

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 **Resolution Developments Limited** (the "consent holder") of **P O Box 25, Mataura 9356** from 27 July 2011.

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 the air from a lignite briquetting plant, including boiler emissions

Location	- site locality	Craig Road, Mataura
	- map reference	F46:886-349
	- receiving environment	Air
	- airshed	Southland

Legal description of land at the site: Section 7E Block IX Lindhurst Hundred

Expiry date: 27 July 2031

History of Changes and Transfers

- Conditions varied on 30 May 2012.
- Conditions varied on 17 November 2015.
- Transferred from **Solid Energy NZ Ltd to Resolution Developments Ltd** on 1 September 2017.

Schedule of Conditions

1. This consent is granted for a period of 20 years.

(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 the emissions of contaminants to air from a lignite briquetting plant, including boiler emissions, at about map reference NZMS 260 F46:886-349.

General Conditions

3. The discharge to air shall only be contaminants from a coal-fired boiler having a gross operational energy output of up to 7.2 megawatts, the storage and handling of lignite coal and lignite briquettes, the processing of lignite into briquettes and associated activities as described in the application for consent.
4.
 - (a) There shall be no discharge of particulate matter from the coal-fired boiler, the briquetting plant, bulk storage and handling of lignite and briquettes, or any associated activity, that is offensive or objectionable beyond the boundary of the property on which the consent is exercised
 - (b) There shall be no discharge of odour beyond the boundaries of the property that is noxious, offensive or objectionable to such an extent that it has an adverse effect on the environment. When odour is being assessed for the purposes of this condition the following factors are to be taken into consideration:
 - frequency of the odour;
 - intensity of the odour;
 - duration of the odour;
 - offensiveness of the odour; and
 - location of the odour effect.
5. 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, as confirmed in writing by independent assessment by a suitably qualified person. Details of any changes shall be included in the Annual Environmental Report to the Southland Regional Council required under Condition 26.
6.
 - (a) Continuous dust monitors shall be installed on the exit of bag houses to ensure that total particulate emission concentrations remain below 15 mg/Nm³ for Baghouse No.1, and 25 mg/Nm³ for Baghouses Nos. 2 and 3. The monitors should be calibrated at least annually by comparison with a gravimetric particulate test carried out by an accredited organisation to ensure that the outputs of the continuous dust monitors as far as practicable reflect the standardised particulate emission limits imposed by Conditions 11 a) and 16 a) and b). The baghouses shall be operated to comply with the particulate emission limits.
 - (b) Records from the continuous dust monitors shall be available to the consent authority on request, and shall be summarised and supplied to Environment Southland in the Annual Environment Report required under Condition 26.
 - (c) Exceedances of these baghouse limits by more than 20% and for more than one hour should be reported to Environment Southland's Compliance Manager (email:

escompliance@es.govt.nz), without undue delay along with an explanation for the exceedance and any remedial action undertaken.

Coal-Fired Boiler and Associated Facilities

7. The maximum coal burning rate shall not exceed 1597 kilograms per hour.
8. Combustion gases from the boiler plant shall be discharged to air via a multi-cyclone grit arrestor and bag filter or via other emission control equipment as necessary to comply with condition 11.
9.
 - (a) The discharge to air from the boiler shall occur via a stack at a height of at least 35 metres above local ground level. The minimum efflux velocity of exhaust air from the stack shall be 11 metres per second at the maximum operating output of the boiler.
 - (b) The discharge to air shall occur at a height at least 10 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.
10. 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.
11. 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 11(b), of 25 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 0.26 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

- (iv) in the event of bag filter or other control equipment malfunction providing the bypass shall not occur for more than three 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 26.

- 12. (a) The maximum sulphur dioxide discharge rate shall not exceed 11.8 kilograms per hour. The sulphur dioxide discharge rate shall be calculated from the burning rate of the coal and/or briquette blend used at maximum boiler operating capacity and the sulphur content of that coal blend determined according to Condition 12(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 26.
 - (b) Analysis of coal and/or lignite briquettes 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 and/or briquettes. Weekly 1 kg samples of coal and/or briquettes shall be collected and composited on an equal weight basis to ensure the 3-monthly sample analysis has at least 12 weekly samples in the composite. Each single sample to be analysed for coal sulphur shall be generated from sub-samples that are randomly selected. 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 26 and otherwise on request.
- 13. (a) The concentration of total suspended particulate matter, and the concentration of sulphur dioxide, in combustion gas in 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 75 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 26.

- 14. 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 26.
- 15. 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 26.

Processing Plant

- 16. (a) Discharges to air from the processing building shall be via bag filter through a stack discharging vertically without impediment with minimum height above local ground level of 15 metres, and at least two metres above the associated baghouse structure. The minimum efflux velocity of exhaust air from the stack shall be 16 metres per second. The concentration of total suspended particulate in the stack exhaust air shall not exceed 15 milligrams per cubic metre corrected to 0 degrees Celsius, 101.3 kilopascals, on a dry gas basis. The emission rate of suspended particulate matter from the stack shall not exceed 0.24 kilograms per hour.

- (b): Discharges to air from the drying building shall be via bag filter through a stack discharging vertically without impediment with minimum height above local ground level of 15 metres, and at least two metres above the associated baghouse structure. The minimum efflux velocity of exhaust air from the stack shall be 15 metres per second. The concentration of total suspended particulate in the stack exhaust air shall not exceed 25 milligrams per cubic metre corrected to 0 degrees Celsius, 101.3 kilopascals, on a dry gas basis. The emission rate of suspended particulate matter from the stack shall not exceed 0.38 kilograms per hour.
- (c) The consent holder shall install sampling ports in the drying and processing building stacks 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.
- (d) The concentration and emission rate of total suspended particulate matter in the exhaust air of each stack shall be measured within three months of commencement of processing and drying operations and thereafter at least every twelve months to confirm compliance with conditions 14(a) and 14(b). Measurement of the discharge from each stack shall occur when the associated processing or drying activity is operating at greater than 75 percent of its maximum capacity. 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.
- (e) 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.
- (f) 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.
- (g) The results of emission 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 26.

Dust Control

17. All practicable measures shall be undertaken to minimise the discharge of fugitive dust, including but not limited to:
- using water sprays to dampen yard areas, internal roadways and material stockpiles during dry, windy conditions, as necessary;
 - enclosure of conveyors and conveyor transfer points where practicable;
 - sweeping of any paved areas to remove loose or potentially dusty material;
 - covering of trucks transporting coal or briquettes; and
 - use of dust suppressants as necessary.

18. During the operation of this consent, the consent holder shall have and maintain:
 - (a) an, at least 3 metre high, earth bund around the site in accordance with the Briquetting Plant Site Layout plan submitted as Figure 2 (dated 15 November 2010) of the application;
 - (b) the bund shall be topped with an at least 2 metre high wind-break fence, (deer fencing covered by shade cloth or similar), and shall have trees planted and maintained alongside in accordance with the Briquetting Plant Site Layout plan submitted as Figure 2 (dated 15 November 2010) of the application;
 - (c) the bund shall be grassed immediately after construction, using hydro seeding or such other method to achieve swift grass cover, and shall be watered regularly to ensure grass cover is established and maintained. The bund shall be watered to suppress potential dust discharge until a grass cover has been established
19. On-site vehicle speeds shall be restricted to not more than 20 kilometres per hour. A sign, capable of being read at a distance of five metres, shall be erected at the site entrance to inform all visitors of this requirement.
20. The height of lignite and briquette stockpiles shall not exceed 7 m above local ground level.
21. Complaints in relation to dust from activities on the site shall be dealt with on the following basis:
 - (a) the consent holder shall erect a sign on the mesh fence at the Craig Road frontage of the site, such sign to contain the current name and contact telephone number of the person who is to be responsible for receiving any complaints in relation to dust from activities on the site;
 - (b) the consent holder shall provide written notice to the owner of 153 Craig Road, 191 Pioneer Highway and Dongwha Patinna New Zealand Limited MDF plant of the current name and contact telephone number of the person who is responsible for receiving any complaints (in terms of Condition 21(a) above). Fresh written notice shall be given in terms of this condition in the event that the current name and/or telephone number of the person who is responsible for receiving any complaints changes in future. *Note: At the time of drafting the landowners of the properties specified in this condition are:*
 - 153 Craig Road (N.W. Dumbar);
 - 191 Pioneer Highway (D.J. & K.A. Falconer)
 - (c) the consent holder shall keep a register of any complaints received in relation to dust from activities on the site, identifying the time and date of the complaint, together with an assessment of the cause of the complaint, and action taken;
 - (d) as soon as practical after receipt of any complaint, and no later than five working days after receipt, the consent holder shall submit a report to Environment Southland's Compliance Manager (escompliance@es.govt.nz) of the complaint and the matters listed in Condition 21(c) above;
- (d) within 24 hours of receiving a dust complaint the consent holder must report (via email and direct telephone call) the complaint details to the current Technical and Environmental Managers of Dongwha Patinna New Zealand Limited.

Monitoring

22. (a) Dust deposition monitoring shall continue to occur in dust gauges sited at not less than four locations around the consent holder's property boundary and at a separate control site. The location of the dust deposition gauges shall be agreed in writing by the Southland Regional Council. The method of monitoring shall be ISO DIS-4222.2 or a similar method to the satisfaction of the Southland Regional Council. Samples shall be collected monthly and the monitoring results shall be included and summarised in the Annual Environmental Report required under Condition 26.
- (b) Dust control measures shall be implemented to maintain the rate of dust deposition at the consent holder's boundary at less than $4\text{g}/\text{m}^2/30$ days above the background concentration measured at the control site. Any exceedance of this trigger level shall be reported to Environment Southland's Compliance Manager (escompliance@es.govt.nz), including the likely reasons for exceedance and any remedial action undertaken.
23. (a) Prior to the exercise of this consent the consent holder shall, unless otherwise agreed in writing by Environment Southland's Compliance Manager, establish an anemometer at the site.
- (i) The anemometer shall be installed at a height of at least 3 metres above ground level at a location exposed to the wind and free from any obstruction that has the potential to significantly affect wind flow.
- (ii) Wind speed accuracy of measurement shall be within +/- 0.3 metres per second.
- (iii) The anemometer shall be established, located and operated to the satisfaction of Environment Southland's Compliance Manager.
- (iv) Wind speed and direction shall be continuously recorded with an averaging time for each parameter of not more than 5 minutes. This data shall be recorded using an electronic data logging system and shall be provided to Environment Southland's Compliance Manager at least once every three months.
- (b) The consent holder shall install a system to provide an alert to the site manager when wind speeds may generate nuisance dust emissions. At the commencement of this resource consent the alert wind speed shall be 5 m/s, but this may be amended in the "Air Discharge Management & Contingency Plan" required by Condition 27.
24. (a) The monitoring requirements established by Conditions 22 and 23 are suspended only while the Plant is in "care and maintenance", and the boiler is not operational. Care and maintenance is defined as:
- No discharge to air from the briquette plant
 - No discharge to surface water from the briquette plant to Mine pit Lake 1
 - The boiler is not operational
 - All electric motors on site are spun over every 3 weeks
- (b) The monitoring requirements established by Conditions 22 and 23 recommence when the briquette plant recommences operations or the boiler becomes operational.
- (c) The consent holder shall provide written notice to the Consent Authority at least 20 working days prior to the briquette plant recommencing operations and/or the boiler becoming operational to advise the date for commencement.

Reporting

25. A record of all complaints made to the consent holder relating to emissions to air, other than dust emissions (Condition 21), shall be maintained, and shall include:
- the location where the contaminant or effect was detected by the complainant;
 - a description of the wind speed and wind direction, and rainfall if any, when the contaminant was detected by the complainant;
 - the most likely cause of the emission or effect; and
 - any corrective action undertaken by the consent holder to avoid, remedy or mitigate the emission or effect detected by the complainant.

The record of complaints shall be provided to Environment Southland's Compliance Manager (escompliance@es.govt.nz) on request, and as part of the Annual Environmental Report required under Condition 26.

26. 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.

Management and Contingency Plan

27. (a) 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:
- (i) describe the operation of the plant in relation to its potential impacts on the air environment;
 - (ii) 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;
 - (iii) describe how representative samples of coal will be taken to give a composite sample for analysis; and
 - (iv) 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.
- (b) The Plan shall include details of the steps to be taken to correct any non-compliances identified.
- (c) The plan shall be provided to Environment Southland's Compliance Manager within three months of the commencement of this consent.
- (d) The Plan shall 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.

- (e) If/when the Plan is amended, a copy of the amended version, (or amended sections) shall be sent to Environment Southland's Compliance Manager as soon as practicable following amendment.
 - (f) Amendments to the Plan shall be referenced in the Annual Environmental Report required under Condition 26.
28. The consent holder shall pay an administration and monitoring charge to the Southland Regional Council collected in accordance with Section 36 of the Resource Management Act, payable in advance on the first day of July each year. This charge may include the costs of inspecting the site four times during the first year of operation, and once per year thereafter. The purpose of the inspections is to check compliance with the conditions of this resource consent and to check odour and dust emissions from the site.

Review of Consent

29. The Council may, in accordance with section 128 and 129 of the Act, serve notice, during the period 1 February to 30 September each year, of its intention to review conditions for the purpose 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/or
 - (d) modifying or extending any of the monitoring requirements of this consent.

Reissued 17 November 2015 following the addition of Condition 24.
for the **Southland Regional Council**



H Lennox
Consents Manager