



Application for Works Approval Amendment

Part V Division 3 of the *Environmental Protection Act 1986*

Works Approval Number	W6499/2021/1
Works Approval Holder	Covalent Lithium Pty Ltd
ACN	623 090 139
File Number	DER2020/000568
Premises	Covalent Lithium Hydroxide Refinery 15 Mason Road KWINANA BEACH, WA 6167 Legal description – Lot 15 on Deposited 74883 As defined by Figure1 in Schedule 1 of the Works Approval
Date of Report	13 March 2024
Decision	Revised works approval granted

1. Decision summary

Works approval W6499/2021/1 (W6499) is held by Covalent Lithium Pty Ltd (works approval holder) for its proposed lithium hydroxide refinery on Mason Rd, Kwinana (the premises).

The delegated officer has determined to grant amendments to works approval W6499/2021/1. The granted amendments are largely administrative in nature therefore they do not alter the risk profile of the premises, providing those activities, emissions, and receptors as stated in existing approval remain unchanged.

This report documents the amendments made according to sections 59 and 59(B) of the *Environmental Protection Act 1986* (EP Act).

The decision report for the existing works approval will remain on the department's website for future reference and will act as a record of the department's decision-making.

2. Scope of assessment

2.1 Regulatory framework

In amending the works approval, the department has considered and given due regard to its Regulatory Framework and relevant policy documents which are available at <https://dwer.wa.gov.au/regulatory-documents>.

2.2 Application summary

The premises relates to categories 31 and 44 with an assessed production capacity of 50,276 dry tpa lithium hydroxide, 116,531 dry tpa sodium sulphate, and 382,860 dry tpa of spodumene ore under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in existing Works Approval W6499/2021/1.

On 19 February 2024, the works approval holder submitted a works approval amendment application, with an addendum received on 6 March 2024. This application seeks to amend the following:

- Updating infrastructure requirements within Schedule 2 Table 9 for the spodumene ore storage shed, lithium bagging storage building, and rewording noise controls for stationary equipment items.
- Updating Table 9 items to reference Figure 3 rather than Figure 2.
- Updating stack heights within Schedule 2 Table 9 and Condition 13 Table 5.
- Seeking to remove Appendix 4 Table 11 Groundwater sampling units entirely which lists the groundwater sampling units for the MAH suite rather than the MAH(BTEX) suite (that was the basis for the amendment issued on 9 May 2022).
- Revise wording in Condition 2 to allow multiple Environmental Commissioning Reports.

2.2.1 Proposed amendments

Schedule 2 Table 9 – Item 1 Spodumene ore storage area

The works approval holder requested that the requirement for gravity-fed sumps be removed. The spodumene shed is a fully covered building where physical water loss is not expected from the shed. Stormwater is still addressed under Item 9 and remains unchanged.

Schedule 2 Table 9 – Item 2 Lithium monohydrate storage and bagging building

The lithium bagging plant is located within an enclosed room at the base of the lithium

hydroxide storage shed. The various packaging equipment items have dust extraction fitted for control of dust emissions to personnel. The term hermetically sealed has a very specific definition referring to an airtight seal, with no air leaving or entering. There is negligible dust expected from the packaging equipment and an enclosed room is considered adequate to prevent any residual dust from leaving the room. The works approval holder has requested that the word "hermetically" be removed from the first two requirements under Item 2.

Schedule 2 Table 9 – Item 7 Stationary equipment

The works approval holder has requested that the wording be changed from-

- *All stationary items of equipment exceeding a manufacturer-specified sound pressure level of 85 dBA at 1 m must be either located within a building, have noise-attenuating insulation, or otherwise is located within a noise-attenuating enclosure, to*
- *All stationary items of equipment exceeding a manufacturer-specified sound pressure level of 85 dBA at 1 m must be either located within a building or have noise attenuating controls (i.e. insulation, orientation of vents away from external boundaries, application of acoustic lagging) or otherwise is located within a noise attenuating enclosure.*

The change intends to ensure appropriate controls are in place to mitigate noise from the operations and for efficiency in reporting. Furthermore, the works approval holder requests to remove the first, third, fourth, and fifth requirements of Table 9 Item 7 as these are covered by the proposed amendment wording.

Schedule 2 Table 9 – Infrastructure location

Items 5, 6, 7, 8 and 9 listed in the infrastructure location column of Table 9 should reference Schedule 1 Figure 3 rather than Figure 2.

Schedule 2 Table 9 –Item 4 Discharge points to air and Condition 13 Table 5 Authorised discharge points for emissions

A revised Air Quality Assessment (AQA) (Environmental Technologies and Analytics, 2021, *Covalent Lithium Hydroxide Refinery: Air Quality Assessment July 2021*) was submitted to the department in July 2021. The AQA was assessed and determined by the delegated officer to be appropriate with the works approval granted in September 2021. The revised stack emission heights within the AQA were not updated within the existing works approval. The works approval holder has requested that stack heights be updated to reflect the AQA.

Appendix 4 Table 11 – Groundwater sampling units

The works approval holder requested that Appendix 4 Table 11 groundwater sampling units that contain the list of units for total recoverable hydrocarbons (TRH suite) and monocyclic aromatic hydrocarbons (MAH) be removed. The amendment granted on 9 May 2022 purpose was to reduce the suite of analytes for monthly testing. Updates to Tables 3 and 7 were undertaken with MAH(BTEX) listed however the full MAH suite remains listed in Table 11 and was not updated to reflect the MAH(BTEX).

Condition 2 – Compliance reporting

Due to the size and nature of the lithium refinery, the works approval holder has requested changes to Condition 2 to allow multiple Environmental Compliance Reports. The existing works approval assumes a singular Environmental Compliance Report.

3. Decision

Based on the assessment in this Amendment Report, the delegated officer has determined to grant some amendments to works approval W6499/2021/1

- Schedule 2 Table 9 – Item 1 Spodumene ore storage area removal of gravity-fed

pumps.

- Schedule 2 Table 9 – Item 2 Lithium monohydrate storage and bagging building – removal of the word hermetic.
- Schedule 2 Table 9 – Item 7 Stationary equipment – update of noise attenuating controls requirement for easier reporting.
- Schedule 2 Table 9 – Infrastructure location – update incorrect figure references.
- Schedule 2 Table 9 – Discharge points to air and Condition 13 Table 5 authorised discharge points for emissions, stack heights are updated to reflect the AQA.
- Condition 2 – Compliance reporting – update condition to allow multiple Environmental Compliance Reports.

The delegated officer will not grant the following request to remove Appendix 4 Table 11 – Groundwater sampling units but will amend the table to reflect the MAH(BTEX) units.

On 3 February 2022 Covalent and the department discussed recent groundwater data collected from the operational bores and concluded that PFAS, per-fluorinated compounds suite, MBAS, dioxins/furans compounds (and group total suite), organochlorine / organophosphorus pesticides, phenolics/phenolics – halogenated suites, polycyclic aromatic hydrocarbons (PAH) suites (standard 16 PAH suite), volatile organic compounds (VOCs) suite, and metals (boron, barium, beryllium, cadmium, manganese, lead, mercury) were either not required based on submitted sampling data or should only be considered if dewatering occurred. An amendment was granted on 9 May 2022 removing those parameters and changing MAH to MAH(BTEX) from Tables 3, 7, and 11.

It is noted that Tables 3 and 7 use the terms TRH suite and MAH(BTEX) suite with a reference to Appendix 4 Table 11 for the chemical suite units. The existing Table 11 has the list of chemical suites for TRH and MAH. The TRH list will remain unchanged and not be removed.

It appears that in Table 11, MAH was not updated to MAH(BTEX). This will be updated to include the unit's benzene, toluene, ethylbenzene, m-xylene, o-xylene and p-xylene only. Thus Table 11 will be updated but not removed from the works approval.

4. Consultation

The works approval holder was provided with the draft Amendment on 7 March 2024. Comments received from the works approval holder on 12 March 2024 have been considered by the delegated officer as detailed in Appendix 1.

5. Conclusion

Based on the assessment in this Amendment Report, the delegated officer has determined that a part of amended works approval will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

5.1 Summary of amendments

Table 1 below provides a summary of the proposed amendments and will act as a record of implemented changes. All proposed changes have been incorporated into the revised works approval as part of the amendment process.

Table 1: Summary of works approval amendments

Condition no.	Proposed amendments
Condition 2	Condition 2 reworded to allow multiple reporting to read “ <i>The works approval holder within 30 calendar days of any item of infrastructure or equipment required by condition 1 being constructed and/or installed....</i> ”
Appendix 2, Table 9 Item 1	Remove the requirement for gravity-fed pumps.
Appendix 2, Table 9 Item 2	Remove the word ‘Hermetically’
Appendix 2, Table 9 Items, 5, 6, 7, 8 and 9	Change location reference from Figure 2 to Figure 3
Appendix 2, Table 9 Item 7	Reword requirement to read ‘ <i>All stationary items of equipment exceeding a manufacturer-specified sound pressure level of 85 dBA at 1 m must be either located within a building or have noise attenuating controls (i.e. insulation, the orientation of vents away from external boundaries, application of acoustic lagging) or otherwise is located within a noise attenuating enclosure.</i> ’ Remove the first, third, fourth and fifth requirements.
Appendix 2 Table 9 Item 4 and Condition 13 Table 5	Change stack heights for all authorised air emission points to align with the assessed Air Quality Assessment.
Appendix 4, Table 11, MAH	Change MAH to read MAH(BTEX) remove the MAH chemical lists and replace with MAH(BTEX) list consisting of benzene, toluene, ethylbenzene, m-xylene, o-xylene, and p-xylene.

References

1. Covalent Lithium Pty Ltd, 2024, Works Approval W6499/2021/1 Application, Perth Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2022, Works approval W6499/2021/1 - Covalent Lithium Pty Ltd, issued 9 May 2022, Perth, Western Australia.
3. DWER 2022, Amendment Report W6499/2021/1 - Covalent Lithium Pty Ltd, issued 9 May 2022, Perth, Western Australia.
4. Environmental Technologies and Analytics, 2021, *Covalent Lithium Hydroxide Refinery: Air Quality Assessment July 202*, Perth Western Australia.

Appendix 1: Summary of Works Approval Holder's comments on draft amendment

Condition	Summary of Works Approval Holder's comment	Department's response
Condition 12 Table 4, Item 5	<p>Applicant has requested an additional amendment to ensure the original intent of the control is captured. Applicant requests to change -</p> <p><i>Solid materials are kept above extinction levels when storing and transferring within the premises. to</i></p> <p><i>Where solid materials are not otherwise covered or contained, then they are to be kept above extinction levels when storing and transferring within the premises.</i></p>	The delegated officer considers it too late to request additional amendments, and with no evidence-based information supporting the request the request is not granted.
Condition 12 Table 4, Items 1 – 3.	Applicant has requested that environmental commissioning and time limited operations for items 1 - 3 (calciners, spodumene mill and acid roast kilns) to be extended from 90 to 360 calendars days in aggregate for environmental commissioning and 180 days for time limited operations to align with items 4 -8.	The delegated officer considers it too later to requested additional amendments without any evidence-based information supporting the request. It is noted that time limited operations for items 1 – 8 are already 180 days. The request is not granted.
Condition 12 Table 4	There is no item 6, renumber the list.	The list has been updated in the revised licence.
Condition 13 Table 5	Request to change co-ordinates to align with the assessed Air Quality assessment not picked up in the addendum.	Location coordinates have been updated.
Condition 16, Table 7	Request to amend salinity (electrical conductivity) to align with the unit of measurement in other tables.	All existing tables (3 and 7) require electrical conductivity to be measured in dS/m, no changes will be made.
Condition 26	Applicant requested that the words ' <i>discharge to the</i> ' STOOL.... be removed to improve sentence meaning.	The delegated officer will reword the phase to SDOOL <i>discharge</i>to improve readability.
Appendix 2 Table 9 Item 7	Incorrect use of <i>that is</i> , and should be <i>for example</i> , as not all controls will apply to each item.	The delegated officer has updated the table.