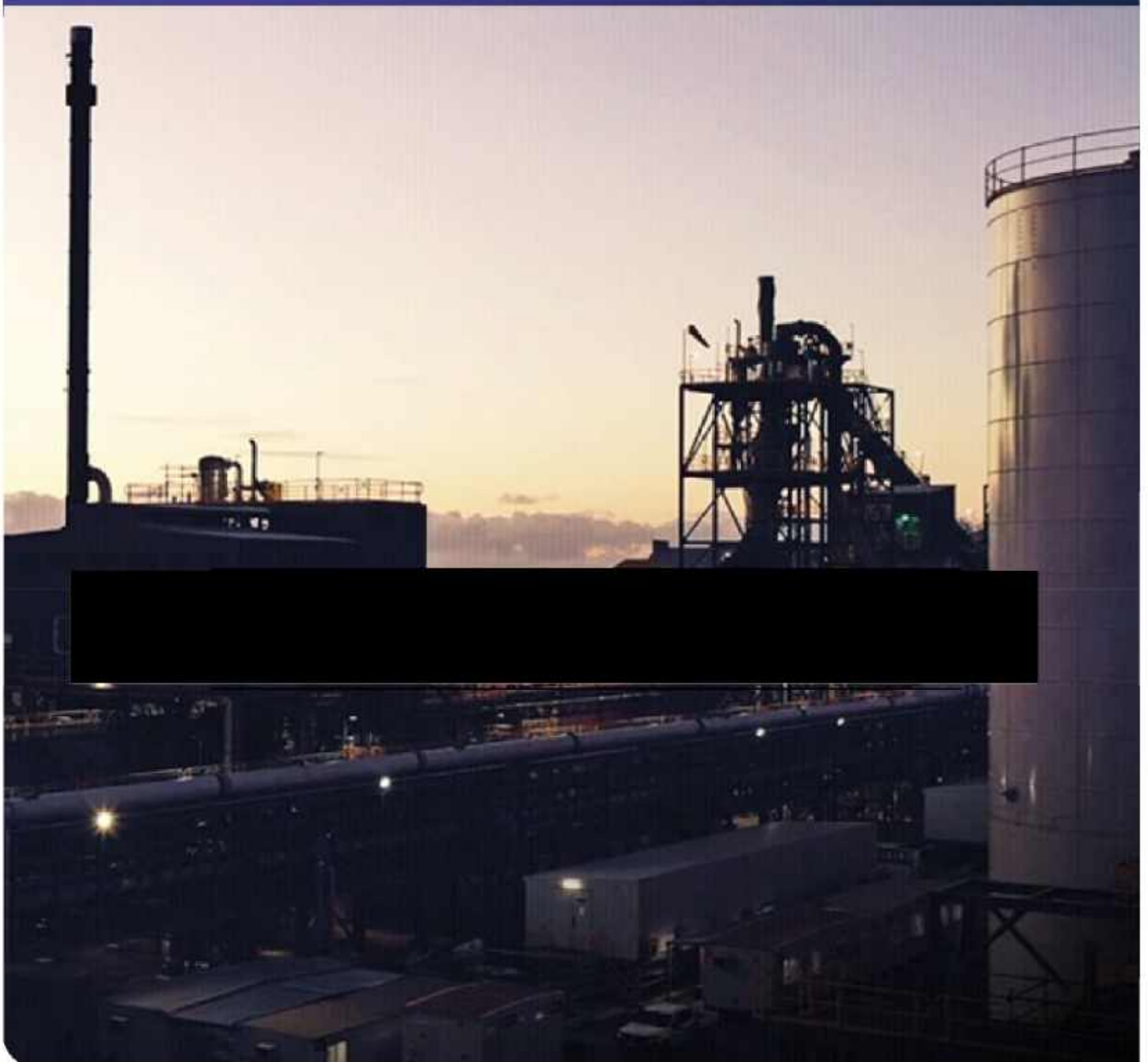


Train 1 Lithium Hydroxide Processing Plant Part V Licence Application (W5977/2016/1)

Attachment 3B: Supporting Information Document

Revision 0

16 April 2025



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1 Introduction

This document provides information to support a Part V licence application by Tianqi Lithium Kwinana Pty Ltd ACN 612 085 364 (formerly known as Tianqi Lithium Australia Pty Ltd) (Tianqi) to transition from Works Approval W5977/2016/1 (last amended 13 August 2024) to a Part V operating licence. The time limited operations period for Train 1 operations authorised under the works approval expires on 4 September 2025.

The most recent version of works approval W5977/2016/1 included minor administrative / editorial corrections to the previous works approval and changes to air emissions sampling and testing methods¹. The amended works approval also authorised the establishment and commissioning of a modified pollution control system including:

- a wet scrubbing system (to collect metal fume, ultrafine particulates or other gaseous inorganics),
- a new stack through which to discharge treated off-gases originating at the Train 1 calciner, and
- a Regenerative Thermal Oxidiser ('RTO') unit.

The proposed modification of the pollution control system was initiated by Tianqi (and not mandated by DWER). For a range of commercial and operational reasons, installation of the modified pollution control systems has been deferred to Q 2 2026.



¹ The change approved under the most recent works approval amendment allows Tianqi to use USEPA Method 5 or Method 17 with subsequent particle size analysis followed by ISO 13320:2020 particle size analysis as an alternative method to USEPA Method 201A for determining PM10.

² [Redacted text]

The current licence application seeks authorisation to operate the existing Lithium Hydroxide Processing Plant (LHPP) Train 1 with the current infrastructure, however, excluding the augmented pollution control systems approved under works approval W5977/2016/1. Tianqi seeks authorisation to include a 'works component' in the Part V licence to allow for the construction and commissioning of the augmented pollution control works between Q4 2025 and end Q1 2026.

This document should be read in conjunction with the completed Department of Water and Environmental Regulation ("DWER") Application form: Works Approval Amendment (Tianqi document number TLK-0000-J-APR-00004) and attachments to the form, as listed in Table 1, below.

Table 1-1 Cross-reference to DWER Licence Application Form Attachments

DWER APPLICATION FORM ATTACHMENT REFERENCE	WHERE THE INFORMATION IS PROVIDED
Premises map, showing existing and proposed infrastructure	Attachment 2, Figure A1
Information about the project implementation status, performance of existing pollution control system and estimated emissions.	Attachment 3B (this document)
Summary of emissions and discharges, including stack testing results	Attachment 6A
Locations of plant relative to sensitive receptors, maps showing modelled ground level concentrations of emissions to air	Attachment 7 (see also sensitive land use map in Attachment 2D)
Air emissions modelling report (EAQ, 2024)	Attachment 8A
Commissioning test results (Ekimo, 2024a – 2024d; 2025)	Attachment 8B
Licence fee calculation	Attachment 10
Request for exemption from publication	Attachment 11 (in application form)

2 Existing Pollution Control System

2.1 Particulate emissions

Under the existing pollution control system, control of pollutants in calciner emissions is achieved through use of a baghouse to limit particulate emissions (

Figure 1). Emission monitoring to date has shown that the baghouse filters are generally effective in maintaining particulate emissions below the limits specified in the works approval. Except during upset conditions, the measured dust loads exiting the baghouse are well within the Works Approval limit of 50 mg/Nm³).

Exceedances of the works approval limits for total particulates have been recorded at the Calciner Refeed Stacks (feed end and discharge end). These excursions were notified to DWER in July 2024 and December 2024. Investigation of the exceedances found that they had resulted from

- a leak between the dust receiver and rotary valve (in early July 2024), which was subsequently repaired, and
- Incorrectly installed baghouse clamps (in late November 2024).

TLK will maintain an annual baghouse inspection and bag replacement frequency as a strategy to ensure efficiency of the baghouse. A visual ongoing monitoring of the bag break detectors has also been implemented on the calciner and mill baghouses.

2.2 Commissioning tests

Commissioning tests (stack testing) for the existing pollution control systems were carried out between late November 2023 and early January 2024. As required by Table 8 of the works approval W5977/2016/1, stack testing during commissioning involved two separate sample events separated by at least one week within the first three months of emissions through each discharge point. The results of testing during the commissioning period and subsequent quarterly monitoring are presented in **Error! Reference source not found.** Parameters other than particulates for which limits are specified in Table 7 of the works approval (NOx, SO3) consistently met emission limits during commissioning testing and in subsequent quarterly stack testing. Copies of the stack testing results from the commissioning period and subsequent quarterly monitoring are provided in **Attachment 8B**.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

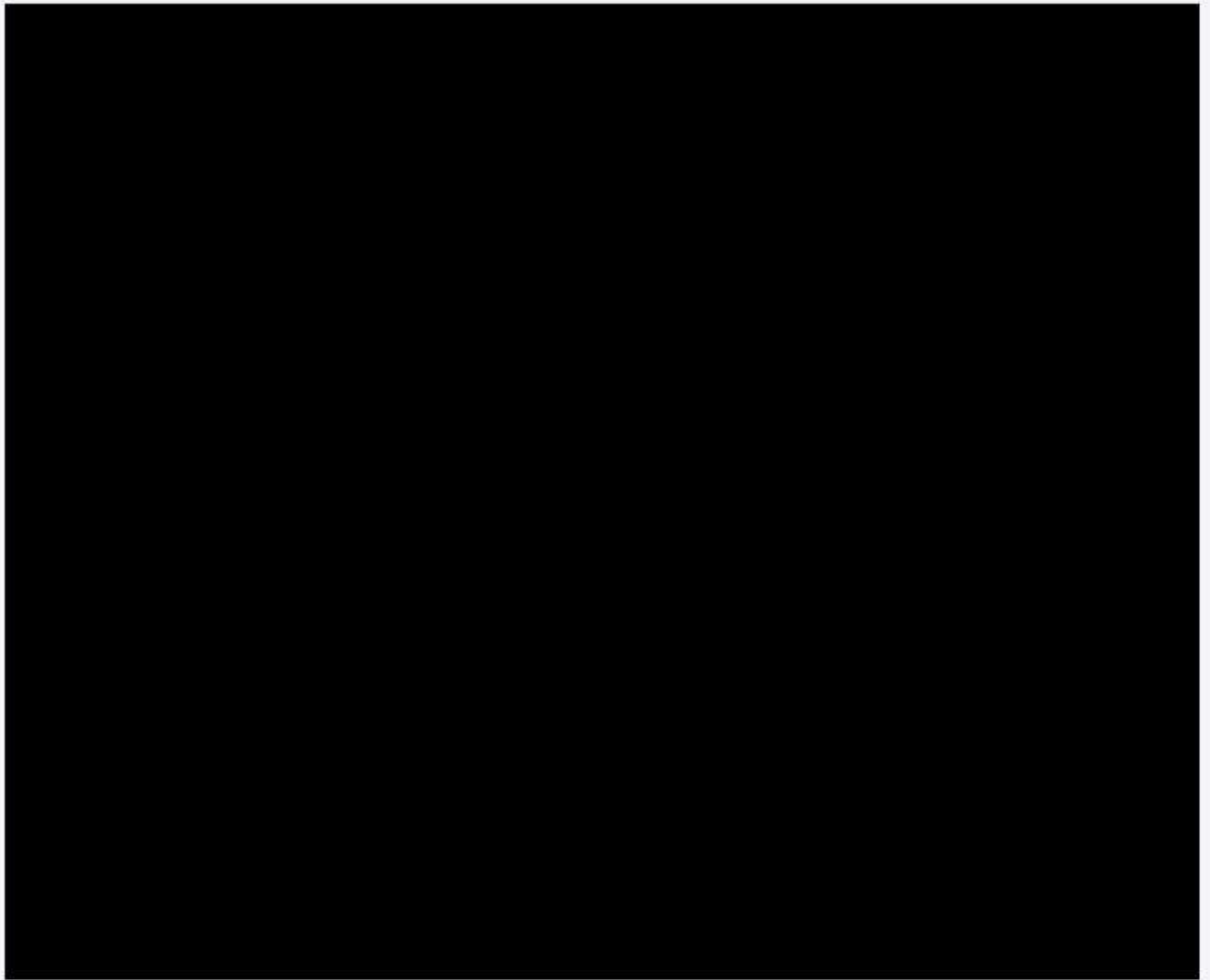


Figure 1: Schematic diagram showing existing pollution control system

Table 2-1: Summary of stack testing results (Nov 2023 – Dec 2024)

EMISSION POINT	TESTING DATE	STACK TEST REPORT NUMBER	TSP, mg/m ³	PM10, mg/m ³	NO _x , mg/m ³	SO ₂ , mg/m ³
Emission limit			50	NA	350	100
Spodumene mill stacks	23/11/2023	R016002	2	2	–	–
	9/01/2024	R016002	2	2	–	–
	26/03/2024	R016539	3	3	–	–
	4/07/2024	R016539	3	3	–	–
Calciner fan / offgas stacks	20/11/2023	R015542	<2	–	320**	–
	8/01/2024	R016002	<2	–	320**	–
	25/03/2024	R016539	<2	–	330**	–
	2/07/2024	R016539	<2	–	350**	–
	11/12/2024	R016539-5	<2	–	83	–
Calciner refeed (feed end) stacks	21/11/2023	R013784	40	22	–	–
	7/01/2024	R016002	58	39	–	–
	25/03/2024	R016539	140	77	–	–
	2/07/2024	R016539	600	410	–	–
	11/12/2024	R016539-5	330	220	–	–
Calciner refeed (discharge end) stacks	20/11/2023	R015542	46	11	–	–
	7/01/2024	R016002	2	2	–	–
	25/03/2024	R016539	98	85	–	–
	2/07/2024	R016539	63	43	–	–
	11/12/2024	R016539-5	2.4	2.4	–	–
Sodium sulphate heater stacks	24/11/2023	R016002	16	7.1	<700**	–
	9/01/2024	R016002	1.9	1.9	<600**	–
	27/03/2024	R016539	3.8	2.4	<400**	–
	3/07/2024	R016539	2.9	2.9	<300**	–
	13/12/2024	R016539-5	2	2	<200**	–
Acid roast scrubber stacks	24/11/2023	R016002	10	5.4	–	2.4
	4/07/2024	R016539	2	2	–	1.2
	12/12/2024	R016539-5	41	21	–	0.65

Notes:

A dash ('-') means test is not required and was not done.

The letters 'NA' mean that no emission limit is specified in the works approval.

** NO_x emission results up to and including testing in July 2024 were corrected to 3% oxygen. Following approval of the most recent works approval amendment in August 2024, NO_x emission results have been corrected to 15% oxygen. The stack testers have advised, "The stack gas [NO_x concentration] is basically ambient so NO_x results are always below detection limit and reporting limit of the analyser used onsite. The detection limit is calculated based on the concentration of the span gas." In all cases, the NO_x emissions measured at the sodium sulphate heater stack would have complied with the DWER licence limit.

3 Recent Stakeholder Engagement

A summary of recent stakeholder engagement (including engagement arising from complaints received during the period from 1 January 2023 to 31 March 2025) is provided in **Attachment 5**. Tianqi has requested that details of stakeholder interaction not be made publicly available (**Attachment 11** - provided in Section 11 of the licence application form), as the publication of the information could result in the public disclosure of complainant's personal information and could be prejudicial to future investigations and/or enforcement matters (refer Schedule 1 of *Freedom of Information Act 1992*).

4 Licence Fee Calculation

The DWER fee calculator for an amendment application was accessed on 9 April 2025 from www.der.wa.gov.au/AmendmentFeeCalculator to determine the cost of the application. The fee prescribed for a Part V operating licence application was based on a unit value, as calculated in accordance with Schedule 4 of the Regulations. Details of the estimated licence fee are provided in **Attachment 10** of the licence application.

5 Request for Exemption from Publication

Tianqi requests that this supporting information document (Attachment 38 of the works approval) be exempted from publication. Tianqi's grounds for claiming exemption in accordance with Schedule 1 to the *Freedom of Information Act 1992* are detailed in the works approval amendment application form and in **Attachment 11** of the works approval amendment application.

6 References

DWER, 2019. Guideline: Air Emissions (Draft). Retrieved from Government of Western Australia Department of Water and Environment Regulation:
<https://www.der.wa.gov.au/our-work/consultation/69-closed-consultations/552-draft-guideline-on-air-emissions>

EAQ Consulting, 2024. Works Approval Emissions Impact Assessment of Lithium Hydroxide Process Plant, prepared for Tianqi Lithium Kwinana Pty Ltd, February 2024.

Ektimo, 2024a. Tianqi Lithium Kwinana Pty Ltd, Kwinana Beach, Work Approval Sampling Campaign – December 2023, Report R016002, 12 January 2024.

Ektimo, 2024b. Tianqi Lithium Kwinana Pty Ltd, Kwinana Beach, Work Approval Sampling Campaign – January 2024, Report R016002-1, 5 February 2024.

Ektimo, 2024c. Tianqi Lithium Kwinana Pty Ltd, Kwinana Beach, Work Approval Sampling Campaign – March 2024, Report R016539, 14 May 2024.

Ektimo, 2024d. Tianqi Lithium Kwinana Pty Ltd, Kwinana Beach, Work Approval Sampling Campaign Round 2 – July 2024, Report R016539-1, 31 July 2024.

Ektimo, 2025. Tianqi Lithium Kwinana Pty Ltd, Kwinana Beach, Emission Testing Report – December 2024, Report R016539-5, 24 January 2025.