Amendment Report

Application for Licence Amendment

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

Licence Number	L8967/2016/1
Licence Holder	Roy Hill Infrastructure Pty Ltd
ACN	130 249 633
File Number	DER2016/000615-2~13
Premises	Roy Hill Port Bulk Handling Facility and Screening Plant Legal description – Part of Lot 370 on Deposited Plan 35619 Certificate of Title Volume LR3118 Folio 753 Reserve 50892: Lots 1199, 1200 and 1301 on Deposited Plan 70562 Part of Lot 372 on Deposited Plan 35620 Certificate of Title Volume LR3118 Folio 755 within coordinates as defined in Schedule 1 of the Amended Licence and as depicted the Premises maps attached to the Amended Licence
Date of Report	21 October 2022
Decision	Revised licence granted

Michael Greenslade Digitally signed by Michael Greenslade
Date: 2022.10.21 09:33:03 +08'00'

MANAGER, PROCESS INDUSTRIES
REGULATORY SERVICES
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

Table of Contents

1. Decision summary

The Delegated Officer has determined to make amendments to Licence L8967/2016/1. The amendments are considered minor or 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 L8967/2016/1 is held by Roy Hill Infrastructure Pty Ltd Licence Holder for the Roy Hill Port Bulk Handling Facility and Screening Plant (the Premises), located at Part of Lot 370 on Deposited Plan 35619, Port Hedland.

On 13 April 2022, the Licence Holder submitted an application to the department to amend Licence L8967/2016/1 under section 59B of the *Environmental Protection Act 1986* (EP Act). The following amendments were sought:

- Construction of a new sedimentation pond to settle the wash water sediment from the overland conveyor and other sources of non-hydrocarbon contaminated wash water prior to discharge to a storm drain.
- Authorisation to allow stormwater, wash down water/conveyor wash water and any surplus water from ship loading activities to be discharged to any sedimentation pond rather than specific ponds.
- Authorisation to allow reclamation of dead ore stockpiles if the wind speed is less than 14 m^{-s}, including where the average wind directions are between 180° and 300°.

The Licence Holder has not requested any changes to the production/design capacity for Category 5 of 38 million tonnes per annual period or Category 58 of 70 million tonnes per annual period.

2.2.1 Sedimentation pond

The newly constructed sedimentation pond will allow for the reconfiguration of the wash water circuit, to prevent excess water being discharged from the conveyors to loading vessels. The current levels of wash water being discharged to the vessel present a shipping safety concern due to a high transportable moisture limit (TML) for vessels. The proposal is for wash water from conveyors CVR161, CVR162 and CVR164 to be re-routed to a new two-celled sedimentation pond with a cumulative storage volume of at least 9,560m^3. The wash water stream does not interact with any oil containing equipment throughout the proposed system, presenting a low risk of hydrocarbon contamination. The Licence Holder also proposes for other sources of sediment laden wash water to be discharged to the new sedimentation pond, as well as the option of distributing other sources of non-hydrocarbon contaminated wash

water to any of the approved sedimentation ponds.

The proposed sedimentation pond discharges to Culvert Drain 7 which is located on the northern border of the Premises and close to protected mangrove vegetation, located on the northern and eastern boundaries of the stockyard and below the overland conveyor. As discussed in the previous Amendment Report (DWER 2021) mangrove habitat monitoring is required under Ministerial Statement 858 and water quality is to be monitored in accordance with existing licence conditions and the Roy Hill Water Discharge Management Procedure (OP-PRO-00178).

2.2.2 Dead ore stockpile reclamation

The applicant has proposed to change conditions relating to the restriction of dead ore stockpile reclamation to certain wind directions. Currently reclamation is prohibited whilst average wind directions are between 180º and 300º for three or more ten-minute periods during the hour (the direction of Port Hedland town). The applicant wishes to change this so that during periods of low wind speed, reclamation is allowed regardless of the wind direction.

As ore reclamation using front end loaders has been identified as a high dust generating activity and as the Licence Holder operates in a cumulative air shed where risks associated with dust are assessed as ‘high’, all contributions to dust concentrations in that wind arc must be addressed. A combination of conditions pertaining to dust control infrastructure and operational dust management strategies are implemented on all port operating licences works to safeguard against impacts to receptors.

The department’s air quality specialists have provided technical advice (DWER 2020) on fugitive dust emissions in Port Hedland in relation to wind speed effects on stockpile emissions. It was advised that where ore is disturbed by mechanical process, a reduction in wind speed is likely to result in less dust dispersion from materials handling sources for the same quantity of emission. Also identified in DWER’s LiDAR report (DWER 2018) it is possible for dust plumes to be narrow and miss the downwind monitor, potentially resulting in no dust management measures to be triggered.

2.2.3 Oily water separators

The applicant has also applied for the inclusion of two oily water separators (OWS) previously operated by Roy Hill under now expired power station licence L8903/2015/1. These two OWS’s (L1 and L2) were never decommissioned, and the applicant proposes to use them to treat washdown water from light vehicles, equipment, and storm water. Treated water from L1 will discharge to drainage nearby, then Culvert drain 1, and treated water from L2 will discharge to the pond to the north and then Culvert drain 2.

3. Risk assessment

Table 1: Risk assessment of potential emissions and discharges from the Premises during construction and operation

Risk Event					Risk rating[2] C = consequence L = likelihood	Applicant controls sufficient?	Conditions of licence and justification
Source/Activities	**Potential emissions**	**Potential pathways and impact**	**Receptors[1]**	**Applicant controls**			
Construction							
Construction of proposed sedimentation pond and associated earthworks	Dust	Air/windborne pathway causing impacts to health and amenity	Approximately 6km to the nearest sensitive receptor (short-term accommodation) and 6.6km to the nearest residential receptor in the Town of Port Hedland.	As per previous Amendment Report (DWER 2021), the Licence Holder must cease all earthmoving associated with the construction of sedimentation ponds when visible dust is generated during strong wind conditions (14 m/s or greater) and/or where average wind directions are likely to transport dust in the direction of residential receptors in Port Hedland.	**High** C = Major L = Likely	Yes	No additional regulatory controls proposed during construction. Dust to be managed by existing conditions of the Licence.
	Noise			N/A	**Medium** C = Major L = Rare	Yes	Noise from short term construction is not expected to be perceptible at the nearest receptors due to distance and cumulative noise sources in Port Hedland.
Operation							
Wastewater discharges and storage	Sediment laden wash water discharges	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality and mangrove environments	820m northeast of Culvert Drain 7 which discharges to tidal mangrove flats. Seasonal minor creek and identified Priority 2 flora approximately 500m north-east.	Wash water from belt wash stations (BWS) on conveyors CVR162, CVR161 and CVR164 and where necessary other uncontaminated sources will be collected, transported, and discharged into holding tanks, before being pumped to one the newly proposed sedimentation pond along with existing sedimentation ponds SB1-01 and SB1-02 as required to settle suspended solids prior to discharge. Capacity of sediment ponds to cater for 6-hour, 1 in 10-year rain event and maintain 300 mm freeboard. Sediment cleaned out regularly as required, using a front-end loader, to avoid build-up of dried sediment. Overflow from sedimentation ponds' spillways discharges to land via one way culvert discharge points (Culvert Drain 1 – Culvert Drain 7). Only wash water with very low to no hydrocarbon-contamination risk to be discharged to sedimentation ponds, if oily sheen visible no discharge to occur.	**Low** C = Slight L = Rare	Yes	Wash water to be discharged to alternate cells of newly proposed sedimentation pond as required. Assessment of risk is based on the existing controls as well as the application of proposed controls and ongoing monitoring. Mangrove habitat monitoring is required under Ministerial Statement 858.
	Hydrocarbon-contaminated or potentially contaminated wash water discharges	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality and mangrove environments	Culvert drains which discharge to tidal mangrove flats. Seasonal minor creek and identified Priority 2 flora approximately 500m north-east	All stormwater and wash water used to washdown light vehicles and equipment will be diverted to OWS L1 and L2 for treatment prior to discharge. All hydrocarbon spills into be contained and recovered prior to continuing washdown. Quarterly monitoring of wastewater quality in sedimentation ponds when discharge occurs in the quarter. Quarterly monitoring of OWS discharge water quality to continue in accordance with the existing Licence. TRH limits applied to wastewater quality in sedimentation ponds, consistent with existing Licence conditions for monitoring at OWS L1 and L2.	**Low** C = Slight L = Rare	Yes	Assessment of risk is based on the existing controls as well as the application of proposed controls and ongoing monitoring. Mangrove habitat monitoring is required under Ministerial Statement 858.
	Groundwater contamination from the storage of wash water in the sedimentation ponds	Seepage of hydrocarbon contaminated water impacting groundwater quality	No groundwater receptors identified. Groundwater salinity greater than seawater and unlikely to support groundwater dependent ecosystems.		**Low** C = Slight L = Rare	Yes	Assessment of risk is based on the existing controls as well as the application of proposed controls and ongoing monitoring.

Risk Event					Risk rating[2] C = consequence L = likelihood	Applicant controls sufficient?	Conditions of licence and justification
Source/Activities	**Potential emissions**	**Potential pathways and impact**	**Receptors[1]**	**Applicant controls**			
Dead Ore Reclamation	Dust	Air/windborne pathway causing impacts to health and amenity	Nearest boundary of the stockyard area is approximately 5.2km to the nearest sensitive receptor (short-term accommodation) and 5.8km to the nearest residential receptor in the Town of Port Hedland	Stockyard water cannons operated on dead ore Stockpiles prior to reclaiming. Operate watercarts on all surfaces where mobile reclaiming equipment operates prior to reclaiming Dead Ore Stockpiles.	**High** C = Major L = Likely	No	DWER does not consider the proposed additional controls sufficient to mitigate the risks associated with dust generation during dead ore reclamation (by mechanical processes) and dust dispersion during low wind speeds. Refer to Section 2.2 - Dead ore stockpile reclamation and Section 5.

Note 1: Determination of receptors are detailed in the *Guideline: Environmental Siting* (DWER 2020).
Note 2: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk assessments* (DWER 2020).

4. Consultation

The Licence Holder was provided with the draft Amendment Report on 30 September 2022. Comments received from the Licence Holder on 14 October 2022 have been considered by the Delegated Officer and where necessary, minor administrative changes have been made.

5. Conclusion

Based on the assessment in this Amendment Report, the Delegated Officer has determined that an amended licence will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

Works proposed by the applicant associated with the sedimentation pond are not expected to result in a significant increase in dust impacts following the implementation of existing licence controls for construction, which are deemed appropriate control measures for the proposed works.

The rerouting of non-hydrocarbon contaminated wash water and storm water to any of the sedimentation ponds is not expected to present an additional risk to the environment. Mangrove habitat monitoring continues to be required under Ministerial Statement 858.

The use of a combination of dust management conditions including dust control infrastructure and operational dust management strategies on all port operating licences works to safeguard against impacts to receptors. During dead ore stockpile reclamation, the restriction of reclamation where average wind directions are between 180º and 300º for three or more ten-minute periods during the hour, as well as during strong wind conditions, continues to apply. The condition has been amended slightly however for consistency with other Port Hedland operating licences and to require management actions where there is an elevated dust risk.

Amendments have been made to Quarterly Reporting requirements for the submission of all validated boundary air quality and meteorological monitoring data. This condition is consistent with the requirement to other Port Hedland operators and is necessary for ongoing PM_{10} trend analysis to inform the progress of the Port Hedland Regulatory Strategy and compliance with reporting conditions for high dust events.

References

1. Department of Water and Environmental Regulation (DWER) 2018, *Mapping dust plumes at Port Hedland using a LiDAR*, Perth, Western Australia
2. DWER 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
3. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.
4. DWER 2020, *Air Quality Technical Advice AQ1251*, Perth Western Australia
5. DWER 2021, *Amended Licence L8967/2016/1 and Amendment Report*, Perth, Western Australia.