

Discharge Permit

Pursuant to **Section 104B** of the Resource Management Act 1991, a resource consent is hereby granted by the Southland Regional Council to **Alliance Group Limited** of **PO Box 845, Invercargill 9840** from **30 November 2016**

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 contaminants to air for the purpose of operating a meat processing and export plant and associated activities and all other on-site activities including the disposal of waste.

Location - site locality Lorneville
- map reference NZTM2000 1237821E 4856201N

Expiry date: 30 November 2041

History of Changes and Transfers:

- Consent corrected on 23 December 2016

Schedule of Conditions

General Conditions

1. Subject to complying with the conditions of this consent, the activities authorised by this consent shall be undertaken so as to be consistent with the application for this consent and the documents entitled:
 - (a) Assessment of Environmental Effects dated November 2015

- (b) Technical Reports:
 - (i) Appendix E - Background Ambient Air Quality Report – Golder Associates
 - (ii) Appendix F – Baseline Odour Survey – Golder Associates
 - (iii) Appendix G – Process Odour Mitigation – Golder Associates
 - (iv) Appendix M – Coal Fired Boiler Assessment – Golder Associates
 - (v) Appendix R – Wastewater Treatment Odour Mitigation – Golder Associates
 - (vi) Appendix U – Draft Air Quality Discharge Management Plan
- 2. Any incident causing abnormal and/or excessive emissions to the atmosphere, including odour, shall be abated as soon as is reasonably practicable. On becoming aware of such an incident, the Consent Holder shall immediately advise the Consent Authority and follow up with a written report on the cause, and the actions taken to prevent a recurrence.
- 3. Trade wastes may be burnt in the existing concrete lined area designated for this purpose. The wastes to be burned shall be limited to wood or paper waste and shall specifically exclude copper-chromium-arsenic (CCA) treated timber and painted timber. There shall be no other open air burning of trade waste on the premises.

General Requirements – Certification of Management and Monitoring Plans

- 4. In carrying out its functions in relation the certification process associated with any management or monitoring plan required by the conditions, the Consent Authority shall be satisfied that the plan meets the purpose stated within the relevant condition. The Consent Authority shall complete its certification within twenty working days of receipt of the management or monitoring plan. In the event of any dispute, disagreement or inaction arising as to any certification of any plan required by the conditions, or as to the implementation of, or monitoring required by the conditions, matters shall be referred in the first instance to the Consents Manager determine a process for resolution of the dispute, disagreement or inaction.
- 5. If a resolution cannot be agreed within ten working days of any dispute, disagreement or inaction arising, the matter may be referred to an independent appropriately qualified expert, acceptable to both parties, setting out the details of the matter to be referred for determination and the reasons the parties do not agree.
- 6. The qualified expert shall be appointed within five working days of the Consent Holder or the Consent Authority giving notice of their intention to seek expert determination. The expert shall issue a decision on the matter within fifteen working days.
- 7. The decision of the qualified expert is binding on the Consent Holder and shall be implemented.
- 8. The dispute resolution process above shall be applied before any formal enforcement action is taken by the Consent Authority.

Management Plan

- 9. No later than three months after the commencement of this consent, the Consent Holder shall prepare and submit to the Consent Authority an Air Discharge Management Plan. The purpose of the Air Discharge Management Plan shall be to ensure that any adverse effects from the air discharges authorised by this consent are avoided, remedied or

mitigated and that the discharges are appropriately monitored for compliance purposes. The Air Discharge Management Plan shall contain, but not be limited to:

- (a) A description of the air discharges arising from onsite activities and processes including:
 - (i) Boiler operations and emissions requirements;
 - (ii) Rendering plant operating requirements;
 - (iii) Odour management;
 - (iv) Methods to manage the effects of the air discharges including particulate emissions and odours.
- (b) Monitoring and reporting requirements.

The Air Discharge Management Plan shall be reviewed at least annually. The purpose of this review shall be to confirm that it accurately reflects on-site activities and operations and to identify if changes to management procedures contained within the Air Discharge Management Plan are required. The results of the review shall be reported to the Consent Authority within twenty working days of the review being undertaken. If the review results in amendments to the Air Discharge Management Plan, the amended sections shall be provided to the Consent Authority for certification at this time.

This permit shall be exercised in accordance with the Air Discharge Management Plan at all times. Where there is inconsistency between the Air Discharge Management Plan and the conditions of this consent, the conditions of this consent shall prevail.

Boiler Operating and Emission Requirements

- 10. The height of the stacks above surrounding ground level shall not be less than:
 - (a) 30.9 m for the Babcock and Wilcox boiler;
 - (b) 34.1 m for the Foster-Wheeler boiler.
- 11. (a) The sulphur content of fuel used for the boilers shall not exceed 0.5 wt% (as-received), based on the results of the following testing:
 - (i) A grab sample of the supplied coal for the boilers shall be collected at least once per week and sent to an IANZ accredited laboratory for analysis for combustible sulphur as percent by weight of coal both on an as-received and dry basis.
 - (ii) If the coal source changes then a representative analysis of the sulphur content shall be carried out to confirm compliance with the 0.5 wt% limit before the new coal source is accepted.
 - (iii) The preparation of a monthly monitoring report which shall summarise grab sample test results including a comparison with the limit specified in this condition. A copy of this report shall be submitted to the Consent Authority each month upon completion.
- 12. The discharge from the boiler stacks shall be directed vertically into the air and shall not be impeded by any obstruction that could impede the vertical efflux velocity.
- 13. The opacity of smoke discharged from any boiler shall not exceed Ringelmann Shade 1 as described in New Zealand Standard 5201:1973 except:

- (a) for 60 minutes when lighting a boiler after a shutdown period of up to eight hours; or
 - (b) for four hours when lighting a boiler after a shutdown period of longer than eight hours; and
 - (c) at any other time, to allow for cleaning the fires and manual soot blowing of the boilers, for periods not exceeding two minutes at a time and not exceeding five minutes in any period of 60 minutes.
14. The Consent Holder shall install industry standard opacity meters within the boiler discharge stacks, using either light extinction or light scattering based technologies. The system shall be installed within eight months of the commencement of this consent and enable percentage opacity of the two boilers exhaust to be recorded and displayed to boiler operator staff.
15. The storage of coal and ash shall be managed so that there is no visible emission of coal and ash dust beyond the boundary of the site.
16. The coal fired boiler(s) used on the site shall be serviced at least once every year and the servicing shall be supervised by a person competent in servicing of such boilers. This servicing shall include:
- (a) Internal cleaning and replacement or repair of damaged equipment and services as necessary;
 - (b) Adjustment of the air to fuel ratio to optimise energy efficiency and to minimise the emission of products of incomplete combustion; and
 - (c) Calibration and adjustment of boiler monitoring equipment consistent with the monitoring obligations of this consent.

Service reports shall be prepared following each servicing event. Confirmation that this servicing has been undertaken, and a copy of the servicing report shall be supplied to the Consent Authority by 30 November each year.

17. (a) The exhaust air from the two coal fired boilers shall have a flow weighted PM₁₀ concentration of 300 mg/Nm³ at standard atmospheric pressure and temperature (STP) corrected to 12 vol.% CO₂ and dry, which equates to a maximum PM₁₀ mass rate of 21.4 kg/hr.
- (b) By no later than three years from the first exercise of this consent, and thereafter the flow weighted PM₁₀ concentration from the two coal fired boilers shall not exceed 250 mg/Nm³ at STP corrected to 12 vol.% CO₂ and dry, which equates to a maximum PM₁₀ mass rate of 17.8 kg/hr.

For the avoidance of doubt, in the event that any review, required to be undertaken in accordance with Conditions 22 - 25, results in a requirement for the Consent Holder to achieve a more restrictive discharge standard for PM₁₀ or any other determinand (e.g. PM_{2.5}), then that discharge standard shall supersede and replace clause (b) of this condition.

Monitoring

- 17A. The concentration of PM₁₀ in the combustion gas in each of the boiler stacks shall be measured at least once every 12 months for the duration of this consent. Measurement shall occur when the tested boiler is being operated at a rate of at least 75% of its

maximum continuous rating. The method of sampling and analysis for PM₁₀ shall be USEPA Methods 201A and 202 or an equivalent method approved in writing by the Consent Authority. The testing time shall be at least two hours continuous, within which at least three samples shall be collected. Testing and analysis of samples shall be carried out by an organisation and laboratory accredited by International Accreditation New Zealand (IANZ) for the tests and analyses involved. The results of the emission test, including comparison to the concentration and mass emission limits in Condition 17, shall be provided to the Consent Authority within 40 working days of the test being completed.

For the avoidance of doubt, any stack testing that may be required to be undertaken in accordance with Condition 19 (where ambient air quality limits are exceeded) may be used as fulfilment of the annual stack testing required by this condition.

18. The Consent Holder shall undertake continuous monitoring and logging of ambient 1-hour and 24-hourly average respirable particulate (PM₁₀ and PM_{2.5}) concentrations in conjunction with wind speed and direction. The monitoring location shall be as close as practical to New Zealand Transverse Mercator coordinates (NZTM) 1240.240, 4856.670 (Eastings and Northings in kilometres (km)) being a site nearby the dwelling at 237 Steel Road. The monitoring campaign shall commence either before or by 1 December after the commencement of this consent and operate all year round.

Specific features of the methodology shall include:

- (a) The ambient PM₁₀ and PM_{2.5} monitoring shall be by Beta Attenuation Monitor (BAM) in accordance with AS/NZ 3580.9.11:2008 '*Determination of suspended particulate matter - PM₁₀ beta attenuation monitors*' or equivalent semi-continuous method. The sampling height shall be 3 metres above ground level.
- (b) Concurrent monitoring of wind speed and direction at the monitoring site and logging of 10 minute and hourly averaged data at the same site as the ambient monitoring. Wind speed and direction shall be monitored using industry standard meteorological monitoring instrumentation that is attached to a mast at a height of 6 metres above ground level. Specifically the wind direction and speed monitoring equipment shall meet the following specifications:

Wind Speed Instrumentation:

Range: 0 to \geq 30m/s
Accuracy: $\leq \pm 5\%$ @ 3 m/s
Resolution: \leq 0.1 m/s
Response Time: \leq 1 second
Wind Speed Threshold: \leq 0.5 m/s

Wind Direction Instrumentation:

Range: 0-359°
Accuracy: $\leq \pm 5\%$ @ 3 m/s
Resolution: 1°
Response Time: \leq 1 second
Wind Speed Threshold: \leq 0.5 m/s

- (c) Ambient PM₁₀ and PM_{2.5} concentrations in micrograms per cubic metre shall be recorded in electronic form as 1-hour and 24-hour averages (midnight to midnight). Wind speed in metres per second, and wind direction in degrees clockwise of true north, shall be recorded in electronic form as 1-hour and 10 minute averages.

- (d) The Consent Holder shall report the hourly PM₁₀ and PM_{2.5} concentration measurements that occur when the monitoring site is downwind of the boiler stacks. This includes 1-hour average wind directions that are between 245 and 270 degrees from true north (or whichever directions are within 13 degrees of the direction bearing between the monitor sample point and the boiler stacks). The Consent Holder shall also report all 24-hour PM₁₀ concentration measurements.
- (e) From the downwind ambient 1-hour PM₁₀ results, the Consent Holder shall report the maximum, 95th and 50th percentile values (ie. X, Y, Z indicated in Table 1, respectively). The maximum and 95th percentiles (X and Y) shall meet their respective PM₁₀ concentration percentile limits listed in Table 1. These are appropriate limits that relate to the applicable coal-fired boiler stack PM₁₀ discharge limits of 300 mg/Nm³ and 250 mg/Nm³ (at 12 vol.% CO₂ and dry STP condition). The applicable stack discharge limit for PM₁₀ is defined in Condition 17.

Table 1: Ambient Pm₁₀ Percentile Limits for Off-Site Monitoring

Hourly Downwind PM ₁₀ Percentile	Monitored hourly PM ₁₀ (µg/m ³), downwind conditions	Ambient PM ₁₀ (µg/m ³) limits for stack concentration of 300 mg/m ³ (applicable for up to the first three years of the consent)	Ambient PM ₁₀ (µg/m ³) limits for stack concentration of 250 mg/m ³ (applicable for the period post the first three years of the consent)
100%	x	122	117
95%	y	37	35
50%	z	18	17

- 19. (a) Should the monitoring and reporting of hourly downwind ambient PM₁₀ percentiles undertaken in accordance with Condition 18 identify that either of the appropriate 95th and/or the 100th percentile PM₁₀ limits listed in Table 1 of Condition 18(e), are exceeded by 2 µg/m³, or more, then testing of PM₁₀ discharges from the boiler stacks using US EPA Methods 201A and 202 (or equivalent methods agreed with the Consent Authority) shall be undertaken no later than two months post the exceedance.
 - (b) Should the monitoring and reporting of 24-hour ambient PM₁₀ concentrations undertaken in accordance with condition 18 identify any exceedance of a trigger value of 42 µg/m³, then testing of PM₁₀ discharges from the boiler stacks using US EPA Methods 201A and 202 (or equivalent methods agreed with the Consent Authority) shall be undertaken no later than two months post the exceedance. This requirement for stack testing shall not apply in circumstances where the ambient monitoring and wind direction data indicate that the 24-hour trigger exceedance was likely to be caused by abnormally high background PM₁₀ concentrations caused by emission sources not controlled by the Consent Holder. In these circumstances the supporting data shall be submitted to the Consent Authority and agreement obtained in writing from the Consent Authority that the additional stack testing is not required.
20. The results of the stack testing undertaken in accordance with Condition 19, and completed ambient monitoring for the concurrent period undertaken in accordance with Condition 18 shall be reported to the Consent Authority within 30 working days of its completion. If the monitoring determines that the operation of the boilers is likely to have caused or contributed to an exceedance of the ambient limits set out in Condition 18(e) this report shall also identify the likely cause and remedial actions that are necessary to be

undertaken in order to prevent such exceedances occurring again, and the appropriate timeframe for implementation. The Consent Authority may, at the Consent Holder's expense, engage a suitably qualified person to review the report and shall subsequently confirm in writing the necessary remedial actions and the timeframe for those actions. The Consent Holder shall implement the required action specified in writing by the Consent Authority in accordance with the specified timeframes.

Reporting and Review

21. By 30 November each year, the Consent Holder shall provide a monitoring report to the Consent Authority that summarises the monitoring results for the 12 month period ending on 30 September of the previous year, which shall include the following:
 - (a) Electronic data set containing the time series of monitored hourly PM₁₀ and PM_{2.5}, wind speed and wind direction;
 - (b) Table containing the monitored results versus PM₁₀ percentiles;
 - (c) Time series plot of monitored 24-hour average PM₁₀ and comparison with a trigger value of 42 µg/m³ and the National Environmental Standard criterion for 24-hour PM₁₀; and
 - (d) Results of any stack discharge testing carried out.
22. No later than five years from the consent commencing and at five yearly intervals thereafter, the Consent Holder shall conduct a review of:
 - (a) The results of the monitoring required by the conditions of this consent;
 - (b) Relevant guidelines or standards for discharges to air applicable at the date of the review; and
 - (c) Available technology for the control of emissions to air from the discharge sources at the site.
 - (d) The current and relevant health related science to confirm the best practicable option (as defined in section 2 of the Resource Management Act 1991) for the control of emissions to air from the discharge sources at the site.
23. The reviews required by Condition 22 shall identify if there is a need to implement additional methods for controlling the effects of the emissions at the site to ensure adherence to best practicable option obligations. The review shall detail any additional emissions control technology that is necessary, a programme of procurement and implementation associated with any required additional emissions control technology and the predicted emissions reduction that is likely to accrue from the implementation of this technology.
24. A report detailing the reviews required by Condition 22 shall be provided to a suitably qualified, independent air quality expert (or experts) for verification that the review has been undertaken in accordance with achieving the best practicable option for controlling emissions. The suitably qualified, independent air quality expert (or experts) shall be a person (or people) agreed to by the Consent Authority in writing before their engagement by the Consent Holder. The results of the review, and the advice received from the independent air quality expert (or experts) shall be reported to the Consent Authority for certification that the requirements of Condition 23 have been met. This report (or reports) shall be submitted to the Consent Authority immediately upon completion of the review(s). The Consent Holder's obligations to undertake each review and the associated

reporting process shall be completed not more than three months after each review is initiated.

25. The Consent Holder shall implement any recommended emissions control measures in accordance with the procurement and implementation programme set out within the certified report. Within three months of commissioning any required emissions control measures the Consent Holder shall provide a report to the Consent Authority that confirms that the work has been completed and which details future monitoring requirements and expected emissions performance standards. The Consent Holder shall meet these monitoring requirements and emissions performance standards for the remainder of the term of this consent.

Rendering Plant Operating Requirements

26. Other than slink carcasses or dead stock seasonally in the spring (fallen stock), only fresh or suitably stabilised material shall be processed in the rendering plant. This includes material from offsite sources. Slink carcasses or fallen stock shall be processed as soon as practicable after arrival at Lorneville Plant.

Note:

For the purposes of Condition 26:

- 1) *“Fresh” means; for material derived from the slaughter and dressing of stock, no older than 24 hours from the time of slaughter; for chilled or frozen materials derived from the cutting, boning, or further processing operations, no older than 24 hours from the time of delivery to the rendering department.*
 - 2) *“Stabilised” means stabilised by a recognised method which may include acid stabilisation or the use of proprietary stabilisation agents applied at manufacturer’s recommended dose. Stabilisation should occur as soon as is practicable but shall be no later than 8 hours from the time of slaughter or 8 hours from the removal of the animal carcass from a chilled facility.*
27. Material shall not be left in an uncooked or partially cooked condition overnight in the rendering processing line.
28. No blood older than 48 hours shall be processed.
29. The Consent Holder shall ensure that an odour control system is installed and functional with respect to the rendering plant activities at all times. The odour control system shall be operated according to an assigned set of protocols which set out:
- (a) A description of the odour extraction, cooling and biofilter systems;
 - (b) A description of the operating parameters, the target values, methods and frequency and location of odour control systems;
 - (c) Performance monitoring procedures for the odour control systems including daily, weekly, monthly and annual observations and monitoring that is required; and
 - (d) Methods for managing the biofilter which includes operational parameters and monitoring obligations.
30. The protocols for managing the biofilter prepared in accordance with Condition 29(d) shall ensure that the biofilter associated with the rendering plant is operated and maintained to an appropriate standard to minimise odour effects. The following parameters shall be monitored at the frequencies specified:

- (a) Daily visual observations of the state of the biofilter bed, particular for short circuiting and clogging of the bed;
 - (b) Continuous monitoring of the inlet temperature;
 - (c) Weekly monitoring of pressure drop across the biofilter bed;
 - (d) Monthly monitoring of biofilter bed moisture content; and
 - (e) Monthly monitoring of biofilter bed pH.
31. The inlet gas temperature to the biofilter shall be maintained at less than 40°C at least 99% of the time.
32. Floors, conveyors, and other equipment shall be kept free of accumulations of raw material which may putrefy and generate odours.
33. The Consent Holder shall have in place a contingency plan of actions that shall be implemented in the event that the rendering plant is inoperative due to equipment failure. A copy of this contingency plan shall be provided to the Consent Authority within three months of the first exercise of this consent. If the contingency plan is changed or updated to reflect a change in operational practices a copy of the revised plan shall be submitted to the Consent Authority within one month of the change or update being made.

Odour Management

34. The Consent Holder shall ensure that its activities, including the rendering plant and wastewater treatment facility, are operated in such a way as to ensure that there are no odour discharges to air that are noxious, dangerous, offensive or objectionable to the extent that it causes an adverse effect at or beyond the boundary of the site in the opinion of an officer of the Consent Authority.
35. Following any non-compliance with Condition 34 being identified, the Consent Holder shall immediately advise the Consent Authority and follow up with an investigation of the likely source of the odour and shall as soon as practicable prepare a report identifying the source and the methods to be implemented to reduce or properly manage the odour. The report shall be submitted to the Consent Authority. The methods set out within the report shall be implemented by the Consent Holder.
36. The Consent Holder shall keep a log of all odour complaints, which shall include:
- (a) The location where the odour was detected by the complainant;
 - (b) The date and time when the odour was detected;
 - (c) A description of the odour character, intensity and duration of exposure;
 - (d) The most likely cause of the odour detected;
 - (e) Note if there were any abnormal activities at or discharges from the Plant that may have resulted in the complaint; and
 - (f) Weather conditions at the time of the complaint.
- This log shall be provided to the Consent Authority upon request.

37. No later than five years from the consent commencing and as required by Condition 14 of consent AUTH-20158595-01 (discharge of treated wastewater to water), the Consent Holder shall prepare and submit to the Consent Authority a Wastewater Treatment Plant Upgrade Plan. This Plan shall address measures to manage odour from the Wastewater Treatment Plant Upgrade, including the proposed disposal of dewatered biosolids. The objective of this part of the plan shall be to ensure that any adverse effects on sensitive receptors arising from discharges from the existing Wastewater Treatment Plant and the upgraded Wastewater Treatment Plant are appropriately avoided, remedied or mitigated. This part of the plan shall:
- (a) Identify appropriate methods that will be undertaken as part of the overall plant upgrade in order to reduce fugitive odour emissions from the existing wastewater treatment system. This shall include but not be limited to the segregation of pickle liquors and oxidation of sulphides within the waste lime wash liquors.
 - (b) Identify appropriate methods that will be undertaken as part of the overall plant upgrade in order to manage and minimise fugitive odour emissions from the upgraded treatment plant. This shall include but not be limited to:
 - (i) A description of the potential sources of odour associated with the Wastewater Treatment Plant Upgrade;
 - (ii) Methods to manage or minimise odours arising from the Wastewater Treatment Plant Upgrade including the storage and application of biosolids and design and management of the monofill sites;
 - (iii) Ongoing monitoring of the Wastewater Treatment Plant Upgrade with respect to potential odour sources and reporting requirements.
38. The Consent Holder shall be required to implement the measures contained within the Wastewater Treatment Plant Upgrade Plan.
39. Once the upgraded wastewater system has been commissioned in accordance with consent AUTH-20158595-06, and has been fully operational for twelve months, the Consent Holder shall be required to undertake a review of the effectiveness of the relevant odour measures and methods contained within the Wastewater Treatment Plant Upgrade Plan and provide a report to the Consent Authority. Should the report identify that any changes are necessary these shall be implemented in agreement with Consent Authority within three months following receipt of the report.
40. The Consent Holder shall ensure that any new anaerobic lagoon(s) required as part of the Wastewater Treatment Plant Upgrade Plan are to be constructed with a synthetic cover that is designed to allow for the collection and storage of biogas. The Consent Holder shall ensure that biogases emitted from the anaerobic lagoon are thermally combusted at all times except under the following circumstances:
- (a) in the event of a combustion equipment failure; or
 - (b) for combustion equipment maintenance purposes; or
 - (c) when adverse weather conditions prevent safe combustion equipment operation.
- Where biogases are not thermally combusted then they shall be vented to a biofilter.

Review

41. The Consent Authority may, in accordance with section 128 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions of this consent during the period 1 February to 30 September each year, or within

two months of any enforcement action being taken by the Consent Authority in relation to the exercise of this consent, or on receiving monitoring results, for the purposes of:

- (a) determining whether the conditions of this permit are adequate to deal with any adverse effects on the environment; or
- (b) amending the monitoring programme to be undertaken; or
- (d) adding or adjusting compliance limits; or
- (e) requiring the Consent Holder to adopt the best practicable option to remove or reduce any adverse effects; or
- (f) requiring ambient monitoring of sulphur dioxide for a period of at least one year in the event that there is a change to any national environmental standard (NES) or ambient air quality guideline set by the New Zealand Government or the Southland Regional Council that sets a guideline or standard for sulphur dioxide of less than or equal to $50 \mu\text{g}/\text{m}^3$ (24 hour average); or
- (g) requiring measures to reduce sulphur dioxide emissions from the coal fired boiler plant to a level that is predicted to comply with the standard or air quality guideline described in Condition 41(f).

Decision made by an independent panel of commissioners.
Reissued 23 December 2016 after correction to conditions 17A and 24
for the **Southland Regional Council**



Michael Durand
Consents Manager