



Application for Licence Amendment

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

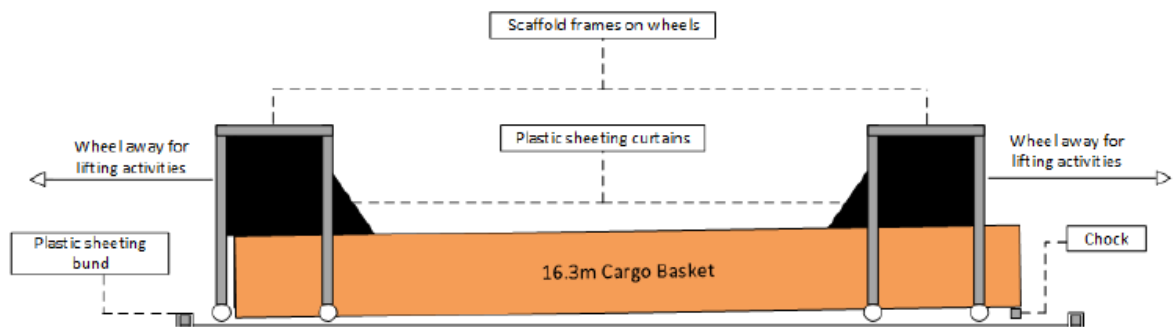
Licence Number	L9109/2017/1
Licence Holder	Contract Resource (Karratha) Pty Ltd
ACN	609 929 580
File Number	DER2017/002200-1~5
Premises	Karratha Mercury Treatment Plant Lot 117 Bedrock Turn GAP RIDGE 6714 Legal description – Lot 117 on Deposited Plan 76660 As defined by the Premises maps attached to the Revised Licence
Date of Report	07-12-2020
Proposed Decision	Revised licence granted

**MANAGER WASTE INDUSTRIES
REGULATORY SERVICES**

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

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1. Decision summary

Licence L9109/2017/1 is held by Contract Resources (Karratha) Pty Ltd (the Licence Holder) for the Karratha Mercury Treatment Plant (the Premises), located at Lot 117 Bedrock Turn, Gap Ridge.

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 operation of the Premises. As a result of this assessment, Revised Licence L9109/2017/1 has been granted.

The Revised Licence issued as a result of this amendment consolidates and supersedes the existing Licence previously granted in relation to the Premises. The Revised Licence has been granted in a new format with existing conditions being transferred, but not reassessed, to the new format.

2. Scope of assessment

2.1 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>.

2.2 Application summary

2.2.1 Overview of proposed amendment

On 28 August 2020, the Licence Holder submitted an application to the department to amend Licence L9109/2017/1 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The amendment seeks to alter the location of the storage of naturally occurring radioactive material (NORM) at the Premises.

The previous NORM storage area was approved under an amendment to the Licence which was finalised on 13 May 2019. The storage area was to be separate from other premises infrastructure and dedicated to the acceptance of NORM waste only. Licence conditions specified that the area was to be constructed using compacted road base capable of storing 1,250 tonnes of waste, and that bunding or other suitable containment infrastructure was to be present to ensure that, in the event of a fire, all firewater occurring within the NORM storage area was contained.

The Licence Holder has advised that the quantity of NORM required for storage at the facility has decreased from what was initially anticipated in this initial Licence amendment application. In light of this, the Licence Holder has conducted a review of potential storage locations at the Premises and has concluded that repurposing a section of an existing washpad for NORM storage would provide the safest and most suitable ongoing storage solution at the site.

The Licence Holder has submitted construction quality assurance documentation to confirm that the washpad was constructed as per the original specifications as outlined in works approval W5958/2016/1 for the site. The washpad has been constructed with reinforced concrete to achieve a permeability of 10^{-9} m/s or less and a 2% fall, resulting in surface water draining down to the western side of the washpad. Water then enters one of two 5,000L underground tanks which can be pumped out.

The Licence Holder proposes to utilise the northern half of the washpad for NORM storage, which equates to an area of approximately 50 m². The use of the washpad would ensure compliance with existing Licence conditions relating to the construction of suitable containment infrastructure to ensure that, in the event of a fire, all washwater is contained on site.

No changes to current prescribed premises category throughputs have been requested as a part of this amendment.

2.2.2 Radiological Council approvals

The Licence Holder currently holds registration RS 205/2018 issued by the Radiological Council under the *Radiation Safety Act 1975* for the acceptance and storage of NORM waste at the Premises.

As a part of this assessment DWER has referred the application to the Radiological Council, who have advised that they have no comments regarding the relocation of the NORM storage area at the Premises.

As such, the Delegated Officer considers that the proposed alternations to the storage area are still within the existing Radiological Council approval. Current approval is due to expire on 12 November 2021.

2.2.3 Addition to amendment - compliance inspection outcomes

On 24 September 2020 DWER (Compliance) conducted an inspection at the Premises, which determined that the monitoring conducted for the parameters Total Chlorine and Mercury within recycled waste oil was not compliant with the methods specified in the condition of the Licence (USEPA Method 9077 for Total Chlorine and USEPA Method 7471B for Mercury). The Licence Holder advised that there are no laboratories in Australia that are able to conduct the analysis tests using the specified methodology. DWER Compliance Inspectors were able to verify this by contacting major laboratories within Western Australia, who confirmed that these methodologies are not currently available in Australia.

To ensure ongoing compliance with Licence monitoring conditions, the Licence Holder has submitted evidence to substantiate that their alternative methodology for Total Chlorine and Mercury sampling is sufficient to accurately reflect the concentrations of these two parameters in sampled waste oil. The alternative sampling methods are:

- Universal Oil Products (UOP) – Total Mercury and Mercury Species in Liquid Hydrocarbons – *UOP Method 938-00* (non-NATA accredited); and
- An adaptation of United States Environmental Protection Agency (US EPA) Method 330.5 – Chlorine, Total Residual (Spectrophotometric, DPD) – *USEPA Method 330.5* (non-NATA accredited).

The Delegated Officer considers that these methodologies are acceptable alternatives for the testing of Total Chlorine and Mercury in waste oil. As the change in specified methodology will not change the original risk rating regarding the processing of mercury and reuse of residual waste oil, the changes to the specified methodologies will be incorporated under this amendment.

2.2.4 Inclusion of previously assessed category throughputs

On 11 December 2018 a Licence amendment was sought by the Licence Holder to allow for the processing of mercury contaminated waste at the Premises under Category 61 and 61A of the *Environmental Protection Regulations 1987* (EP Regulations). During the assessment of this amendment, the Delegated Officer determined that the treatment of liquid mercury contaminated waste also met the description of Category 39 of the EP Regulations, due to the separation of mercury and hydrocarbons from waste products for the purpose of resale or recycling.

This previous amendment was granted to the Licence Holder on 13 May 2019, however the addition of Category 39 to the Licence was not clearly reflected on the amended Licence. As such, as a part of this current amendment, Category 39 will be incorporated into the Licence to

ensure that Premises activities are clearly captured under their relevant categories.

The department has not undertaken any additional risk assessment of the Premises related to the previous amendment notice as the risk assessments relevant to the above inclusions have already been undertaken and a determination reached.

In amending the licence, the CEO has also:

- updated the format and appearance of the Licence;
- revised licence condition's numbers, and removed any redundant conditions and realigned condition numbers for numerical consistency; and
- corrected clerical mistakes and unintentional errors.

3. 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 *Guidance Statement: Risk Assessments* (DER 2017).

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.

3.1 Source-pathways and receptors

3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises operation which have been considered in this Amendment Report are detailed in Table 1 below. Table 1 also details the proposed control measures the Licence Holder has proposed to assist in controlling these emissions, where necessary.

Table 1: Licence Holder controls

Emission	Sources	Potential pathways	Proposed controls
Liquid Waste	Spillage of NORM waste from containment infrastructure	Land and waters pathway, resulting in infiltration to groundwater	<p>NORM waste will be stored on concrete hardstand in one of the following impermeable receptacles:</p> <ul style="list-style-type: none"> • Dangerous goods rated vacuum sludge bin; • Dangerous goods storage container; • United Nations rated 200L drums; or • IBCs. <p>Decanting activities to occur within a portable bund situated on the washpad.</p> <p>Washpad constructed using concrete hardstand with a 2% fall towards underground wastewater containment tanks.</p>
Contaminated stormwater	Decontamination of NORM waste receptacles		Decontamination activities to occur within the sealed NORM Decontamination Cell (please refer to Figure 1 below).

Emission	Sources	Potential pathways	Proposed controls
			<p>All washwater from decontamination activities will be contained within the Water Recycling Unit.</p> <p>The Decontamination Cell will be placed within a portable bund situated on the washpad.</p> <p>Washpad constructed using concrete hardstand with a 2% fall towards underground wastewater containment tanks.</p> <p>Prior to decontamination occurring any residual liquid within the underground storage tanks will be removed.</p> <p>Any wash waters that enter the washpad or underground storage tanks will be collected and pumped back through the water recycling unit.</p> <p>A radiation survey will be conducted to determine that no residual NORM is present on the washpad or in the USTs.</p> <p>If NORM is detected then the washpad/USTs will be decontaminated with water, which will mobilise NORM contaminated sediment for treatment through the WRU.</p> <p>NORM decontamination activities will occur on an as needs basis and are not expected to be part of daily operations.</p>

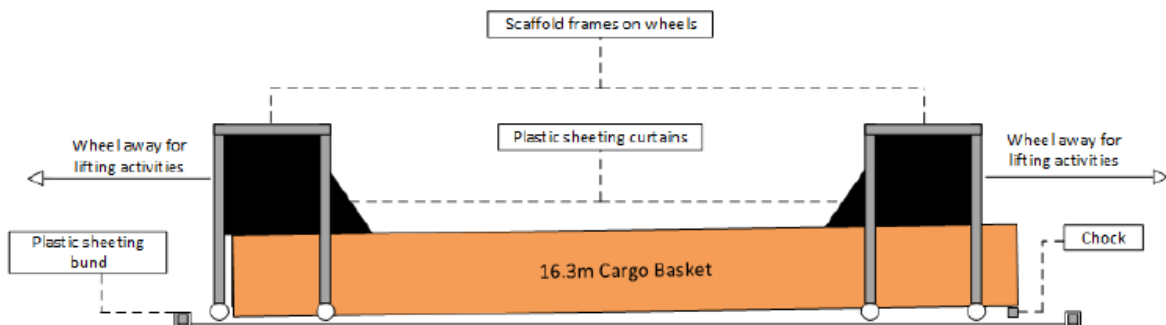


Figure 1: NORM Decontamination Cell

3.1.2 Receptors

In accordance with the *Guidance Statement: Risk Assessment* (DER 2017), 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.

Table 2 below provides a summary of potential human and environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed

premises (*Guidance Statement: Environmental Siting* (DER 2016)).

Table 2: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Distance from prescribed activity
Commercial Premises	Adjacent to the Premises
Stayover Kingfisher Village	2.9 km south east of the Premises
Cievo Karratha Village	2.5 km north east of the Premises
Residential Properties	3.4 km north east of the Premises
Environmental receptors	Distance from prescribed activity
Pilbara Groundwater Area (RIWI Act 1914) <ul style="list-style-type: none"> • Groundwater typically 6-10 m below existing ground level • Hyper saline brackish 	Premises mapped within this designated area
Pilbara Surface Water Area (RIWI Act 1914)	Premises mapped within this designated area
Threatened ecological communities Roebourne Plains gilgai grasslands	Premises mapped within this area
Surface water lines <ul style="list-style-type: none"> • Seven Mile Creek • Minor non perennial water course 	900 m east of Premises

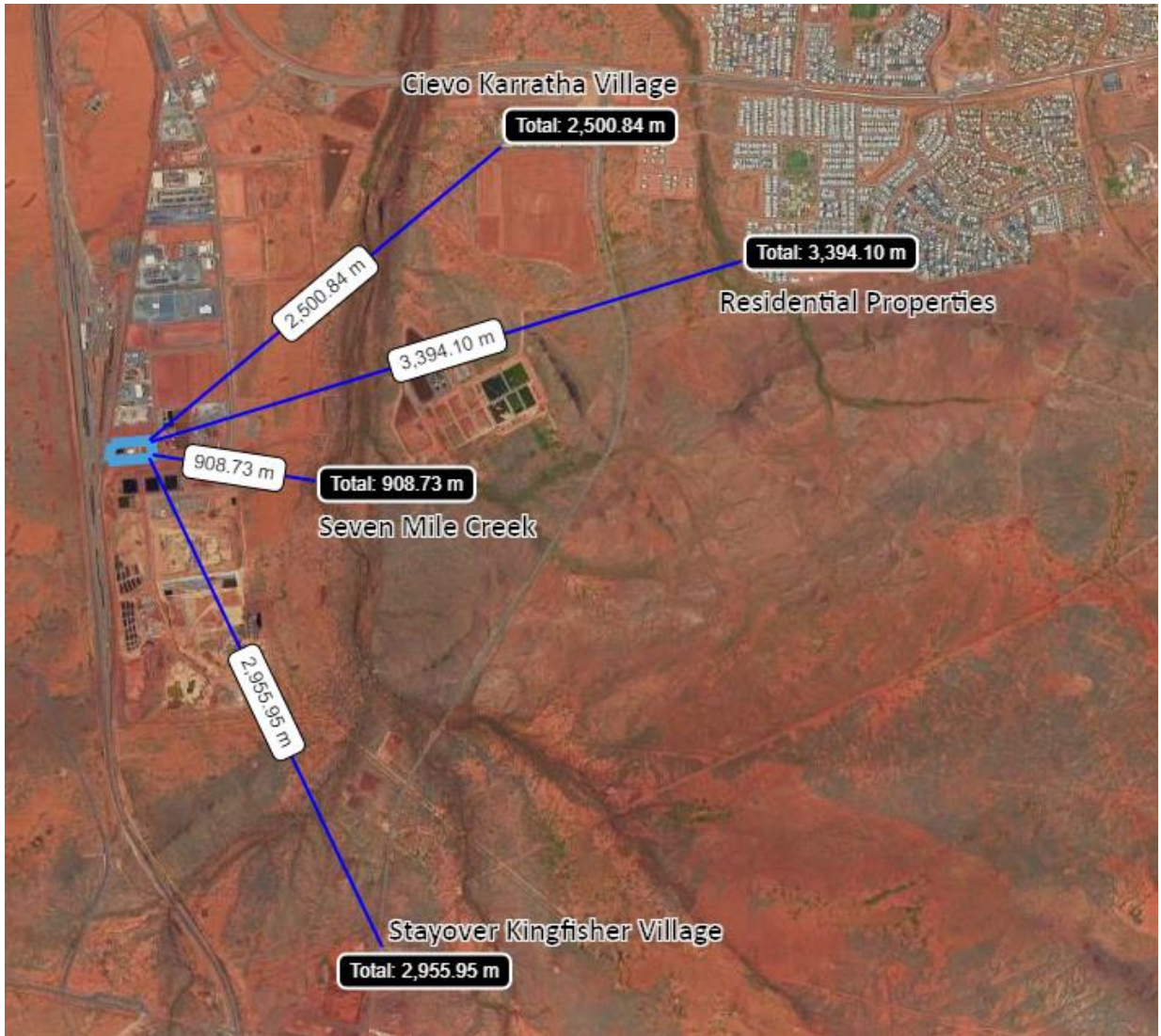


Figure 2: Distance to sensitive receptors

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guidance Statement: Risk Assessments* (DER 2017) 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 3.

The Revised Licence L9109 that accompanies this Amendment Report authorizes emissions associated with the operation of the Premises i.e. NORM receipt, handling and storage.

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

Table 3. Risk assessment of potential emissions and discharges from the Premises during operation

Risk Event					Risk rating ¹ C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls				
Receipt, storage, handling of NORM Waste Decontamination of NORM waste receptacles	Spillage or leakage of contaminated stormwater, leachate or hazardous chemicals to ground	Land and waters pathway, resulting in infiltration to groundwater	Pilbara groundwater and surface water areas and underlying groundwater – Premises mapped within area Threatened ecological communities mapped within Premises area Seven Mile creek 1 km west of Premises	Refer to Section 3.1	C = Moderate L = Unlikely Medium Risk	Y	1, 3, and 12 The Delegated Officer considers that use of a portion of the wash bay for NORM storage will adequately mitigate the risk of spills of NORM contaminated materials from entering the receiving environment.	N/A

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guidance Statement: Risk Assessments* (DER 2017).

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

4. Consultation

Table 4 provides a summary of the consultation undertaken by the department.

Table 4: Consultation

Consultation method	Comments received	Department response
<p>City of Karratha advised of proposal 23 October 2020</p>	<p>The washdown pad proposed for NORM storage was approved by the Kimberley/Pilbara/Gascoyne Joint Development Assessment Panel under Development Approval DAP/16/01021 as being a part of the overall approval for a 'Noxious Industry – Mercury Treatment Plant' at this site.</p> <p>It is noted that City records show the information received from the proponent for the City's assessment of the Development Application at the time did not include information relating to NORM within the processes on site and the City was not aware of NORM as being a part of the processing/processes on the site.</p> <p>The City does not control environmental mitigation measures related to State approved Prescribed Premises and trusts that all relevant processes and compliance required for the prescribed premises operating at the site are well considered by the State.</p> <p>In accordance with the City's Local Planning Scheme no further Development Approvals are required as a result of the amendment to the Licence L9109/2017/1.</p>	<p>The Delegated Officer notes that no further approvals are required from the City of Karratha for the amendments requested in this application.</p>
<p>Radiological Council advised of proposal 23 October 2020</p>	<p>Document has been reviewed and there are no comments on the amendment.</p>	<p>Noted.</p>
<p>Third party stakeholder (BMT Australia Pty Ltd) advised of proposal 23 October 2020</p>	<p>None received.</p>	<p>N/A</p>
<p>Licence Holder was provided with draft amendment 19 November 2020</p>	<p>Contract Resources are happy with the changes noted.</p> <p>Contract Resources would like to request a reduction in the testing frequency of the flue stack</p>	<p>Noted.</p> <p>The Delegated Officer considers that the request for a reduction of stack testing frequency will need to</p>

Consultation method	Comments received	Department response
	monitoring, or alternatively a plant throughput based testing regime be implemented. For example, annual testing where the plant is operated at >50% capacity or at a minimum once every 3 years. This request is made on the basis that the plant is operated intermittently and at a lower utilisation than anticipated.	<p>be subject to a separate detailed risk assessment.</p> <p>Further information will be required to assess the Licence Holders request, as well as an internal referral of the proposed sampling frequency to DWER's Air Quality Branch.</p> <p>The Licence Holder is advised to submit this request as a separate amendment application for DWER's consideration and assessment.</p>

5. Conclusion

Based on the assessment in this Amendment Report, the Delegated Officer has determined that a Revised 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 5 provides a summary of the proposed amendments and will act as record of implemented changes. All proposed changes have been incorporated into the Revised Licence as part of the amendment process.

Table 5: Summary of licence amendments

Condition no.	Proposed amendments
N/A Prescribed Premises category description	Inclusion of Category 39: Chemical or oil recycling – 1,000 tonnes per annual period
1 – 4 (old numbering)	Conditions removed as infrastructure no longer required.
5 (old numbering)	Condition is now redundant under new licencing format and has been removed.
1 Table 1	Update of 'NORM Waste Storage Area' to reflect new area within existing washpad
7 Table 6	Removal of redundant wording in monitoring table
14 Table 8	Replacement of monitoring methodology specified for Mercury and Total Chlorine to reflect the methodology in use by the Licence Holder
N/A Table 10	Deletion of redundant definitions and insertion of required definitions
N/A	Replacement of Premises map with updated map

References

1. Department of Environment Regulation (DER) 2016, *Guidance Statement: Environmental Siting*, Perth, Western Australia.
2. DER 2017, *Guidance Statement: Risk Assessments*, Perth, Western Australia.
3. DER 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.

Appendix 1: Application validation summary

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)				
Application type				
Works approval	<input type="checkbox"/>			
Licence	<input type="checkbox"/>	Relevant works approval number:		None <input type="checkbox"/>
		Has the works approval been complied with?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
		Has time limited operations under the works approval demonstrated acceptable operations?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	
		Environmental Compliance Report submitted?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
		Date Report received:		
Renewal	<input type="checkbox"/>	Current licence number:		
Amendment to works approval	<input type="checkbox"/>	Current works approval number:		
Amendment to licence	<input checked="" type="checkbox"/>	Current licence number:	L9109/2017/1	
		Relevant works approval number:	W5958/2016/1	N/A <input type="checkbox"/>
Registration	<input type="checkbox"/>	Current works approval number:		None <input type="checkbox"/>
Date application received	28 August 2020			
Applicant and Premises details				
Applicant name/s (full legal name/s)	Contract Resources (Karratha) Pty Ltd			
Premises name	Karratha Mercury Treatment Plant			
Premises location	Lot 117 Bedrock Turn, Gap Ridge Industrial Estate			
Local Government Authority	City of Karratha			
Application documents				
HPCM file reference number:	DER2017/002200-1~5			
Key application documents (additional to application form):	Washpad Construction Conformance report Washpad drawings Supporting documentation Certificate of Registration – Radiological Council Correspondence – Contact Resources and Radiological Council			
Scope of application/assessment				
Summary of proposed activities or changes to existing operations.	Licence amendment to alter the approved NORM storage location			

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
Category 39: Chemical or oil recycling	1000 tonnes per annual period (to be reflected in Licence through amendment)	No change
Category 61: Liquid waste facility	4500 tonnes per annual period (to be reflected correctly in Licence through amendment)	No change
Category 61A: Solid waste facility	3500 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 checked="" 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 type="checkbox"/> No <input checked="" type="checkbox"/>	Ministerial statement No: EPA Report No:
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 checked="" 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 checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Approval: DAP/16/01021
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"/>	Application reference No: Licence/permit No: Licence / permit not required.

<p>Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p>Name: Pilbara Groundwater area and Surface water area Type: Proclaimed Groundwater Area/Surface Water Area Has Regulatory Services (Water) been consulted? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Regional office: North West</p>
<p>Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>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"/></p>
<p>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>)</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p><i>Dangerous Goods Safety Act 2004</i> <i>Environmental Protection (Controlled Waste) Regulations 2004</i> <i>Radiation Safety Act 1975</i></p>
<p>Is the Premises within an Environmental Protection Policy (EPP) Area?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	
<p>Is the Premises subject to any EPP requirements?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	
<p>Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i>?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Classification: N/A Date of classification: N/A</p>