Memo

File No:	61 91 33A
Date:	12 September 2025
To:	Hugh Keane – Team Leader Consents
From:	Rachael O'Donnell
Subject:	Memo - Proposed Conditions Feedback Air Discharge - Green Steel

This memo outlines my feedback regarding the proposed air discharge consent conditions (Conditions 98 through to 119) submitted by the Applicant in relation to the Green Steel Project. A Substantive Fast Track application for the project has been lodged with the Environmental Protection Authority (EPA).

The proposed conditions have been reviewed, with particular focus on ensuring that they align with consents typically granted by the Waikato Regional Council (WRC) and that they adequately address the potential air quality impacts of the Green Steel Project. Below is a summary of my main observations and recommendations:

<u>Air Emission Control Equipment & Measures</u>

I support the inclusion of conditions requiring air emission control equipment, measures and performance monitoring, for example proposed Condition 105 that requires air from the Steel Melt Shop must be collected and directed through a baghouse filtration unit. I recommend that other air emission control equipment, measures and performance monitoring, as proposed in the application, are required by the conditions. I recommend that the conditions are updated, and conditions added to include at least the following underlined text:

- 107) Air from the shredding plant must be collected and <u>directed through cyclone and scrubber equipment before being</u> discharged via a 10 metre high stack.
- Addition of a new condition requiring suppression of dust from floc material: <u>A wet spray suppression system with a suitable wetting agent must be implemented within the Main Shredder system to ensure floc material remains thoroughly wet with the purpose to minimise fugitive dust.</u>
- Addition of a new condition requiring continuous operational monitoring of the wet scrubber: <u>The performance of the wet scrubber for the Main Shredder, must be continuously monitored including for at least pressure differential.</u>

<u>Point Discharges</u>

The following comments relate to the discharge stacks, consent limits and monitoring requirements:

- Proposed conditions 105, 106 and 107 specify the stack heights and I recommend that these conditions include the reference point for those heights — i.e., whether the stack heights are measured relative to ground level or another datum. In addition, the efflux velocities for the stacks should be stated to ensure adequate dispersion of emissions. For example, the condition 105, 106 and 107 should be updated to include the following text:

  105) Air from the Steel Melt Shop must be collected and directed through a baghouse filtration unit before being discharged via a 55 metre high stack. <u>The stack must be XX m above the site platform level which is at RL XX meters. The design requires a minimum efflux velocity of no less than XX meters per second at full operating load.</u>

- I recommend confirming the stack height by including the following requirement: <u>Evidence that the stacks comply with the minimum height limits shall be provided to the Council within six months of the consent being exercised.</u>

- I support consent limits being specified for the discharge stacks. I note limits are proposed for the Steel Melt Shop discharge stack expressed as a concentration and for the mass discharge rate. I recommend that a concentration limit for the reheating furnace stack should also be included unless there is a valid reason for its exclusion.

- The timing of stack emission testing, as it relates to the furnace operating rate, has not been specified in the proposed conditions. I recommend that stack testing for the reheating furnace is aligned with worst-case emission scenarios. The experts can advise if stack testing needs to be undertaken when the reheating furnace is operating at its maximum heat demand of 20 MW during cold charging.

- Condition 114) should be updated to refer to the specific conditions for which compliance is being measured: To demonstrate compliance with Conditions <u>108, 109 and 110</u> the Consent Holder must ensure suitable testing for PM_{10} is undertaken by a suitably qualified person(s) as outlined in conditions 115 and 117. The concentration within the stacks must be measured within 6 months of commissioning of each plant and at least annually thereafter.

- The stack emission testing conditions should specify the standards with which the sampling ports must comply. I recommend that the following text is inserted as an additional condition:

  <u>Sampling ports that comply with AS 4323.1:2021 or an equivalent standard (to be agreed with the Council) must be installed and maintained to enable the testing of emissions from the discharge stacks to be sampled. Safe access for sampling must be provided during emission testing.</u>

<u>Combustion Plant</u>

The Applicant is seeking to authorise the combustion of landfill gas, CNG and LPG by the reheating furnace.

- To avoid any confusion, I recommend that a condition is included that explicitly allows for this, such wording could be: <u>The air discharges authorised by this resource consent also include discharges from the combustion of landfill gas, CNG and LPG by the Reheating Furnace.</u>

- If the Reheating Furnace combusts landfill gas, I recommend that conditions be included to take effect in this case. Conditions imposed would limit any relevant contaminants, such as hydrogen sulphide in landfill gas being combusted. Conditions that specify testing of the landfill gas to confirm landfill gas quality would then be used to assess compliance with these limits. The air quality technical experts can provide further guidance on this matter.

- Condition 113 should specify the combustion plant that applies to this condition, I recommend that the following text is inserted: 113) The Consent Holder must ensure that the Combustion Plant for the Reheating Furnace is operated and maintained in good operational condition in order to ensure compliance with the conditions of this consent. This must include maintenance at least annually in order to prevent poor burner combustion. Records of maintenance and servicing must be made available to the Council upon request.

  Reporting

- I recommend that Conditions 112 and 113 are updated to include a timeframe for reporting after a written request from Council:

  112) Emission control and monitoring equipment must be maintained in good working order at least once every year, or as per manufacturer's recommendations, by a person competent in the maintenance of such systems. Evidence of maintenance documentation must be provided to the Council within two working days after written request.

Air Quality Management Plan (AQMP)

I support the inclusion of a condition requiring the AQMP, however the condition requiring this plan should clearly provide the purpose of the management plan. I recommend that proposed Condition 102 is updated with the following text:

102) At least 15 working days prior to the operation of the site the Consent Holder must provide to the Waikato Regional Council for certification acting in a technical capacity, an Air Quality Management Plan (AQMP) prepared by a suitably experienced person(s) which considers the emissions from the site in relation to Air Quality. The AQMP must in adequate detail accurately record all monitoring, management and operational procedures, methodologies and contingency plans required to comply with the conditions of this consent. The AQMP must contain, as a minimum:

I recommend that additional matters that the AQMP should include are at least the following:

- Description of the Green Steel Mill facilities and its operation with a focus on site components that are of direct relevant to the discharge to air from the site;
- A description of the equipment used to control the discharge of contaminants into the air;
- Set control points for differential monitoring for the baghouses and scrubber;
- Procedures specific to the Fume Treatment Plant (FTP);
- Procedures for storing floc and slag materials for the prevention of fugitive dust when being handled/transported and disposed of;
- Management and operational procedures for ensuring equaliser furnace efficiency;

- Furnace temperature management, strategies for limiting sulphur in raw materials and implementation of advanced control systems (Note that these points are proposed on page 19 of the Air Quality Assessment Report[1]).

Dust

The following condition is recommended to prevent the generation of fugitive dust:

Slag and floc from the steel making process must be contained, managed, and appropriately disposed of to prevent the emission of fugitive dust and particulate matter.

Greenhouse Gas

Consent conditions have not yet been proposed for this high-emission site in accordance with the requirements of the National Environmental Standard (NES) for Greenhouse Gas Emissions from Industrial Process Heat. For reference, an example of consent conditions granted by the Waikato Regional Council (WRC) for another high-emission site is provided on the following pages.

I recommend that these conditions be adopted as a basis for the Green Steel application. This approach will enable flexibility to revise the Emissions Plan in the future, should the use of landfill gas for combustion become practically feasible, along with the implementation of other identified best practicable options (BPOs).

[1] Technical Report, National Green Steel Limited Proposed Green Steel Mill, Air Quality Assessment", prepared by Air Quality Consulting NZ, dated 21 May 2025.

CONDITIONS – To discharge greenhouse gas to air from the combustion of LPG and CNG by a furnace used to provide heat for a steel making process.

1. Except as specifically provided for by conditions of this consent, the emission of greenhouse gases to air from the LPG and CNG fired burners must be carried out in general accordance with the information contained in the application for this consent and the documents submitted in support of the application including:

   i. XXXXXXXXXXXXXX.

Should there be any conflict between these documents and the conditions, the conditions of the consent prevail.

Emissions Plan and Best Practicable Option

2. The consent holder must operate the site in accordance with the Emissions Plan referenced in Condition 1, or any subsequently approved revised Emissions Plan, and adopt the Best Practicable Options (BPO)/actions as shown in the Transition Pathway provided in the Emissions Plan, with the purpose of minimising greenhouse gas emissions from the site as far as practicable.

3. The consent holder must ensure that the burners are operated in accordance with the manufacturer's specifications and maintained in accordance with good engineering practices. This must include servicing of the bruners at least annually by a person competent in the servicing of such appliances to optimise combustion and performance within its design parameters.

Records of burner maintenance and servicing must be made available to the Council within 48 hours after a written request.

Greenhouse Gas Emissions Reporting

4. The consent holder must, before XXXXX 2026, and at two yearly intervals thereafter submit a report to the Council covering the period 1 July to 30 June, for the preceding two years that provides the following:

i. Assess compliance with the Emissions Plan including progress against the Transition Pathway and implementation of the BPO/actions;
ii. Report annual natural gas usage and quantify greenhouse gas emissions identifying any trends compared to emission targets set in the Emissions Plan;
iii. Report on the effectiveness of projects implemented and any proposed actions to further reduce greenhouse emissions if identified;
iv. Evaluates the feasibility of available energy efficiency improvements including fuel switching opportunities, along with a proposed implementation timeline if applicable; and
v. Any proposed revision to the Emissions Plan and implementation of the BPO/actions in order to meet or exceed the greenhouse gas reduction targets and/or to reflect changes in technology and best practices.

5. Where Condition 4(v) identifies that the Emissions Plan needs to be updated then a revised Emissions Plan that has been reviewed by an SQP, who has confirmed the Emissions Plan meets NES-IGHG Regulation 15, must be submitted to the Council before 28 February of the following year. The revised Emissions Plan shall be approved by the Council in a technical certification capacity and will be limited to the Council's assessment of whether the matters required to be included in an Emissions Plan under NES-IGHG regulation 15 continue to be adequately addressed. The revised Emissions Plan

must equal or provide further reduction in greenhouse gases discharged from the boilers when compared to what was proposed in the application and within comparable timing.

Advice Note: Guidance for the definition of an SQP is provided in the National Environmental Standards for Greenhouse Gas Emissions from Industrial Process Heat (NES-IGHG), Regulation 14.

Administration

6. The consent holder must pay to the Council any administrative charge fixed in accordance with section 36 of the RMA, or any charge prescribed in accordance with regulations made under section 360 of the RMA.

Review

7. The Council may in the 3 months following XXX 2026, and annually thereafter and/or within 3 months of receiving a Report as outlined in Conditions 4 or 5 serve notice on the consent holder under s 128(1) of the Resource Management Act 1991, of its intention to review the conditions of this resource consent for the following purposes:

a) If necessary and appropriate, to require the holder of this resource consent to adopt best practicable options to remove or reduce adverse effects on the receiving air environment associated with greenhouse gas emissions; and

b) Take into account any regulation, National Policy Statement, regional policy statement or relevant regional plan that relates to greenhouse gas emissions authorised by this consent.