

Proposed conditions of consent – 12 August

(changes in response to Ministry of Education evidence shown as ~~deletions~~ and additions)

1. The discharges shall be only:
 - a. Odour from the processing and cooking of poultry, the rendering of by-products and the storage and conveyance of wastewater;
 - b. Combustion products from boilers fuelled on diesel oil, biodiesel, light fuel oil, reprocessed oil or liquefied petroleum gas; and
 - c. Smoke and odour from meat smokehouses;

located at 112 Carmen Road, legally described as Section 27 Survey Office Plan 459717, at or about map reference NZTM 1562227, 5179717, as shown on Plan CRC194459A, attached to and forming part of this consent.

2. A maximum of ~~75,000 chickens and 5,000 turkeys~~ 80,000 birds (chickens and turkeys) shall be processed per day.
3. The discharges shall not cause odour or the deposition of particulate matter that is noxious, dangerous, objectionable or offensive beyond the boundary of the property on which the consent is exercised.
4. The boilers shall have a combined maximum heat output rating of 6.76 megawatts, configured as follows:
 - a. ~~One boiler~~ A maximum of two boilers with a maximum combined heat output rating of 2.32 megawatts, in discharging from either the existing front boiler house stack or the proposed front boiler stack; and
 - b. A maximum of four boilers with a maximum combined heat output rating of 4.4 megawatts, in discharging from the rear boiler house stack;

as shown on Plan CRC194459B, attached to and forming part of this consent.

Advice note: For the avoidance of doubt, during commissioning of the new front boiler, existing and proposed front boilers may be operated simultaneously provided that the combined heat output of the operated front boilers is collectively no greater than 2.2 megawatts.

5. The sulphur content of fuel burnt in the boilers shall not exceed ~~0.5 percent by weight~~ the following:

- a. 0.5 percent by weight as a monthly weighted average; or
 - b. 0.8 percent by weight as an absolute maximum value.
6. The reprocessed oil burnt in the boilers shall comply with the following specifications:
 - a. Lead 100 parts per million maximum;
 - b. Arsenic 5 parts per million maximum;
 - c. Cadmium 2 parts per million maximum;
 - d. Chromium 10 parts per million maximum;
 - e. Total halogen content 1,000 parts per million maximum (no polychlorinated biphenyls allowed); and
 - f. Flash point 60 degrees Celsius minimum.
7. The discharges from the boilers shall occur:
 - a. From the front boiler house, via a single stack at a height of 19 metres above local ground level;
 - b. From the rear boiler house, via a single stack at a height of 22 metres above local ground level; and
 - c. From both stacks, directed vertically into air and not impeded by any obstruction above the chimney stacks which decreases the vertical efflux velocity.
8. The efflux velocity of the exhaust gas from the boiler stacks, when the boilers are operating at 100 percent of their maximum continuous ratings, shall be not less than:
 - a. 16 metres per second from the front boiler house stack; and
 - b. 18 metres per second from the rear boiler house stack.
9. Particulate matter with an equivalent aerodynamic diameter of ten microns or less (PM₁₀) shall not exceed:
 - a. A concentration in either boiler stack of 250 milligrams per cubic metre (corrected to 0 degrees, dry gas, 1 atm and 12 percent carbon dioxide); and

- b. A mass emission rate of 0.2 grams per second (0.72 kilograms per hour) in the discharge from the front boiler house; and
 - c. A mass emission rate of 0.4 grams per second (1.44 kilograms per hour) in the discharge from the rear boiler house.
10. The concentration and mass emission of PM₁₀ in the combustion gas discharged from each of the boiler stacks shall be measured in accordance with the following:
- a. ~~The test shall be undertaken at least once every 12 months. The results shall be expressed as the average of at least three measurements. The frequency of testing shall be as follows:~~
 - i. testing shall be undertaken at least once every 12 months, except where ii applies;
 - ii. where the concentration and rates of PM₁₀ emissions measured in three consecutive tests conducted in accordance with i comply with the limits specified in Condition 9, testing shall be undertaken at least every 24 month.

The results shall be expressed as the average of at least three measurements.
 - b. Each test shall comprise three measurements and shall be undertaken as far as practicable when the boiler plant is operating at greater than 70 percent of the ~~peak operating load~~ maximum continuous rating or at the maximum safe load that can be maintained throughout the testing period.
 - c. Particulate concentration results shall be adjusted to zero degrees Celsius, 101.3 kilopascals and 12 percent carbon dioxide by volume on a dry gas basis and mass emission results shall be expressed as grams per second and/or kilograms per hour.
 - d. The consent holder shall record the plant's operational steam load or fuel usage rate during the tests.
 - e. The method of monitoring shall comply with US EPA Method 201A or an equivalent method as agreed by the Consent Authority.
 - f. Tests are to be designed and carried out by an appropriately qualified and independent person (i.e. holding ISO 17025 accreditation and with accreditation for the test methods from IANZ or an equivalent body).

- g. The results of the analysis, including a description of the method used, the rate of fuel consumption during testing and any assumptions made, shall be provided to the Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance, within 20 working days of the date of testing.

11. The boilers and any associated emission control systems shall be maintained in accordance with the manufacturers' instructions by a person(s) competent in the maintenance of such appliances. The maintenance shall include as appropriate:

- a. ash removal;
- b. adjustment, if necessary, of the fuel to air ratio; and
- c. testing of the ratio of combustion gases discharged, i.e. carbon monoxide, carbon dioxide and oxygen.

Maintenance reports shall be prepared and copies shall be provided to the Canterbury Regional Council on request

12. The consent holder shall keep a record of the amount, ~~and type and sulphur content~~ of fuel used each month in each boiler. Where light fuel oil or reprocessed oil are used the record shall also include sulphur content. The record shall be provided to the Canterbury Regional Council on request.

13. The opacity of the emissions from the boiler stacks 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; and
- b. For a period not exceeding a total of four minutes in each succeeding hour of operation;
- c. For a period not exceeding two minutes continuously, in each succeeding hour of operation
- d. During the first 60 minutes of start-up and during shut down.

14. The discharge to air from chicken scalding shall be via two stacks, each with a height of 18 metres above local ground level.

15. Odorous air from the protein recovery plant ~~and wastewater balance tank~~ shall be extracted and conveyed to a ~~soil bank~~ the biofilter operated and maintained in accordance with condition 19.

The extraction system shall operate at all times during operation of the protein recovery plant, and the rate and method of extraction shall be sufficient to ensure that the protein recovery plant building is held in a state of negative pressure at all times.

16. All doors and windows on the protein recovery plant shall be kept closed ~~to the maximum practicable extent.~~ at all times except for the purpose of ingress of goods or egress of products and staff movements, provided that the doors may be open when the air temperature within the building exceeds 35°C and the temperature is a health and safety matter for operators.
17. The extraction of air from the protein recovery plant and wastewater balance tank shall be in accordance with Plan CRC194459C, attached to and forming part of this consent.
18. ~~The wastewater system shall be operated to ensure that the wastewater does not become anaerobic at any stage of its storage, conveyance or discharge off site.~~ The wastewater balance tank shall be enclosed and head space air shall be extracted and conveyed to the biofilter operated and maintained in accordance with condition 19.
19. The biofilter shall be operated and maintained such that the following parameters are complied with:
 - a. A minimum media volume of 1,39588 cubic metres;
 - b. ~~A minimum empty bed residence time of 111 seconds~~ A maximum air loading rate of 45 m³_{air}/hr/m³_{media};
 - c. ~~A minimum fine bark or soil content of 30 percent~~ A maximum fine bark or soil content of 10 vol. percent;
 - d. ~~A maximum inlet temperature of 40 degrees Celsius~~ Inlet air to the Biofilter shall be:
 - i. ≤35 °C for more than 95 % time;
 - ii. ≤40 °C for more than 99 % time; and
 - iii. A maximum inlet temperature of 45 degrees Celsius;
 - e. A maximum pressure drop across the biofilter media and air supply plenum of 400~~150~~ millimetres water gauge (except during several days following high precipitation events, when a maximum pressure drop of 200 millimetres water gauge applies);
 - f. ~~A media pH between 5 and 9~~ The media pH shall be;

- i. pH 5 or higher at <600 mm from the top of the media surface; and
- ii. pH 3.5 or higher at >600 mm from the top of the media surface;
- g. A moisture content between ~~3050~~ percent and ~~7065~~ percent by weight, except during and following periods of high precipitation (several days).
- h. The biofilter shall not discharge rendering odour and shall only discharge an earthy/bark type odour immediately adjacent to the biofilter.

20. The following biofilter parameters shall be measured and recorded:

- a. The pressure drop and pH once per month;
- b. Moisture, inlet air temperature and inlet air pressure continuously.

The records shall be kept for a minimum of twelve months and provided to the Canterbury Regional Council on request;

21. All raw material to be processed at the protein recovery plant shall be:

- a. Only by products from the processing of poultry; and
- b. ~~Stored in sealed bins and P~~rocessed or stabilised within 24 hours of its production.

22. All incoming loads of raw material for processing at the protein recovery plant shall:

- a. be inspected prior to receipt; and
- b. Shall not be accepted if they cannot be processed within 24 hours of being produced, and/or are excessively odorous in comparison with a normal load received from that source.

~~23. Once per day when the site is in operation including the protein recovery plant, the consent holder shall undertake a site boundary odour assessment at a downwind location in general accordance with the Verein Deutscher Ingenieure [VDI] method 3940. A site boundary odour assessment at a downwind location shall be undertaken by an agent, contractor, employee or staff member of the consent holder that is not regularly exposed to odour from the site at least once every day when birds are present on site (or at any lesser frequency with the prior written agreement of the Canterbury Regional Council). The assessment shall be conducted in accordance with the procedure set out for this purpose in the Air Discharge Management Plan required by Condition 27.~~

Advice note: In considering a reduction in the frequency of observations the Canterbury Regional Council shall consider the report(s) submitted in accordance with (new condition 25) and the record of compliance of odour emissions with Condition 3.

24. The results of the assessments made in compliance with condition 23 shall be recorded and kept at the site for a minimum of 24 months and :
- a. ~~Be summarised in a report that is provided to the Canterbury Council at the end of March and September every year; and~~
 - b. provided to the Canterbury Regional Council on request
25. ~~The report provided in compliance with condition 24a shall include but be not limited to:~~ The consent holder shall submit a report to the Canterbury Regional Council no later than 1 October each year in relation to the results of the assessments made in compliance with condition 23, detailing but not limited to the following (in relation to the year to 1 September):
- a. A statistical summary of the results of the surveys and a discussion of this;
 - b. A discussion of compliance with the applicable conditions of this resource consent;
 - c. Whether any events occurred that were offensive or objectionable, and the reasons for them;
 - d. Any other notable odour events and the reasons for them; ~~and~~
 - e. Whether any events occurred that could be correlated with complaints made either to the consent holder or to Environment Canterbury; and
 - f. any proposed amendments to the frequency of site boundary odour observations to be undertaken in accordance with condition 23.
26. If a site boundary odour assessment undertaken in accordance with condition 23 identifies that an odour event is occurring that would be classified as offensive or objectionable, the consent holder shall immediately take all practicable steps to identify the source of the odour and rectify the problem. ~~and shall report the incident to the Canterbury Regional Council, Attention: Regional Leader - Monitoring and Compliance as soon as practicable and no later than two hours following the initial observation of the odour event.~~

A report describing the site boundary odour assessment, investigations undertaken, identified sources or causes of the odour and remedial steps undertaken shall be provided to the Canterbury Regional Council, Attention: Regional Leader - Monitoring and Compliance, within

10 working days of a the initial observation of the odour event by the consent holder, or otherwise on request.

27. The operation of the site shall be in accordance with an Air Discharge Management Plan, which shall include but be not limited to:

- a. A description of all odour sources;
- b. A description of all odour mitigation practices and associated operation, management and maintenance;
- c. Managing raw material quality, including that from off-site sources;
- d. Operation and management of the bird receipt area including cleaning, stock management, temperature control and ventilation;
- e. Operation and management of the protein recovery plant extraction system and the biofilter;
- f. The management of cooking cycles to avoid overloading of the condensers;
- g. Alternative arrangements in the event of loss of operation of the protein recovery plant;
- h. Boiler operation, servicing and maintenance;
- i. Wastewater system operation and cleaning;
- j. Contingency situations and responses; and
- k. Monitoring required by this resource consent, including but not limited to procedures for conducting site boundary odour assessments in accordance with Condition 23.

28. The consent holder shall, at five-yearly intervals, undertake an assessment of the best practicable option for the control of odour from the site. The assessment shall:

- a. Summarise the current practices for odour control from processes of the type undertaken at the site;
- b. Account for the sensitivity of the receiving environment and odour effects being created by the site at that time;
- c. Indicate whether, on consideration of factors including but not limited to the effects from the site that are occurring at that time, the effectiveness of the mitigation

alternatives, their applicability to the site, and their cost, the practices are the best practicable option for the site;

- d. Indicate, if new practices are considered to be best practicable option and required at the site, the consent holder's strategy for implementing them; and
- e. Be provided to the Canterbury Regional Council, Attention: Regional Leader - Monitoring and Compliance not later than five, ten and fifteen years following the commencement of this resource consent.

29. A record of all complaints relating to odour or particulate matter caused by the discharge 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 when the odour or particulate matter was detected by the complainant; and
- d. The most likely cause of the odour or particulate matter detected and steps taken to address the cause(s).

A copy of the record shall be provided to the Canterbury Regional Council, Attention: Regional Leader - Monitoring and Compliance, within 10 working days of a complaint received by the consent holder, or otherwise on request.

30. The Canterbury Regional Council may, on the last five working days of March 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; or
- b. Requiring the adoption of the best practicable option to remove or reduce any adverse effect on the environment.

31. The lapsing date for the purposes of Section 125 of the Resource Management Act 1991 shall be 31 December 2025.

