



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	DER2016/000614-2
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	22 September 2021
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

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 in Port Hedland.

This Amendment Report documents the assessment of potential risks to the environment and public health from proposed changes to the emissions and discharges during the construction and operation of proposed washwater circuit upgrades at the Premises. As a result of this assessment, Amended Licence L8967/2016/1 has been granted.

The Amended Licence issued as a result of this amendment consolidates and supersedes the existing Licence previously granted in relation to the Premises.

1.1 Regulatory framework

In completing the assessment documented in this Amendment Report, 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>.

1.2 Amendment summary

On 9 July 2021, the Licence Holder submitted an application to the department to amend Licence L8967/2016/1 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act).

This amendment is limited only to changes to the washwater circuit at the Premises car dumper, which is infrastructure in support of Category 58 (bulk material loading or unloading) activities authorised under the Existing Licence.

No further changes to the aspects of the existing Licence relating to Category 5 or 58 have been requested by the Licence Holder.

1.2.1 Background

The car dumper has two main sources for wash water, these are from the car dumper vault, and the car dumper grippers and indexers. The purpose of reconfiguring the washwater circuit is to separate the management of washwater from these two source types as they each have different contaminant profiles. Stormwater and washwater from the two car dumper grippers and indexers areas, as depicted in Figure 1, has a high potential for hydrocarbon contamination, whereas washwater from the car dumper vault has a far greater sediment load and lower risk of hydrocarbon contamination.



Figure 1: Car dumper and proposed sedimentation pond area

Currently washwater from all car dumper areas is directed to an oily water separator (OWS) for removal of hydrocarbons prior to discharge to the environment via drainage line to the approved discharge point at Culvert 7, approximately 900 m to the west of the proposed Sedimentation Pond Area. Culvert 7 discharges to the tidal mangrove flats adjacent to the Premises.

The Licence Holder has identified that the burden of sediment from the car dumper vault is impacting the ability for the OWS to treat washwater. The Licence Holder is therefore proposing to split washwater capture and treatment into two circuits with water from the two car dumper grippers and indexers areas being directed to the existing OWS for hydrocarbon removal. A secondary circuit is proposed for the capture and direction of washwater from the car dumper vault to two proposed sediment basins with the combined storage capacity of 430m³.

Once one of the ponds has reached sediment storage capacity, the discharge will be manually changed to the second pond. This will allow for the sediment to settle and when a pond reaches capacity, it will be emptied of sediment build up by a front-end loader.

During periods of high water load, settled water will overflow from the pond and down the drainage line to the approved discharge point at Culvert 7. Treated water from the OWS will be discharged to the same drainage line directly from the OWS.

Proposed sediment basins will be constructed in previously cleared areas.

1.2.2 Appeal determination

On 15 July 2021, the Minister for Environment made her determination of a third party appeal (Appeal number 063 of 2020) made in objection to conditions of the most recent licence amendment on 11 December 2020, authorising a throughput increase from 60 million tonnes per annum (Mtpa) to 70 Mtpa. The appellant's key concern was that throughput expansions would result in unacceptable impacts from dust and that management and monitoring conditions were inadequate to manage this risk.

In making her determination the Minister considered that:

“DWER applied a risk-based approach to the regulation of dust emissions from the premises and applied appropriate controls directed at ensuring that there is no net increase in dust emissions from the premises because of an increase in throughput. This is consistent with DWER’s published regulatory framework for Port Hedland.”

The Minister concluded that there were a number of minor inconsistencies that should be corrected in the licence to provide greater clarity. The Minister has otherwise dismissed the appeals.

Changes have been made to align licence conditions with the Minister’s recommendations to rectify administrative errors and improve clarity and consistency with other licences for port operators in Port Hedland. These are summarised in Table 1 below.

Table 1: Minister-recommended amendment

Condition	Recommended amendment and explanation
21	Amend the Management Trigger criteria in column 2 of Table 5: <ul style="list-style-type: none"> DM2, DM5 and/or DM6: “...when wind direction is averaged between 205° and 250° for any three or more ten minute periods during the hour...” DM3, DM4, DM5 and/or DM6: “...when wind direction is averaged between 295° and 325° for any three or more ten minute periods during the hour...” Taplin Street: “...when wind direction is averaged between 230° and 250° for any three or more ten minute periods during the hour...”.
26	Amend to clarify that a Dust Monitoring Report is required within 15 months of the installation of the infrastructure specified in rows 1 and 2 of Table 3, and, if required, the installation of the infrastructure specified in row 3 of Table 3 (Condition 13).
34	Amend as follows: “The licence holder must maintain accurate and auditable Recommended amendment and explanation Books in relation...”. 'Books' should also be defined in the licence as having the same meaning given to the term under the EP Act.
34(c)	Amend to replace the reference to Condition 22 with the condition relating to ambient air quality monitoring.
36(b)(ii)	Amend to reflect that meteorological monitoring is undertaken at 'Port AWS'.
36(b)(iii)	Amend to replace the reference to Condition 25 with the condition relating to ambient air quality monitoring at Taplin Street and replace the reference to column 4 of Table 6 with the table that specifies the interim guideline against which the monitoring results from the Taplin Street monitor are to be compared.
Schedule 6 'Dust Monitoring Report'	Amend to replace the reference to Condition 25 with the condition that specifies the requirement for the Dust Monitoring Report.

No further risk assessment to justify these changes is required/provided within this Amendment Report.

1.3 Part IV of the EP Act

The Licence Holder holds approval under Part IV of the EP Act for the operation of the Roy

Hill Port Bulk Handling Facility and Screening Plant through Ministerial Statement 858. Relevant to this amendment is the requirement under condition 5-1 requires the Licence Holder to “...ensure that implementation of the proposal does not cause the permanent loss of mangroves or deterioration in the condition of, any mangroves or their habitats outside of the spatially defined proposal footprint...”

Further, condition 5-3 (4) MS858 for the Licence Holder to conduct “surface water flows monitoring, including in the vicinity of mangroves”.

Proposed amendments to the licence are not restricted by conditions of MS858.

2. Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway and impact to receptors in accordance with the *Guideline: Risk assessments* (DWER 2020).

To establish a Risk Event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission.

The key emissions and associated actual or likely pathway during wash water circuit construction and operation which have been considered in this Amendment Report are detailed below. In addition, control measures the Licence Holder has proposed to assist in controlling these emissions, where necessary, are detailed below.

2.1 Source-pathways and receptors

2.1.1 Emissions and controls

Washdown within car dumper vault produces approximately 60m³/per day of sediment laden water. The majority of this water is from work area washdown within the plant, rainfall events that inundate bunds and from runoff of infrastructure surrounding the vault. Quarterly sampling of the car dumper vault wash water discharge has been conducted since 2019 and indicates low or below the limit of reporting levels of hydrocarbon contamination with a single sample recorded with Total Recoverable Hydrocarbons (TRH) C6-C40 concentration above the limit of reporting levels at 1.3 mg/L (Roy Hill, 2021).

2.1.2 Receptors

In accordance with the *Guideline: Risk assessments* (DWER 2020), the Delegated Officer has excluded employees, visitors and contractors of the Licence Holder’s from its assessment. Protection of these parties often involves different exposure risks and prevention strategies, and is provided for under other state legislation.

Mangrove communities

The Culvert 7 discharge point is subject to tidal inundation with water draining to creeks and coastal areas that support dense mangrove communities. Mangrove communities are the dominant Benthic Primary Producer Habitat (BPPH) recorded in the Port Hedland region. The most common species are *Rhizophora stylosa* (Red Mangrove) and *Avicennia marina* (Grey Mangrove or White Mangrove) (Roy Hill, 2021). Mangrove surveys have identified that these species are located approximately 1.5km from the Culvert 7 discharge point, and a Priority 2 species located approximately 500m from the discharge.

Quarterly soil sampling conducted between May 2019 and May 2021 indicates that hydrocarbons in soils are not present in concentrations above the limit of reporting (Roy Hill, 2021).

The broader risk to mangrove communities in the area can be managed under MS858 (refer

to section 1.3).

Port Hedland residents

Ambient particulates (as PM₁₀) currently exceed the air guideline value of 70µg/m³ in Port Hedland's West End area where residents live. Therefore the risk associated with dust is already 'High', prior to any contribution from earthmoving activities associated with constructing sedimentation ponds. Further discussion on the risks of dust to human health and amenity along with existing controls in place at the Premises can be found in the Decision Report to the Licence.

Once washwater infrastructure is constructed, there is no anticipated change from the current dust risk associated with the Premises. There are no identified human receptors to proposed washwater management activities once sedimentation ponds are constructed.

2.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for those emission sources which are proposed to change and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are in-complete they have not been considered further in the risk assessment.

Where the Licence Holder has proposed mitigation measures/controls (as detailed in Section 3.1), these have been considered when determining the final risk rating. Where the Delegated Officer considers the Licence Holder's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the licence as regulatory controls.

Additional regulatory controls may be imposed where the Licence Holder's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 5.

The Amended Licence L8967/2016/1 that accompanies this Amendment Report authorises emissions associated with the operation of the car dumper.

The conditions in the Amended Licence have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Table 2. Risk assessment of potential emissions and discharges from the Premises during construction and operation

Risk Event					Risk rating	Applicant controls sufficient?	Conditions of licence	Justification
Source/Activities	Potential emissions	Potential pathways and impact	Receptors	Applicant controls	C = consequence L = likelihood			
Construction								
Construction of washwater storage ponds and associated earthworks	Dust from the construction of sedimentation ponds	Air/windborne pathway causing impacts to health and amenity	Approximately 5.7km to the nearest sensitive receptor (short-term accommodation) and 6.3km to the nearest residential receptor	Not provided	High C = Major L = Likely	No	<u>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.</u>	No additional regulatory controls proposed during construction. Dust can be managed by existing conditions of the Licence.
	Noise			N/A	Medium C = Major L = Rare	Yes	N/A	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	Hydrocarbon-contaminated or potentially contaminated washwater to mangrove environments			All hydrocarbon spills in the vault to be contained and recovered prior to continuing washdown. Quarterly monitoring of wastewater quality in sedimentation ponds when discharge occurs in the quarter. Hydraulic oil and potentially contaminated water (from rainfall) is collected in sumps and pumped to the car dumper OWS for treatment. Quarterly monitoring of OWS discharge water quality to continue in accordance with the existing Licence.	Low C = Minor L = Rare	Yes	All stormwater and washwater from the grippers and indexers area will be diverted to the Car Dumper OWS for treatment prior to discharge. TRH limits applied to wastewater quality in sedimentation ponds, consistent with existing Licence conditions for monitoring at the Car Dumper OWS.	Assessment of risk is based on the application of proposed controls and ongoing monitoring.
	Sediment laden washwater discharges to mangrove environments	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality	Seasonal minor creek and identified Priority 2 flora approximately 500m north-east	Discharge to one of two sedimentation ponds to settle suspended solids prior to discharge.	Low C = Slight L = Rare	Yes	Washwater from the car dumper vault will be directed to the sedimentation ponds prior to discharge. Mangrove habitat monitoring is required under Ministerial Statement 858.	Assessment of risk is based on the application of proposed controls and ongoing monitoring.
	Groundwater contamination from the storage of washwater 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.	Capture and storage of water from the car dumper vault.	Low C = Slight L = Rare	Yes	All hydrocarbon spills in the vault to be contained and recovered prior to continuing washdown. Quarterly monitoring of wastewater quality in sedimentation ponds when discharge occurs in the quarter.	Assessment of risk is based on the application of proposed controls and ongoing monitoring.

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk assessments* (DWER 2020).

Note 2: Proposed Licence Holder's controls are depicted by standard text. **Bold and underline text** depicts additional regulatory controls imposed by department.

3. 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.

Conditions have been inserted into Table 3 of the Existing Licence to allow for the construction of sedimentation ponds. In addition to the controls specified in Table 2, amendments have been made to the Licence consistent with the Minister's determination on Appeal number 063 of 2020.

References

1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
3. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.
4. Minister's Appeal Determination - 063/20 Amendment of Licence L8967/2016/1 Roy Hill Port Bulk Handling Facility and Screening Plant (DWER record: A2031524).
5. Roy Hill, 2021, Roy Hill Infrastructure – Port Operating Licence Amendment Application – Car Dumper Water Management. Perth , Western Australia.

Appendix 1: Summary of Licence Holder’s comments on risk assessment and draft conditions

Condition	Summary of Licence Holder’s comment	Department’s response
32 – Reclamation of dead ore stockpiles	<p>Roy Hill requests to reword this condition as follows:</p> <p>‘The Licence Holder must cease all reclamation of Dead Ore Stockpiles during Strong Wind Conditions and/or where average wind directions are between 180° and 300° for three or more ten minute periods during the hour.’</p> <p>The current wording of the condition does not allow Roy Hill to undertake reclamation of Dead Ore Stockpile during periods of low wind speeds if average wind directions are within the arc specified. Additionally, the current wording is not consistent with the amendment report issued in December last year. As outlined in section 8.6.3 of the amendment report, the intention of this condition is for Roy Hill to cease dead ore reclamation under strong wind conditions.</p>	<p>Noted. Previous correspondence from the Licence Holder indicates that this activity will only occur in limited circumstances and that reclamation can be a planned activity after ore is stacked in a “Dead Ore” stockpile. For example, this may occur where there is limited capacity in the stockyard and ore is stacked beyond the reach of the bucketwheel reclaimer. Dead ore would later be relocated to a stockyard for outload once capacity becomes available.</p> <p>In addition, this is an existing condition that did not form part of the current application. DWER may consider amendment at a later date where it can be demonstrated that there is an acceptable level of risk.</p> <p>No change made.</p>
36 – Annual reporting	<p>Roy Hill request to reword this condition as follows:</p> <p>‘The Licence Holder must submit to the CEO no later than 30-September 31 March each year...’</p> <p>The current wording is not consistent with other Roy Hill licences that have the same annual reporting period.</p>	<p>Accepted. This is a reporting amendment and does not increase the risk</p>

Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)				
Application type				
Amendment to licence	<input checked="" type="checkbox"/>	Current licence number:	L8967/2016/1	
		Relevant works approval number:		N/A
Date application received		9 July 2021		
Applicant and Premises details				
Applicant name/s (full legal name/s)		Roy Hill Infrastructure Pty Ltd		
Premises name		Roy Hill Port Bulk Handling Facility and Screening Plant		
Premises location		Lot 370 on Deposited Plan 35619 Certificate of Title Volume LR3118 Folio 753 Reserve 50892: Lots 1199, 1200, 1201, 1203, 1279, 1280, 1281, 1301, 1302, 1303 and 1304 on Deposited Plan 70562 Lot 372 on Deposited Plan 35620 Certificate of Title Volume LR3118 Folio 755		
Local Government Authority		Town of Port Hedland		
Application documents				
HPCM file reference number:		DER2016/000615-2		
Key application documents (additional to application form):		<i>Roy Hill Infrastructure – Port Operating Licence Amendment Application – Car Dumper Water Management</i> <i>SGS Analytical Report</i>		
Scope of application/assessment				
Summary of proposed activities or changes to existing operations.		Construction of sedimentation basins for the storage of washwater from the car dumper, replacing the existing washwater circuit.		

Category number/s (activities that cause the premises to become prescribed premises)

Table 1: Prescribed premises categories

Prescribed premises category and description	Assessed production or design capacity	Proposed changes to the production or design capacity (amendments only)
Processing or beneficiation of metallic or non-metallic ore: Premises on which — (a) metallic or non-metallic ore is crushed, ground, milled or otherwise processed; or (b) tailings from metallic or non-metallic ore are reprocessed; or (c) tailings or residue from metallic or non-metallic ore are discharged into a containment cell or dam.	38 million tonnes per annual period	No change
Category 58 – Bulk material loading or unloading: Premises on which clinker, coal, ore, ore concentrate, or any other bulk granular material (other than salt) is loaded onto or unloaded from vessels by an open materials loading system.	70 million tonnes per annual period	No change

Legislative context and other approvals

Has the applicant referred, or do they intend to refer, their proposal to the EPA under Part IV of the EP Act as a significant proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Referral decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input type="checkbox"/>
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Ministerial statement No: 858 EPA Report No: 1853
Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Reference No:
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Certificate of title <input type="checkbox"/> General lease <input type="checkbox"/> Expiry: Mining lease / tenement <input type="checkbox"/> Expiry: Other evidence <input type="checkbox"/> Expiry:
Has the applicant obtained all relevant planning approvals?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Approval: Expiry date: If N/A explain why?
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	CPS No: N/A No clearing is proposed.

Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Application reference No: N/A Licence/permit No: N/A No clearing is proposed.
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Licence / permit not required.
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Name: N/A Type: N/A Has Regulatory Services (Water) been consulted? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Regional office: N/A
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Name: N/A Priority: N/A Are the proposed activities/ landuse compatible with the PDWSA (refer to WQPN 25)? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Is the Premises subject to any other Acts or subsidiary regulations (e.g. <i>Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx</i>)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Not relevant to the proposal.
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i> ?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Contaminated Sites ID: 3341 Classification: Possibly contaminated - investigation required Date of classification: 3 July 2009