annual Environmental Report to the Southland Regional Council required under condition 18.
- 5. Differential pressure sensors shall be installed to electronically monitor differential pressure across all bag filters, and the differential pressure shall be continuously displayed in the respective control rooms. Any change in differential pressure that may indicate bag filter failure or malfunction shall be investigated immediately and resulting corrective actions shall be recorded in the Annual Environment Report required under condition 19.

Coal-Fired Boiler Plant and Associated Facilities

- 6. (a) The maximum coal burning rate shall be at an equivalent gross energy input of 91 gigajoules per hour.
 - (b) The steam production rate shall be automatically measured and recorded at all times during boiler operation. The gross energy input to the boiler plant shall be calculated based on the measured steam production rate and the method of calculation, taking into account boiler efficiency, shall be provided in writing to the Southland Regional Council. Records of steam output and gross energy input shall be provided to the Southland Regional Council in accordance with conditions 16 and 19.
- 7. Combustion gases from the boiler plant shall be discharged to air via bag filters or via other emission control equipment as necessary to comply with condition 10.
- 8. (a) The discharge to air from the boiler plant shall occur via a stack at a height of at least 68 metres above local ground level. The minimum efflux velocity of exhaust air from the stack shall be 25 metres per second at the maximum continuous rating of the boiler.

- (b) The discharge to air shall occur at a height at least 28 metres above the roof ridgeline of all buildings on the consent holder's property.
 - (c) The discharge shall be directed vertically into air and shall not be impeded by any obstruction above the stack that decreases the vertical efflux velocity below that which would occur in the absence of such obstruction.
9. The opacity of emissions from the chimney stack shall not be darker than Ringelmann Shade 1 as described in New Zealand Standard 5201:1973 except:
- (a) in the case of a cold start for a period not exceeding 30 minutes in the first hour of operation;
 - (b) for a period not exceeding a total of two minutes in each succeeding hour of operation.
10. The discharge of total suspended particulate matter in combustion gases to air from the boiler stack shall not:
- (a) exceed a concentration of total suspended particulate matter, unless the bag filter (or other equipment providing an equivalent degree of emission control) is being lawfully bypassed in accordance with Condition 10(b), of 40 milligrams per cubic metre corrected to 0 degrees Celsius, 101.3 kilopascals, and adjusted to 12 percent carbon dioxide by volume on a dry gas basis. The mass emission rate shall not exceed 2.33 kilograms per hour;
 - (b) exceed a concentration of total suspended particulate matter of 250 milligrams per cubic metre corrected to 0 degrees Celsius, 101.3 kilopascals, and adjusted to 12 percent carbon dioxide by volume on a dry gas basis when the bag filter (or other equipment providing an equivalent degree of emission control) bypass is being operated under the following circumstances for the shortest time practicable:
 - (i) in the event of flue gas temperatures sufficiently high to damage filter bags or other control equipment but only after boiler fuelling is stopped;
 - (ii) drying out green refractory during commissioning of the boiler following repairs to boiler refractory, and during subsequent re-bricking, and only up to five days from commencing drying out;
 - (iii) during commissioning of the boiler if it is essential to bypass the bag filter or other control equipment; and
 - (vi) in the event of bag filter or other control equipment malfunction providing the bypass shall not occur for more than eight hours at any time.

The dates and times the bag filter or other control equipment is bypassed, and the reasons for bypassing, shall be recorded, and records shall be retained and made available to the Southland Regional Council on request, and shall be included as a part of the Annual Environmental Report required under condition 19.

11. (a) The maximum sulphur dioxide discharge rate shall not exceed 66 kilograms per hour at maximum boiler output. The sulphur dioxide discharge rate shall be calculated from the burning rate of the coal blend used at maximum boiler capacity and the sulphur content of that coal blend determined according to Condition 11(b), allowing for a maximum 10 percent sulphur retention in the ash. Records shall be kept of the coal blend burned in the boiler, including average gross calorific value and sulphur content by weight, and the calculated maximum sulphur dioxide emission rate based on that information. These

records shall be provided to the Southland Regional Council in accordance with condition 19.

- (b) Analysis of coal to be burned in the boiler shall be undertaken at least once every three months, providing the coal source or blend remains constant. If the coal source or blend changes then a representative analysis of the sulphur content shall be carried out as soon as practicable and within not less than five working days of beginning to burn the new coal. Each single sample to be analysed for coal sulphur shall be generated from sub-samples that are randomly selected from supplied coal or from coal that is stored on-site as the case may be. All coal samples required under this consent shall be analysed as soon as practicable for combustible sulphur as percent by weight of coal and gross calorific value as megajoules per kilogram of coal, on an as received basis, by a laboratory accredited by IANZ for these analyses. These data shall be provided to Southland Regional Council in accordance with condition 19 and otherwise on request.
- 12.
- (a) The concentration of total suspended particulate matter, and the concentration of sulphur dioxide, in combustion gas in the boiler stack or the duct into the boiler stack shall be measured within three months of the commencement of boiler operation and thereafter at least once every 12 months. Measurement of the discharge from the boiler shall occur when the boiler is operating at a rate of at least 60 percent of the maximum continuous rating. Testing, and analysis of samples as appropriate, shall be carried out by an organisation and by a laboratory accredited by International Accreditation New Zealand (IANZ) for the tests and analyses involved.
 - (b) The consent holder shall install sampling ports in the boiler stack or the duct into the boiler stack as appropriate in accordance with Australian Standard AS4323.1-1995 or equivalent method for the provision and location of sampling ports, services, platforms and access as well as provision of single phase electrical supply.
 - (c) The method of sampling and analysis for total particulate matter shall comply with US Environmental Protection Agency (USEPA) Methods 5 or Method 17, or ISO 9096:2003, ASTM D3685-98, or equivalent method to the satisfaction of the Southland Regional Council. The testing time for each particulate sample shall be two hours continuous, and at least three samples shall be collected. Results shall be adjusted to zero degrees Celsius, 101.3 kilopascals, and 12 percent carbon dioxide on a dry gas basis, and as a mass emission expressed as kilograms per hour.
 - (d) The method of sampling and analysis for sulphur dioxide shall be USEPA Method 6, 6A, or 6C, or an equivalent method to the satisfaction of the Southland Regional Council. The testing time for each sulphur dioxide sample shall be one hour continuous and at least three samples shall be collected. Results shall be adjusted to zero degrees Celsius, 101.3 kilopascals, and 12 percent carbon dioxide on a dry gas basis, and as a mass emission expressed as kilograms per hour.
 - (e) Volumetric flow of combustion gas, and gas temperature, during each particulate and sulphur dioxide emission test shall be determined and recorded and results presented as a part of the particulate emission test report.
 - (f) The oxygen or carbon dioxide concentration in combustion gases shall be continuously monitored and recorded during each particulate and sulphur dioxide emission test and results shall be presented as a part of the particulate emission test report.
 - (g) The following operating parameters of the boiler during each particulate and sulphur dioxide emission test shall be obtained and included in the testing report:

- furnace temperature;
- furnace back-end oxygen concentration (wet gas or dry gas basis identified);
- rate of firing (coal consumption per unit time and steaming rate); and
- any abnormal operation during the testing period.

The results of emissions tests and other information and a description of the testing methods used shall be provided to the Southland Regional Council within 20 working days following receipt by the consent holder of the testing report. A summary of the results and other information shall also be included in the Annual Environmental Report required under condition 19.

13. The coal-fired boiler shall be serviced at least once every year by a person competent in the servicing of such boilers. This servicing shall include internal cleaning and replacement or repair of damaged equipment and services as necessary; adjustment of the air to fuel ratio to optimise energy efficiency and to minimise the emission of products of incomplete combustion; and calibration and adjustment of boiler monitoring equipment consistent with the intent of this consent. Servicing reports shall be prepared and copies shall be provided to the Southland Regional Council on request. Confirmation that this servicing has been undertaken, and at least a summary of the service reports shall be reported to the Southland Regional Council in the Annual Environmental Report required under condition 19.
14. An obscuration meter shall be installed and operated in accordance with the supplier's instructions to provide continuous measurement and recording of obscuration of the discharge. The meter shall be maintained and calibrated by a competent person such that a reliable indication of plume opacity is achieved at all times. Boiler operators shall take into account obscuration meter readings when determining ongoing compliance with condition (9). A record of obscuration measurements shall be held on site and shall be provided to the Southland Regional Council on request.
15. Fugitive dust from the coal delivered, stored and used on site shall be minimised by all practicable means, which shall include unloading coal within an appropriately enclosed facility and storage of coal in an enclosed environment.
16. The tonnage of coal burned per month, and the average and maximum one hour and 24-hour coal consumption and gross energy input rates, shall be calculated each month based on recorded steam production rates. This information shall be summarised in the Annual Environmental Report required under condition 19.

Milk Powder Plant

17. (a) Discharges to air from two milk powder drier stacks shall be via cyclones and bag filters discharging through vertical stacks without impediment with minimum height above ground level (including building height) of 40 metres, with the actual stack height being no less than 4 metres above the roof ridgeline of all buildings (excluding the boiler stack) on the consent holder's property. The minimum efflux velocity of exhaust air from each drier stack shall be 14 metres per second at the maximum continuous rating of the drier. The concentration of total suspended particulate in the exhaust air from both drier stacks shall not exceed 15 milligrams per cubic metre corrected to 0 degrees Celsius, 101.3 kilopascals, on a dry gas basis. The total emission rate of suspended particulate matter from both drier stacks shall not exceed 1.5 kilograms per hour.
- (b) The consent holder shall install sampling port(s) in the drier stack in accordance with Australian Standard AS4323.1-1995 or equivalent method for the provision and location

of sampling ports, services, platforms and access as well as provision of single phase electrical supply.

- (c) The concentration and emission rate of total suspended particulate matter in the drier stack exhaust air shall be measured within four months after completing commissioning of the plant and thereafter at least every twelve months to confirm compliance with condition 17(a). Measurement of the discharge from the stack shall occur when the plant is operating at least 75 percent of its maximum continuous rating. Testing, and analysis of samples as appropriate, shall be carried out by an organisation and by a laboratory accredited by IANZ for the tests and analyses involved.
- (d) The method of sampling and analysis for total particulate matter shall comply with US Environmental Protection Agency (USEPA) Methods 5 or Method 17, ISO 9096:2003 or ASTM D3685-98, or a similar method to the satisfaction of the Southland Regional Council. The testing time for each sample shall be two hours continuous, and at least three samples shall be collected. Results shall be adjusted to zero degrees Celsius, 101.3 kilopascals, on a dry gas basis, and as a mass emission from each stack expressed as kilograms per hour.
- (e) The volumetric flow and temperature in the drier stack shall be determined and recorded and results presented as a part of the particulate emission test report.
- (f) The results of emissions tests and other information and a description of the testing methods used shall be provided to the Southland Regional Council within 20 working days following receipt by the consent holder of the testing report. A summary of the results and other information shall be included the Annual Environmental Report required under condition 19.

Reporting

18. A record of all complaints made to the consent holder relating to odour or particulate matter shall be maintained, and shall include:
- (a) the location where the odour or particulate matter was detected by the complainant;
 - (b) the date and time when the odour or particulate matter was detected;
 - (c) a description of the wind speed and wind direction, and rainfall if any, when the odour or particulate matter was detected by the complainant;
 - (d) the most likely cause of the odour or particulate matter detected; and
 - (e) any corrective action undertaken by the consent holder to avoid, remedy or mitigate the odour or particulate matter detected by the complainant.

The record of complaints shall be provided to the Southland Regional Council on request, and as part of the Annual Environmental Report required under condition 19.

19. The consent holder shall, no later than 30 September of each year, provide an Annual Environmental Report to the Southland Regional Council setting out all monitoring and reporting results required by conditions of consent and their interpretation by an appropriately qualified person, including emission tests undertaken in relation to this consent over the previous period. Where the result of any test or monitoring undertaken in relation to this consent exceeds the relevant limit or does not comply with the relevant condition, then the steps that were taken to rectify the non-compliance shall be provided.

Meteorological Monitoring

20. The consent holder shall install a meteorological station at a representative location determined in consultation with the Southland Regional Council. The meteorological parameters to be measured and the equipment specification shall, at a minimum, be those specified in the following table:

Heading	Resolution	Accuracy	Start up	Other Requirements
Wind speed	0.1 m/s	+/- 0.2 m/s	0.2 m/s	Measured 10m above ground level
Wind Direction	1 degree	+/- 2 degrees		Referenced to True north
Air Temperature	0.1 degree C	+/- 0.2 degrees C		Measured at 10m and at 1.3m above ground level
Averaging Time & Data Logging	Averaging time 10 minutes for each parameter. A suitable data logging system appropriate for the circumstances capably of down loading to a personal computer or equivalent processor equipped with meteorological data processing software.			

All processed data shall be archived and made available to the Southland Regional Council on request.

Management & Contingency Plan

21. The consent holder shall prepare, through the services of an independent appropriately qualified person(s), an “Air Discharge Management & Contingency Plan” (the Plan). The purpose of the Plan shall be to:
- (a) describe the operation of the plant in relation to its potential impacts on the air environment;
 - (b) define the actions to be taken to ensure compliance with all conditions of this consent, or in response to any incident which may impact adversely on the environment;
 - (c) describe how representative samples of coal will be taken to give a composite sample for analysis; and
 - (d) present contingency plans in the event of mechanical or electrical or other problems that provide for continuing operation of processes and/or timely shutting down of processes as the case may be, to ensure conditions of this consent are not breached.

The Plan shall include details of the steps to be taken to correct any non-compliances identified. The plan shall be provided to the Southland Regional Council within three months of the date notified in accordance with Condition 1(b). The Plan should be reviewed at least on an annual basis and it may be amended at any time during the period of this consent as the independent qualified person(s) considers appropriate to improve management and contingency procedures. If/when the Plan is amended, a copy of the amended version, (or amended sections) shall be sent to the Southland Regional Council as soon as practicable following amendment. Amendments to the Plan shall be referenced in the Annual Environmental Report required under Condition 19.

Review of Consent and Annual Charges

22. The Southland Regional Council may, in the months of May or November each year, serve notice of its intention to review the conditions of this consent for the purposes of:

- (a) dealing with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage;
- (b) requiring the adoption of the best practicable option to remove or reduce any adverse effect on the environment;
- (c) requiring the adoption of measures to reduce adverse effects of particulate matter or sulphur dioxide indicated by monitoring in accordance with conditions of this consent; and
- (d) modifying or extending any of the monitoring requirements of this consent.

23. The consent holder shall pay an annual administration and monitoring charge to the Southland Regional Council, collected in accordance with Section 36 of the Resource Management Act.

Reissued 2 February 2018 following amendments to the legal description and Conditions 1, 2, 3, 6, 8, 10, 11, 17 and 21 to address technical specifications for various parts of the proposed plant.

for the **Southland Regional Council**



Michael Durand
Consents Manager