Prepared for
Regain Services Pty Ltd
ABN: 8009971482

Air Quality Management Plan

Regain Spent Potlining Facility, Tomago NSW

27-Aug-2025

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Client: Regain Services Pty Ltd

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Prepared by

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Quality Information

Document	Air Quality Management Plan
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Originator	Gabriel Wardenburg, Principal Environmental Scientist
	Alana Mitchell, Graduate Environmental Scientist/Planner
Checker/s	Alison O'Neill, Principal Environmental Scientist
Verifier/s	David Rollings, Technical Director – Air Quality

Revision History

Rev	Revision Date	Details	Approved	
			Name/Position	Signature
0	10-June-2020	Final for issue	Gabriel Wardenburg Principal Environmental Scientist	
1	27-Aug-2025	Final for issue	Chad Whitburn Project Manager	

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1.0 Introduction

1.1 Background

Regain Services Pty Ltd (Regain) is a Hunter-based mineral trading and processing company that owns the Spent Potlining (SPL) Recycling Facility located at the Tomago Aluminium Smelter in the NSW Hunter Valley region (the Facility). The Facility is located on Tomago Road approximately 13 kilometres north west of Newcastle.

The current facility operates under the following regulatory approval and licences:

- Project Approval MP 06_0050 issued on 7 August 2009 by NSW Department of Planning, Housing and Infrastructure (DPHI) and modified as follows:
  - Modification 1 – MP06_0050-MOD 1 granted on 6 November 2016
  - Modification 2 – MP06_0050-MOD 2 granted on 22 August 2019
  - Modification 3 – MP06_0050-MOD 3 granted on 11 April 2025
  - Modification 4 – MP06_0050-MOD 4 granted on 14 November 2024
- Environmental Protection Licence (EPL) 13269 issued by the NSW Environment Protection Authority (EPA) under the *Protection of the Environment Operations Act 1997* (POEO Act)
- EPL 20976 issued by the NSW EPA for the transportation of trackable waste
- Licence No. 1630208 issued by the NSW EPA under the former *Environmentally Hazardous Chemicals Act 1985* (now repealed)[1].

Figure 1 shows the location of the Facility within the Tomago Aluminium Smelter site and **Figure 2** shows the existing SPL Treatment Plant and the new SPL Treatment Plant.

Figure 1 Site Location

[1] Following repeal of the EHC Act, Regain is consulting with NSW EPA regarding the transfer of relevant provisions of the former EHC Licence to Regain's EPLs.

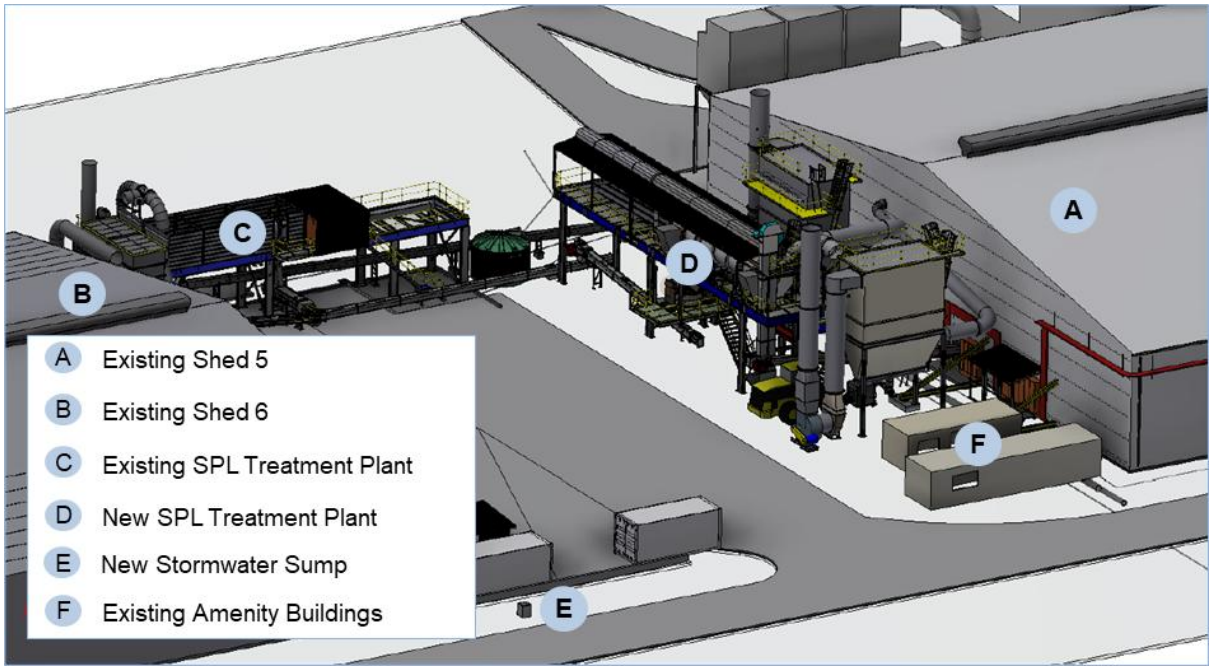

Figure 2 Existing SPL Plant and New SPL Treatment Plant

1.2 Objectives of Air Quality Management Plan

This Air Quality Management Plan (AQMP) has been prepared to support operation of the new SPL treatment plant required for increased processing capacity of the Facility.

The objectives of the AQMP are to:

- Detail the potential sources for emissions to air;
- Describe the air quality monitoring program; and
- Identify the control measures to be implemented.

1.3 Regulatory Requirements

1.3.1 Scope of this Plan

Conditions 18A and 26 of the Development Approval MP 06_0050 set out the requirements for the preparation of the AQMP, as shown below in Table 1. AECOM Pty Ltd has previously been endorsed by the Planning Secretary to prepare this AQMP (refer to Appendix A).

In accordance with Condition 18B of Development Approval MP 06_0050, Regain must not commence operations until the AQMP is approved by the Planning Secretary, and must implement the most recent version of the AQMP approved by the Planning Secretary for the duration of the Project. The AQMP (Rev 0) was approved by DPHI on 14 July 2020 and this version (Rev 1) has been prepared to incorporate Mod 3 and Mod 4.

Additional conditions of Development Approval MP 06_0050 relevant to air quality management are listed in Section 1.3.2.

Table 1 Development Approval MP 06_0050 MOD 2 Conditions 18A and 26

Condition Requirement	AQMP Location
Condition 18A	
Prior to the commencement of Stage 1 operations, the Proponent must prepare an Air Quality Management Plan (AQMP) to the satisfaction of the Planning Secretary. The plan must form part of the OEMP required by Condition 26D and be prepared in accordance with Condition 26. The AQMP must:	**This document**
(a) be prepared by a suitably qualified and experienced person(s) whose appointment has been endorsed by the Planning Secretary;	**Quality information and Appendix A**
(b) detail and rank all emissions from all sources of the Project, including particulate emissions;	**Section 2.0:** This section outlines the emission sources within the Facility**.** **Section 3.0:** **Table 4** outlines the air emission parameters from each source.
(c) describe a program that is capable of evaluating the performance of the operation and determining compliance with key performance indicators;	**Section 3.0:** **Table 5** details the air emission limits and **Table 6** details the monitoring methods used to evaluate the performance of operations.
(d) identify the control measures that that will be implemented for each emission source; and	**Section 4.0:** **Table 7** outlines control measures implemented across the Facility.
(e) nominate the following for each of the proposed controls: *(i) key performance indicator;* *(ii) monitoring method;* *(iii) location, frequency and duration of monitoring;* *(iv) record keeping;* *(v) complaints register;* *(vi) response procedures; and* *(vii) compliance monitoring.*	**Section 3.0:** **Table 6** monitoring methods used to evaluate the performance of operations. **Section 4.0:** This section outlines the overall key performance indicator and **Table 7** outlines control measures implemented across the Facility. **Section 5.0:** This section outlines record keeping and complaints procedures.
Condition 26	
Management plans required under this approval must be prepared in accordance with relevant guidelines, and include:	**Section 1.3.3:** This section outlines relevant legislation and guidelines.
(a) details of: *(i) the relevant statutory requirements (including any relevant approval, licence or lease conditions);* *(ii) any relevant limits or performance measures and criteria; and* *(iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;*	**Section 1.3:** This section outlines the relevant statutory requirements**.** **Section 3.0:** This section outlines air emissions limits and the parameters measured.

Condition Requirement	AQMP Location
(b) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;	**Section 4.0:** **Table 7** outlines control measures implemented across the Facility.
(c) a program to monitor and report on the: (i) impacts and environmental performance of the development; and (ii) effectiveness of the management measures set out pursuant to paragraph (b) above;	**Section 3.0:** **Table 6** monitoring methods used to evaluate the performance of operations. **Section 5.0:** This section outlines monitoring and reporting requirements.
(d) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;	**Section 5.3:** This section outlines the procedures to handle incidents or complaints.
(e) a program to investigate and implement ways to improve the environmental performance of the development over time;	**Section 5.4:** This section outlines the requirement for this AQMP to be reviewed periodically.
(f) a protocol for managing and reporting any: (i) incident and any non-compliance (specifically including any exceedance of the impact assessment criteria and performance criteria); (ii) complaint; (iii) failure to comply with statutory requirements; and	**Section 5.3:** This section outlines the procedures to handle incidents or complaints.
(g) a protocol for periodic review of the plan.	**Section 5.4:** This section outlines the requirement for this AQMP to be reviewed periodically.
Note: the Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans	

1.3.2 Air quality requirements

The following conditions of Development Approval MP 06_0050 MOD 2 are relevant to the management of air quality during operation of the SPL treatment plant:

- Schedule 3 Condition 6A – Prior to the commencement of MOD 3, Regain must submit a proof of performance trial plan to describe the air emission monitoring to be undertaken during the trials;
- Schedule 3 Condition 6B -Within 3 months of completion of the proof of performance trial plan, Regain must submit a proof of performance report outlining the data collected and results of the trials, to the satisfaction of the Planning Secretary and EPA;
- Schedule 3 Condition 6C – Regain must not commence the MOD 3 process changes until the Planning Secretary (in consultation with the EPA) has indicated in writing it is satisfied with the results in the proof of performance report;
- Schedule 3 Condition 17 – Regain must implement all reasonable and feasible measures to minimise dust generated by the Project;
- Schedule 3 Condition 18 – Regain must install and operate all SPL equipment in line with best practice to ensure the Project complies with all load limits, air quality criteria and air quality monitoring requirements as specified in the EPL for the site; and
- Schedule 3 Condition 19 – Within 12 months of commissioning Stage 1 operations and Stage 2 operations, Regain must submit a post commissioning air emission verification report.

The following conditions of EPL 13269 are relevant to the management of air quality during operation of the SPL treatment plant:

- P1.1 – Location of monitoring/discharge points and areas;
- L2 – Concentration limits;
- O2 – Maintenance of plant and equipment;
- O3 – Dust;
- M2 – Requirement to monitor concentration of pollutants discharged;
- M3 – Testing methods – concentration limits;
- U1 – PRP 1 – air emissions verification report;
- U2 – PRP 3 – Shed 5 fugitive dust mitigation (this PRP has been completed);
- E1 – post commissioning air emissions verification report – rotary kiln 2 and fine grinding mill.

Air quality concentration limits and monitoring requirements of the EPL are detailed in **Section 3.0** and **5.0** of this AQMP.

1.3.3 Other Legislation and Guidelines

The following legislation and guidelines would be applicable to the operation of the Facility:

- POEO Act;
- *Protection of the Environment Operations (Clean Air Regulation 2010)*; and
- Approved Methods for the Sampling and Analysis of Air Pollutants in NSW (EPA 2007).

1.4 Integrated Management System

The Facility operates in accordance with the existing Regain Management System (RMS) which is an integrated management system that covers all aspects of current operations with a focus on:

- Health and Safety;
- Environmental management;
- Quality; and
- Risk management.

The RMS is accredited to the following standards:

- AS/NZ ISO 45001 Safety Management Systems;
- AS/NZS ISO 14001 Environmental Management Systems; and
- AS/NZS ISO 9001 Quality Management Systems.

This integrated management system provides a system of communication and control built on International Standards Organisation (ISO) quality principles and incorporates a process of continuous improvement.

Regains operational values include the continuous application of technological improvements to minimise environmental emissions and impacts. Through implementation of these management systems, which are reviewed periodically, Regain strives for continuous improvement and the implementation of best practice industry standards.

1.5 Roles and responsibilities

The key roles and responsibilities in the Regain organisation are shown in **Figure 3** and Table 2.

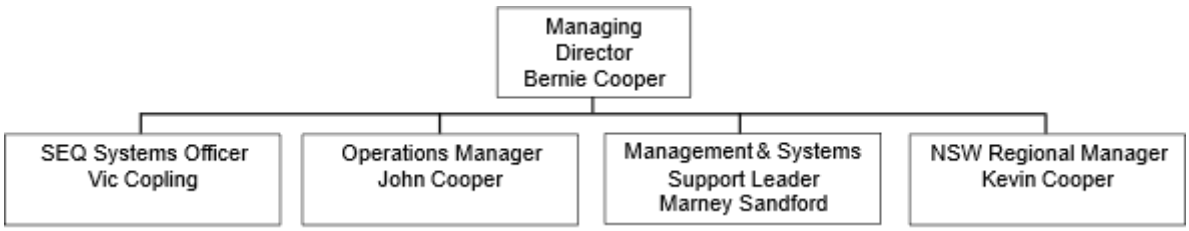

Figure 3 – Regain Organisation Structure

Table 2 Key roles and responsibilities of Regain personnel

Role	Responsibilities
Regain Operations Manager	• Establishing the Tomago site-wide environmental management system • Ensuring that the people working on or visiting the site are properly inducted, trained and competent in the activities in which they are involved • Ensuring that any environmental incidents are properly reported, investigated and documented • Periodic communication with Tomago Aluminium staff to verify that this AQMP is up to date and in compliance with the requirements agreed between Tomago Aluminium and Regain • Ongoing liaison with Tomago Aluminium environmental personnel • Reinforcing environmental awareness for Regain Operations personnel • Ongoing improvement of operational level environmental management and performance.
Management and Systems Support Leader	• Administration of the Regain Management System including accreditation to ISO standards • Administration of regulatory licences along with compliance requirements and coordinating periodic returns, reports and licence renewals
Safety, Environmental and Quality (SEQ) Systems Officer	• Reviewing site operation procedures to ensure the requirements of this AQMP are adequately covered • Auditing of site work for compliance with this AQMP.
NSW Regional Manager	• Liaison with NSW Government regulatory authorities • Review operational plans for compliance with approval and licence requirements • Arranging independent audits.
Regain Managing Director	• Conducting periodic management reviews of this AQMP to ensure its ongoing relevance and effectiveness.

2.0 Potential Sources for Emissions to Air

Opportunities have been identified to enhance the operational efficiency of the existing facility through a modified plant inventory. The existing 20,000 tpa Thermal Treatment Plant will be retained and an additional 40,000 tpa Thermal Treatment Plant installed to reach the target processing rate of 60,000tpa. The internal layout will remain consistent with the existing approval.

The Facility has the potential to impact on the local air quality as a result of the following emission sources (shown on Figure 4):

- Stack 1 -Thermal treatment plant dust collector (EPL Point 1);
- Stack 2 - Additional thermal treatment plant dust collector (EPL Point 6);
- Stack 3 - Drying plant (EPL Point 2);
- Stack 4 - Fine Grinding Stack (EPL Point 7); and
- Stack 5 – Shed 5 air filter (EPL Point 3).

Potential emissions from the Facility are detailed in **Section 3.0**.

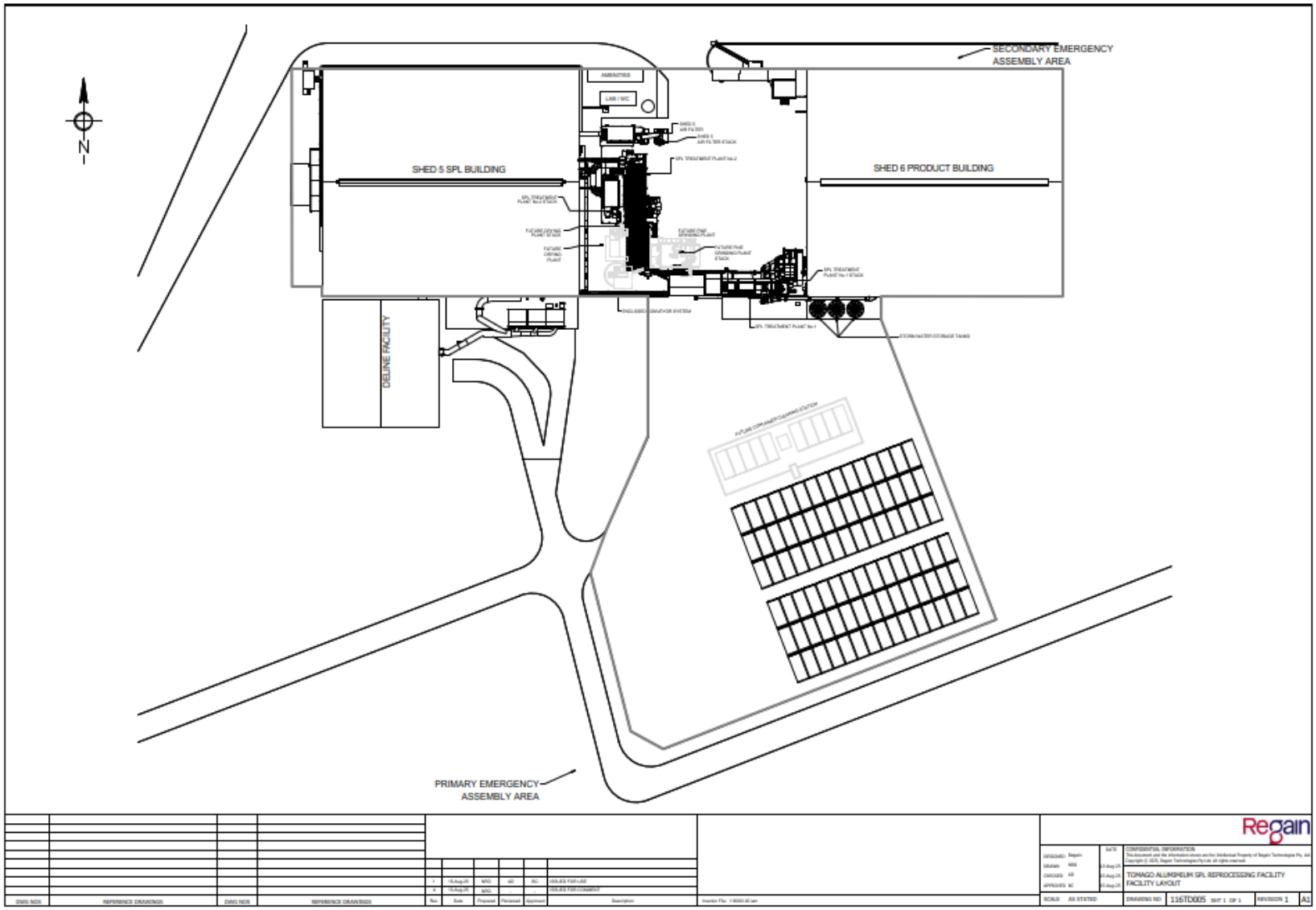

Figure 4 – Conceptual site layout

3.0 Air Quality Monitoring

This AQMP details the air quality monitoring requirements under EPL 13269, including the location of discharge points, air quality concentration limits and monitoring methods.

3.1 Air Emission Discharge Points

Air quality emission discharge points for the revised Project configuration are shown in **Table 3**. EPL 13269 has been amended to provide for the addition of two emission points as part of the MOD 2 project, shown in **Table 4**.

Table 3 Location of air emission discharge points

EPL Point	Revised Project Configuration (current Project)
EPL Point 1	Rotary Kiln Discharge Stack
EPL Point 2	SPL Drying Plant
EPL Point 3	SPL Preparation Facilities Stack

Table 4 Additional discharge and monitoring points

EPL Point	New Discharge Points
EPL Point 6	New rotary kiln stack discharge
EPL Point 7	New fine grinding mill stack discharge

3.2 Air Quality Limits

Monitored air emission quality parameters and EPL 13269 concentration limits for existing and new emission sources are shown in **Table 5**.

Table 5 Operation Air Quality Emission Limits (EPL 13269)

EPL Point	Pollutant	Units	Limits
EPL Point 1 and 6	Cadmium	mg/m^3	0.025
	Cyanide	mg/m^3	1
	Dioxins & Furans	ng/m^3	0.1
	Fine Particulates (PM_{10})	mg/m^3	10
	Nitrogen Oxides (Equivalent NO_2)	mg/m^3	25
	Polycyclic Aromatic Hydrocarbons	mg/m^3	0.2*
	Sulfur Dioxide	mg/m^3	25
	Total Fluoride	mg/m^3	5
	Total Solid Particulates	mg/m^3	20
	Type 1 & 2 Substances	mg/m^3	0.5
	Volatile Organic Compounds	mg/m^3	10
EPL Point 2, 3 and 7	Fine Particulates	mg/m^3	10
	Total Solid Particles	mg/m^3	20

EPL Point	Pollutant	Units	Limits
EPL Point 4 and 8	Temperature	degrees Celsius	850
EPL Point 7	Type 1 & 2 Substances	mg/m^3	1.0

* Polycyclic aromatic hydrocarbon limit is applied as Benzo(a)pyrene equivalent.

3.3 Monitoring methods

Stack monitoring is carried out in accordance with the NSW EPA *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales.* Relevant monitoring methods and testing frequencies are provided in **Table 6** for the existing EPL points 1, 2 and 3 and new EPL points 6 and 7.

In addition to the below stack monitoring, the dust collection units are regularly inspected and maintained to optimise air emission control efficiencies (refer **Section 4.0**).

Table 6 Air quality source emissions monitoring test methods and frequency

Discharge point	Pollutant	Units of measure	Frequency	Sampling Method
EPL Point 1	Temperature	degrees Celsius	Every 6 months	TM-2
	Dry gas density	kilograms per cubic metre	Every 6 months	TM-23
	Flowrate	cubic metres per second	Every 6 months	TM-2
	Oxygen	percent	Every 6 months	TM-25
	Velocity	metres per second	Every 6 months	TM-2
	Moisture	percent	Every 6 months	TM-22
	Oxides of nitrogen	milligrams per cubic metre	Every 6 months	TM-11
	Type 1 and 2 substances in aggregate	milligrams per cubic metre	Every 6 months	TM-12, TM-13, TM14
	Polycyclic aromatic hydrocarbons	milligrams per cubic metre	Every 6 months	OM-6
	Sulphur dioxide	milligrams per cubic metre	Every 6 months	TM-4
	Dioxins & furans	nanograms per cubic metre	Every 6 months	TM-18
	Fine particulates	milligrams per cubic metre	Every 6 months	OM-5
	Total Solid Particles	milligrams per cubic metre	Every 6 months	TM-15
	Total Fluoride	milligrams per cubic metre	Every 6 months	TM-9
	Volatile organic compounds	milligrams per cubic metre	Every 6 months	TM-34
	Cyanide	milligrams per cubic metre	Every 6 months	Method approved in writing
	Carbon monoxide	milligrams per cubic metre	Every 6 months	TM-32
EPL Point 6	Temperature	degrees Celsius	Special frequency 2	TM-2
	Dry gas density	kilograms per cubic metre	Special frequency 2	TM-23
	Flowrate	cubic metres per second	Special frequency 2	TM-2

Discharge point	Pollutant	Units of measure	Frequency	Sampling Method
	Oxygen	percent	Special frequency 2	TM-25
	Velocity	metres per second	Special frequency 2	TM-2
	Moisture	percent	Special frequency 2	TM-22
	Oxides of nitrogen	milligrams per cubic metre	Special frequency 2	TM-11
	Type 1 and 2 substances in aggregate	milligrams per cubic metre	Special frequency 2	TM-12, TM-13, TM14
	Polycyclic aromatic hydrocarbons	milligrams per cubic metre	Special frequency 2	OM-6
	Sulphur dioxide	milligrams per cubic metre	Special frequency 2	TM-4
	Dioxins & furans	nanograms per cubic metre	Special frequency 2	TM-18
	Fine particulates	milligrams per cubic metre	Special frequency 2	OM-5
	Total Solid Particles	milligrams per cubic metre	Special frequency 2	TM-15
	Total Fluoride	milligrams per cubic metre	Special frequency 2	TM-9
	Volatile organic compounds	milligrams per cubic metre	Special frequency 2	TM-34
	Cyanide	milligrams per cubic metre	Special frequency 2	Method approved in writing
	Carbon monoxide	milligrams per cubic metre	Special frequency 2	TM-32
EPL Point 2 and 3	Dry Gas Density	kilograms per cubic metre	Special frequency 1	TM-23
	Fine particulates	milligrams per cubic metre	Special frequency 1	OM-5
	Flow	cubic metres per second	Special frequency 1	TM-2
	Moisture	percent	Special frequency 1	TM-22
	Oxygen (O2)	percent	Special frequency 1	TM-25
	Temperature	degrees Celsius	Special frequency 1	TM-2
	Total Solid Particles	milligrams per cubic metre	Special frequency 1	TM-25

Discharge point	Pollutant	Units of measure	Frequency	Sampling Method
	Velocity	metres per second	Special frequency 1	TM-2
EPL Point 7	Fine Particulates	milligrams per cubic metre	Special frequency 2	OM-5
	Total Solid Particles	milligrams per cubic metre	Special frequency 2	TM-15
	Type 1 and 2 substances in aggregate	milligrams per cubic metre	Special frequency 3	TM-12, TM-13, TM14
EPL Point 4 and 8	Temperature	degrees Celsius	Continuous	Special Method 1

Note:

- Special Frequency 1 means that sampling must be carried out every 3 months until the EPA reviews following consideration of the air emissions verification report required by Pollution Reduction Program 1 of the EPL;
- Special Frequency 2 means that sampling must be carried out on a quarterly basis for a 12 month period post commissioning and every 6 months thereafter;
- Special frequency 3 means post commissioning and every 6 months thereafter;
- Special method 1 means the monitoring of temperature inside the Rotary Kiln at the burner end.

4.0 Control measures

The overall key performance indicator for air quality management is for air emission testing results to be at or below the required emission limits. In the event that hazards, risks or other issues are identified, these are documented using Workplace Checklists.

4.1 Air Emissions Management and Mitigation Measures

Regain operates all SPL plant equipment in line with best practice to ensure the Project complies with all load limits, air quality criteria and air quality monitoring requirements as specified in the EPL. Monitoring requirements are outlined in **Section 5.1.**

The environmental controls and operational processes outlined in **Table 7** are implemented across the Facility.

Table 7 Dust Collectors – Indicative Capacity and Technical Information

Description	Process Rate m^3 per hour	Temperature Sensor	Particulate Sensor	Polyester Filter Bags
Shed 5 Dust Collector	47,000	NA	Standard particulate sensor is Goyen EMP7 – 3200 Particulate Emission Monitor or equivalent.	Oleophobic Treated
20ktpa Thermal Treatment Plant Dust Collector	35,850	Temperature Controls Pty Ltd Type K Thermocouple		Standard
40ktpa Thermal Treatment Plant Dust Collector	50,000	Temperature Controls Pty Ltd Type K Thermocouple		Standard
Drying Plant Dust Collector	50,000	Manufacturer to be determined.		Standard
Fine Grinding Plant Dust Collector	15,000	NA		Oleophobic Treated

5.0 Compliance and review

5.1 Monitoring

Air quality monitoring is undertaken in accordance with the methods and frequencies described in **Section 3.0** of this Plan. Monitoring of the overall environmental performance of the site, including regular site inspections, will be undertaken in accordance with the procedures set out in the Operational Environment Management Plan (OEMP).

5.2 Reporting

Reporting will be integrated into the existing on-site reporting and the Regain central document control which is administered using the electronic Regain Lifecycle Management System (LMS) which is part of the RMS. The Regain Management Support Leader is responsible for administering controlled documents and loading reports to the LMS.

Monitoring results are provided to regulatory authorities through the Annual Return and Compliance Reports and are also made available on the Regain website (http://www.regainmaterials.com/).

Reporting requirements, including responsibilities and timing, are outlined in the OEMP.

5.3 Incidents and Complaints

Through the site RMS, systems are in place to identify, investigate, report and correct a non-conformance or potential non-conformance, and to implement appropriate preventative and corrective actions where required. The corrective or preventative action undertaken to eliminate the actual or potential non-conformance situations shall be appropriate to the magnitude of the environmental impact encountered.

The names and contact details of contact persons for emergencies and each of whom has authority to direct works are listed in the OEMP. These names and contact details are also shown on the Regain website and in the Pollution Incident Response Management Plan. The procedures to be followed in the event of an environmental emergency are also set out in the Pollution Incident Response Management Plan.

Regain must notify DPHI in writing to compliance@planning.nsw.gov.au immediately after becoming aware of an incident, or within 7 days for a non-compliance.

Regain must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public. The public must be notified of the complaints line telephone number. Record must be kept of all complaints made and kept for at least 4 years.

5.4 Plan Review

The existing RMS incorporates a process of continuous improvement and is regularly reviewed and updated when necessary based on the outcomes of routine plant inspections, process reviews and site audits (outlined in the OEMP).

This AQMP will be reviewed and updated periodically in accordance with the OEMP and DPHI must be notified in writing that a review is being carried out. The revised AQMP must be submitted to the DPHI for approval within 6 weeks of the review.

Appendix A

Endorsement Letter

Appendix A Endorsement Letter

Mr Kevin Cooper
NSW Regional Manager
Regain Services Pty Ltd
PO Box 1280
Newcastle NSW 2300

Our ref: MP06_0050 MOD 2

File: EF19/29180

Dear Mr Cooper

MP 06_0050 MOD 2 Condition 18A(a) - Spent Potlining Recycling Facility, Tomago
Air Quality Management Plan Consultant Endorsement

I refer to your correspondence dated 4 May 2020, seeking approval for Mr David Rollings and Mr Gabriel Wardenburg from AECOM Australia Pty Limited to prepare the Air Quality Management Plan (AQMP) as required by MP06_0050 MOD 2 Condition 18A(a).

The Department has reviewed the qualifications of Mr David Rollings and Mr Gabriel Wardenburg and considers they have the appropriate skills and experience to prepare the AQMP.

Should you have any queries in relation to this matter, please contact Susan Fox on 9274 6466 or via email susan.fox@planning.nsw.gov.au.

Yours sincerely,

14 May 2020

Chris Ritchie
Director
Industry Assessments
as delegate of the Planning Secretary