



Application for Licence Amendment

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

Licence Number	L5850/1993/11
Licence Holder	Yilgarn Iron Pty Ltd
ACN	626 035 078
File Number	2012/002671
Premises	Koolyanobbing Iron Ore Project Koolyanobbing WA 6427 Legal description – Being part Tenements L77/319, M77/606-I, M77/607-I, M77/611-I, L77/988-I, M77/989-I, M77/990-I, and M77/1278-1, and Crown Lease N466339 as depicted in Schedule 1.
Date of Report	5 October 2022
Decision	Revised licence granted

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an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

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1. Decision summary

The Delegated Officer has determined to make amendments to Licence L5850/1993/11. The amendments are administrative in nature therefore they do not alter the risk profile of the Premises, providing that activities, emissions and receptors as stated in existing approvals remain unchanged.

This Amendment Report documents the amendments made pursuant to section 59 and 59(B) of the *Environmental Protection Act 1986* (EP Act).

The decision report for the Existing licence 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 licence, 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

Licence L5850 is held by Yilgarn Iron Pty Ltd (Licence Holder) for the Koolyanobbing Iron Ore Project (the Premises), located within the Shire of Yilgarn. The Premises relates to the categories and the assessed production capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in existing Licence L5850.

On 13 July 2022, the Licence Holder submitted an application to the department to amend Licence L5850 under section 59B of the *Environmental Protection Act 1986* (EP Act). The amendment is limited only to removing the requirement for the installation of piezometers within the base of C Pit tailings storage facility (TSF) and adding the requirement for three already constructed additional monitoring bores surrounding the C Pit TSF.

The Licence was amended on 3 November 2020 to allow the construction of an in-pit TSF at C Pit to dispose of lithium refinery tailings from Albemarle Kemerton Plant. The Environmental Compliance Report (ECR) required under condition 1.1.6 of the licence for Stage 1 of the C in-pit TSF (including groundwater monitoring bore requirements) was submitted on 11 April 2022. The Licence Holder was notified of their partial compliance on 30 May 2022. Partial compliance was achieved as the piezometers required to be installed within the base of the in-pit TSF were not installed.

After review of the ECR it appears the Licence Holder misinterpreted the intent of the piezometer requirements for C-Pit TSF to monitor pore pressure and saturation levels within the tailings (as opposed to standing water levels beneath the TSF) hence, the Licence Holder was waiting for tailings placement to install the piezometers.

3. Assessment

3.1 Review of original risk assessment

As a part of the original risk assessment for C Pit TSF, leachate from tailings deposition was identified as a potential emission with the capacity to contaminate groundwater as well as raise groundwater levels, impacting surface water quality and vegetation health, respectively. The department conditioned the installment of piezometers beneath the TSF to allow for detection of groundwater mounding or seepage outside of estimated values.

The aquifer intersected by C Pit historical estimated water standing level is 338m AHD, although

measurements within a now decommissioned bore were recorded at 342m RL and 339m RL creating uncertainty around the pre-mining water standing level. The dewatering of various pits at Koolyanobbing for mining resulted in the aquifer to be drawn down to an estimated level of 324m AHD (current estimate). The base of the TSF has been raised to 340m AHD with waste rock, to ensure the water table does not rise above the level of tailings deposition.

The departments technical review found that in the worst-case scenario post-mining groundwater recovery will see groundwater rise to historical levels (1-2m higher than the base of the TSF) therefore, tailings and seepage would interact with groundwater that could flow and contaminate surface water downstream (Lake Deborah). This scenario however was determined to be unlikely to occur as it typically takes decades for full groundwater recovery and the location of surrounding mine voids (A and B pits) are in the path of groundwater flow and will act as groundwater sinks. The environmental risks associated with contamination of these mine voids was also determined to be negligible due to the hypersaline nature of the groundwater.

At the time of the amendment the department determined it was necessary to monitor groundwater levels beneath the in pit TSF. Consequently, piezometer monitoring requirements were conditioned to detect rising groundwater levels from seepage and long-term water recovery to control the risk deposition of lithium refinery tailings pose to the surrounding environment.

3.2 Review of monitoring bores

This assessment is limited to a review of whether the additional monitoring bores constructed by the Licence Holder surrounding C-Pit TSF (in lieu of piezometers within the base) are adequate to detect seepage by monitoring groundwater standing levels surrounding C Pit TSF. Early detection of excessive seepage and rising groundwater levels is essential to control the risk that leachate poses to the environmental receptors.

After reviewing the supplied C Pit TSF Monitoring Bores Compliance Report, which details the location, depth and lithology of all four monitoring bores (three extra than originally proposed), the department considers the constructed bores surrounding the TSF to be sufficient to monitor changes in groundwater levels surrounding C Pit TSF. However, the delegated officer has deemed it necessary to add water quality monitoring requirements to these newly conditioned bores. Monitoring water quality (pH, total dissolved solids (TDS), lithium and antimony) is a more definitive method to monitor seepage from tailings considering the distance the bores are to the C Pit TSF. Therefore, the changes in containment infrastructure outlined in table 1 and additional monitoring requirements will adequately control the risk leachate poses to receptors and will not alter the initial medium risk rating for this risk event.

4. Consultation

The Licence Holder was provided with the draft Amendment Report on 29 September 2022. On 3 October 2022 the Licence Holder waived the comment period.

5. Conclusion

Based on the assessment in this Amendment Report, the Delegated Officer has determined that this amendment does not alter the risk profile of the premises and therefore an amended licence 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 licence

as part of the amendment process.

Table 1: Summary of licence amendments

Condition no.	Proposed amendments
1.1.5 Table 1.1.1	Deletion of the design and construction requirements for; Stage 1 C Pit TSF and Groundwater monitoring bores. Environmental Compliance Report already submitted.
1.2.3 Table 1.2.1	Deletion of the infrastructure requirement to install piezometers within the base of the C Pit TSF, and update references of a singular monitoring bore to four bores plural.
3.18 Table 3.1.1	Deletion of the piezometer monitoring and inclusion of groundwater monitoring for all four monitoring bores including pH, TDS, lithium and antimony.
Schedule 1: Maps	Replacing Map of C Pit monitoring bore to an updated map showing locations of all four monitoring bores.