[redacted]
Environmental Officer
Department of Water & Environmental Regulation
Prime House, 8 Davidson Terrace
Joondalup
WA 6919
Via email: info@dwer.wa.gov.au

Attn: [redacted]

RE: Works approval application – L2904/2025/1

Due to a change in demand for waste treatment and disposal services at the Karratha Liquid Waste Facility, Pure Environmental WA Pty Ltd are applying to amend the current operating license.

The proposed changes include:

- Addition of a packaged waste consolidation & storage area
- Addition of a second drying pad
- Addition of an ISO container storage area
- Relocation of ground water monitoring bores

1. Scope of Assessment
1.1 Application Summary

Packaged Waste consolidation & storage area
The Karratha Liquid Waste Facility is licensed under DWER operating license L2904/2025/1. Pure requests that the operating license be amended to add a packaged waste consolidation & storage area to the Karratha Liquid Waste Facility.

The packaged waste consolidation & storage area will be constructed as per the specifications in Attachment 3: Packaged waste consolidation & storage area.

Packaged waste includes:

- IBCs
- Drums
- Skip bins
- Specialised industry specific packaging
- Small packages

Packaged waste will be received into the packaged waste consolidation and storage area.

Waste that is licensed to be placed into the evaporation ponds onsite will be decanted into a vacuum truck before being discharge into an appropriate evaporation pond. The waste will be decanted within the bunded waste consolidation & storage area to prevent any discharge entering into the environment.

Waste that cannot be placed into the onsite evaporation ponds will be consolidated, palletised and stored for transport to an appropriately licensed facility.

The packaged waste consolidation & storage area will be roofed, preventing the ingress of water during a rainfall event. The hardstand is sloped into a blind sump. Any spills that occur in the area will be captured in the blind sump where they will be pumped into a container as soon as possible.

During a cyclone event, the dome cover will be removed. All waste will be either moved offsite to an appropriately licensed facility or stored in the sea containers either side of the waste consolidation & storage area. The hardstand will be cleaned. All captured storm water will be collected via a vacuum truck and discharged into an evaporation pond onsite.

Drying pad

The Karratha Liquid Waste Facility is licensed under DWER operating license L2904/2025/1. Pure requests that the operating license be amended to add a second drying bed to the Karratha Liquid Waste Facility.

The drying bed will be constructed as per the specifications in Attachment 4: Drying pad.

The drying bed will be used to treat sludges including:

- Drill muds
- Hydrocarbon sludges
- Catalysts

All sludges will be assessed by an offsite chemist as per the Pure Waste Acceptance Procedure to ensure that the waste can be managed in a safe and environmentally sound manner.

Sludges will be discharged onto the drying bed where they will moved into stockpiles. The stockpiles will allow the liquid phase separate from the solid phase through a physical process (gravity). The liquid portion will be collected into a vacuum truck and depending on the waste type, either discharged into the evaporation ponds onsite or consolidated into IBCs or 205L drums for offsite disposal at a licensed facility. Once dry, the solid phase will be tested as per the requirements of the DWER Landfill Waste Classification and Waste Definitions 1996 before being disposed of in a licensed landfill.

ISO container storage area

The Karratha Liquid Waste Facility is licensed under DWER operating license L2904/2025/1. Pure requests that the operating license be amended to add an ISO container storage area to the Karratha Liquid Waste Facility.

The ISO container storage area will be constructed as per the specifications in Attachment 3: Packaged waste consolidation & storage area.

The ISO container storage area will be used to store ISO containers containing wastes that will be transported to an appropriately licensed facility for disposal.

Relocation of ground water monitoring bores
Pure requests that the 2 ground water monitoring wells be relocated as per Attachment X: Pure-Corps_Compliance_Reinstallation_2025.

2. Risk Assessment

Pure assessed 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 2020a).

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.

2.1 Source pathways and receptors

The key emissions and associated actual or likely pathway during the receival, treatment and disposal of drill mud at the Karratha Liquid Waste Facility which have been considered in this amendment are detailed in Table 4 below. Table 4 also details the control measures the Licence Holder has proposed to assist in controlling these emissions, where necessary.

Table 4: Emissions and controls

Emission	Sources	Potential pathways	Proposed controls
Dust	Operation of packaged waste consolidation & storage area	Air / windborne pathway	- Water cart on site - Restricted vehicle speed due to size of premises - Packaged waste consolidation & storage area consists of a concrete hardstand

	Operation of drying pad Machinery movements	Air / windborne pathway	- Water cart on site - Restricted vehicle speed due to size of premises
	Operation of ISO container storage area	Air / windborne pathway	- Water cart on site - Restricted vehicle speed due to size of premises - ISO container area consists of a concrete hardstand
Noise	Operation of packaged waste consolidation & storage area	Air / windborne pathway	- Compliance with the Environmental Protection (Noise) Regulations 1997 (Noise Regulations). - Size of premises restricts vehicle speeds
	Operation of drying pad Machinery movements	Air / windborne pathway	- Compliance with the Environmental Protection (Noise) Regulations 1997 (Noise Regulations). - Size of premises restricts vehicle speeds
	Operation of ISO container storage area	Air / windborne pathway	- Compliance with the Environmental Protection (Noise) Regulations 1997 (Noise Regulations). - Size of premises restricts vehicle speeds
Odour	Operation of packaged waste consolidation & storage area	Air / windborne pathway	- Waste limited to packaged waste - Waste Acceptance Procedure assess waste to ensure highly odorous wastes are not accepted onsite - Odour at the Karratha Liquid Waste Facility is managed via the Pure Odour Assessment Procedure
	Operation of drying pad Machinery movements	Air / windborne pathway	- Waste limited to drill muds which are not odorous - Highly odorous solids will not be accepted onsite - Waste Acceptance Procedure assess waste to ensure highly odorous wastes are not accepted onsite - Drying bed limited to less than 300m^3 of waste at any one time - Odour at the Karratha Liquid Waste Facility is managed via the Pure Odour Assessment Procedure
	Operation of ISO container storage area	Air / windborne pathway	- Waste contained within ISO storage container, preventing the discharge of odour - Waste Acceptance Procedure assess waste to ensure highly odorous wastes are not accepted onsite - Odour at the Karratha Liquid Waste Facility is managed via the Pure Odour Assessment Procedure
Leachate/Seepage	Seepage of liquid waste from packaged consolidation and storage area	Seeping to soil and ground water	- Area consists of a concrete hardstand with bund - All spills in the area will be removed as soon as possible - Prior to a cyclone event, all waste will be either taken offsite or stored in the sea containers either side of the storage area. The bund will also be cleaned.

	Seepage of liquid waste from drying bed	Seeping to soil and ground water	- Drying bed constructed to meet not less than 1 x 10^{-8} m/s permeability - Drying bed made from concrete - Depth to ground water 6 – 10 mbgl - Onsite ground water monitoring plan
	Seepage of liquid waste from ISO container storage area	Seeping to soil and ground water	- Area consists of a concrete hardstand with bund - All spills in the area will be removed as soon as possible
Contaminated stormwater	Overflow from packaged waste consolidation & storage area	Direct discharge to land or surface water	- Packaged waste consolidation & storage area is bunded to exclude the ingress of stormwater - Prior to a cyclone event, all waste will be either taken offsite or stored in the sea containers either side of the storage area. The bund will also be cleaned.
	Overflow from drying bed	Direct discharge to land or surface water	- Drying bed is bunded to exclude ingress of stormwater
	Overflow from ISO container storage area	Direct discharge to land or surface water	- ISO container storage area is bunded to exclude ingress of stormwater

Pure Environmental engaged OPAM Consulting to undertake an operational odour review and field assessment. We have requested a meeting with the Compliance and Enforcement team to discuss the recommendations made within the report. As the recommendations to not relate to the construction of infrastructure, they are not included in this works approval. A copy of the report can be provided to Waste Industries (Environmental Regulation) – Approvals on request.

2.3 Receptors

Table 5 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 (Guideline: Environmental siting (DWER 2020b)).

Table 5: 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	2.06 km north-east of the Premises
Residential Properties	2.95 km north-east of the Premises
Environmental receptors	**Distance from prescribed activity**
Pilbara Groundwater Area (RIWI Act 1914) • Groundwater typically 6-10 m below existing ground level • Hyper saline brackish	Premises situated within this designated area
Pilbara Surface Water Area (RIWI Act 1914)	Premises situated within this designated area
Threatened ecological communities (TEC) • Roebourne Plains gilgai grasslands	850 m west of Premises
Surface water lines • Seven Mile Creek • Minor non perennial water courses	660 m east of Premises

2.4 Time Limited Operations

We request time-limited operations on completion of the infrastructure, after compliance documentation has been approved by DWER. This will enable us to:

- Demonstrate the operational performance of the newly constructed containment infrastructure
- Undertake a monitoring round with the newly constructed monitoring well
- Satisfy any remaining conditions needed to transition from a works approval to the licence via a licence amendment.

Please don't hesitate to contact me should you require any further clarification

Yours Sincerely

[redacted]

Executive General Manager - Services

Pure Environmental WA
M. [redacted]
E. [redacted]