

# **Decision Report**

# **Application for Works Approval**

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

Works Approval Number	W6801/2023/1
Applicant	Puma Energy (Australia) Kwinana Pty Ltd
ACN	167 227 858
File number	DER2023/000273
Premises	Puma Energy – Kwinana Fuel Terminal
	Lot 9002 Kwinana Beach Road
	KWINANA WA 6167
	Logal departmention
	Legal description –
	Part of Lot 108 on Plan 400167
Data of roport	29 July 2022
Date of report	20 July 2023
Decision	Works approval granted
-	

Adam Green A/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

This decision report documents the assessment of potential risks to the environment and public health from emissions and discharges during the construction and operation of the premises. As a result of this assessment, works approval W6801/2023/1 (W6801) has been granted.

## 2. Scope of assessment

## 2.1 Regulatory framework

In completing the assessment documented in this decision report, the Department of Water and Environmental Regulation (the department; DWER) has considered and given due regard to its regulatory framework and relevant policy documents which are available at <a href="https://dwer.wa.gov.au/regulatory-documents">https://dwer.wa.gov.au/regulatory-documents</a>.

### 2.2 Application summary and overview of premises

On 14 February 2023, the applicant submitted an application for a works approval to the department under section 54 of the *Environmental Protection Act 1986* (EP Act).

The Applicant currently operates the Kwinana Fuel Terminal (KFT) under Registration R2542/2023/1 (R2542) for Category 73: Bulk storage of chemicals which was issued to the Applicant on 17 March 2023. The Assessed Production and Design Capacity (P&DC) for R2542 is 220,140 m<sup>3</sup> in aggregate.

The application is to undertake construction works relating to Category 73 prescribed activity at the premises. Proposed infrastructure to be constructed at the KFT will comprise a new condensate unloading facility and new additives storage. All new infrastructure will be constructed within the confines of the existing disturbance footprint and prescribed premise boundary.

#### **Condensate Unloading Facility**

A new condensate unloading facility is proposed at the rear of the KFT, with the facility incorporated into the existing butane unloading area. The unloading facility will comprise a concrete slab with rollover curbing (approx. 6 m x 5 m), to contain potential spillage from road tankers (up to 25 m B-doubles), with the area roofed to minimise the ingress of stormwater. An unloading pipe manifold will be installed, to enable the connection and unloading of multiple road tanker compartments simultaneously. Other elements will include:

- a manual earth connection;
- an unloading hose, camlock, isolation valve, check valve for each connection point, possible strainer, vane pump (with local control station, air eliminator and flow meter all located within the containment of the unloading slab);
- a transfer meter;
- a blind sump to collect any rainfall or stormwater from within the unloading facility (or potentially a loss of containment), with a small manually operated air driven diaphragm pump to empty the sump of any collected rainwater (with disposal back into the KFT's main surface water management system and associated OWSs1);
- a pipeline connecting to the inlet of one of the existing 7.8 ML motor spirit storage tanks, sized for an unloading flowrate of approximately 1000 – 1500 L/min;
- Piping to connect to one of the existing 9.9 ML motor spirit storage tanks;
- additional closed-circuit television (CCTV) cameras;

- additional firefighting and protection; and
- task lighting.

Once constructed, the condensate unloading facility will enable the receival of condensate by road, the blending of condensate into other products, and the eventual exporting of condensate via ship.

#### Additional Additives Storage

New diesel and motor spirit additives storage will be constructed immediately adjacent to the existing additives stores. The new additives storage will be constructed in Stages, comprising the initial installation of four 12.5 kL additive tanks in 2023, with the future addition of a further four 12.5 kL tanks (ie. total additional storage capacity of 100 kL) constructed no later than 2028, pending future customer demand. The new tanks will be constructed on a hardstand, with each tank contained within a self-bunded container (as per the existing additives storage tanks). The tanks will be fabricated offsite and be constructed to meet:

- > AS1940: 2004 The Storage and Handling of Flammable and Combustible Liquids;
- > AS1692: 2006 Steel Tanks for flammable and Combustible Liquids; and
- AS1657: 2018 Fixed Platforms, Walkways, Stairways and Ladders Design, Construction and Installation.

Supporting elements for installation of the new additive tanks will involve the following:

- minor civil works, with the installation of eight new footings;
- the removal of an existing saddle plinth (existing foundations) and repair/patching as required;
- unloading pumps, dosing pumps, tank gauging, values/vents, unloading hoses and interconnecting pipework for each 12.5 kL tank;
- piping and supports for the 12.5 kL tanks:
  - unloading piping to connect from the additive tanks to the unloading point (within the existing bunded fuel loading/unloading gantry)
  - dosing piping to connect from the additive tanks to the existing additive piping (first four 12.5kL tanks) and loading/unloading gantry additive skids (future additional four 12.5 kL tanks)
  - flanged tees on both the unloading and dosing lines for connection to future tanks
  - new and modifications to existing pipe supports.
- electrical and instrumentation cabling (including cable ladders and covers), instrumentation controls;
- area and task lighting; and
- instrument air (used to actuate valves).

Modifications will also be made to the existing loading/unloading gantry, with new additive packs installed at each loading skid.

The future four 12.5 kL tanks (pending future demand) would join into one of the 12.5 kL tanks that holds the same product. This would be achieved via interconnecting pipelines (with isolation valves) into the unloading and dosing pipelines on each existing tank. The interconnecting pipeline points would utilise the flanged tees noted above.

Once constructed, the additional additives storage will enable customers to store and dose additive products and allow for future storage capacity as required.

Figure 1 provides an overview of the new Infrastructure to be constructed at the Premises.

The premises relates to the category and assessed production / design capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in works approval W6801. The Assessed P&DC for W6801 is 220,240 m<sup>3</sup> chemical storage in aggregate. The infrastructure and equipment relating to the premises category and any associated activities which the department has considered in line with *Guideline: Risk Assessments* (DWER 2020) are outlined in works approval W6801.

## 3. Legislative Context

### 3.1 Contaminated Sites

The premises is classified 'decontaminated' under the Contaminated Sites Act 2003 (CS Act).

# 3.2 Environmental Protection (Recovery of Vapours from the Transfer of Organic Liquids) Regulations 1995

The Environmental Protection (Recovery of Vapours from the Transfer of Organic Liquids) Regulations 1995 (ROV Regs) set requirements for bulk fuel terminals to recover vapours from hydrocarbons stored at the premises.

The proposed upgrades under W6801 will result in the storage and handling of an additional 100 kL of diesel and motor spirit additives, thereby increasing the total storage P&DC of the KFT to 220,240 m<sup>3</sup>. As such, the premises will continue to be subject to the ROV Regs. The additional additive tanks will connect into the existing fuel loading/unloading gantry which has a vapour recovery system already installed.

## 4. 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.

### 4.1 Source-pathways and receptors

#### 4.1.1 Emissions and controls

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

Table 1:	Proposed	applicant	controls
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Sources	Potential pathways	Proposed controls				
Construction						
Construction of Unloading facility and	Air / windborne pathway	Modelling provided with the application concluded a low impact of noise at residents in North Rockingham.				
Tanks		Tanks to be constructed off-site.				
		Most work to occur during daytime and not much work to be conducted is extremely noisy.				
		Compliance with <i>Environmental Protection (Noise)</i> <i>Regulations 1997</i> (Noise Regs).				
jistration)						
Operation of KTF	Air / windborne pathway	The following management measures will be implemented to minimise the risk of gaseous emissions to air:				
		<ul> <li>For the additional additive storage tanks, the existing vapour recovery system (within the fuel loading gantry) will be used to capture and recover vapours released during fuel tanker unloading of additive products.</li> </ul>				
		<ul> <li>Unloaded condensate will be piped to one of the existing 7.8 ML or 9.9 ML motor spirit tanks. The tanks contain internal floating covers to minimise evaporation loss.</li> </ul>				
		<ul> <li>Compliance with VOC Regs.</li> </ul>				
	Air / windborne pathway	Modelling provided with the application concluded a low impact of noise at residents in North Rockingham.				
		Compliance with Noise Regs.				
	Seepage to soil and groundwater	The following management measures will be implemented to minimise the risk of hydrocarbon contamination of the receiving environment:				
		<ul> <li>The condensate unloading facility will comprise concrete hardstand and rollover curbing, that drains to a blind sump for collection of any contaminated stormwater (or potential loss of containment). Any collected spills/contaminated stormwater will then feed back into the wider KFT's surface water management system, including treatment via the Oily Waste Separators (OWS) and (once treated) eventual disposal to the existing onsite infiltration ponds.</li> <li>Both existing OWSs are Class 1 systems, designed to achieve a concentration of 5 milliarome per lites (mc/l.) of total wave provide the system.</li> </ul>				
	Sources Construction of Unloading facility and Tanks	SourcesPotential pathwaysConstruction of Unloading facility and TanksAir / windborne pathwaypistration)Jorenation of KTFOperation of KTFAir / windborne pathwayAir / windborne pathwaySeepage to soil and groundwater				

Emission	Sources	Potential pathways	Proposed controls
			water.
			<ul> <li>The condensate unloading facility will be roofed, to minimise the rainfall into the blind sump.</li> </ul>
			<ul> <li>New additive tanks will be contained within self- bunded sea containers.</li> </ul>
			<ul> <li>The use of quick-break hoses, emergency stops, and automatic shutdown, and dead- man's switches, to prevent loss of containment.</li> </ul>
			<ul> <li>Existing Firefighting system.</li> </ul>
			<ul> <li>Spill kits will be available at the proposed condensate unloading facility and additional additives storage area, which will be regularly checked and maintained to ensure they are fully equipped.</li> </ul>
			<ul> <li>Management measures as contained within the existing site Emergency Response Plan (7885- POOR-0001-03).</li> </ul>
			<ul> <li>The completion of environmental emergency response drills, to train the workforce on how to react in the event of a spill or large hydrocarbon release to ground.</li> </ul>
			<ul> <li>The use of a licensed liquid waste sucker truck, for the offsite removal of oily wastes (ie. removed from the surface water management system OWSs)</li> </ul>

#### 4.1.2 Receptors

In accordance with the *Guideline: Risk Assessment* (DWER 2020), the Delegated Officer has excluded the applicant's employees, visitors, and contractors 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 (*Guideline: Environmental Siting* (DWER 2020)).

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

Human receptors	Distance from prescribed activity
Single Residential premises – Bottleshop Kwinana Beach	125m northwest from the boundary of the premises
Residential premises – East Rockingham	1.5 km south from the boundary of the premises
Residential Premises Kwinana townsite	3.6 km east from the boundary of the premises
Golf course	2.9 km east from the boundary of the premises
Industry	0.15 km east from the boundary of the premises
Industry	0.26 km northwest from the boundary of the premises
Environmental receptors	Distance from prescribed activity
Cockburn Sound – Indian Ocean	250m west from the boundary of the premises
Underlying groundwater (non-potable purposes)	Cockburn Groundwater Area - Perth Superficial Swan, estimated groundwater 2 - 3 mbgl.

## 4.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for each identified emission source and takes into account potential source-pathway and receptor linkages as identified in Section 4.1. Where linkages are in-complete they have not been considered further in the risk assessment.

Where the applicant has proposed mitigation measures/controls (as detailed in Section 4.1), these have been considered when determining the final risk rating. Where the delegated officer considers the applicant's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the works approval as regulatory controls.

Additional regulatory controls may be imposed where the applicant's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 3.

Works approval W6801 that accompanies this decision report authorises construction only. The conditions in the issued works approval, as outlined in Table 3 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

The Applicant has an existing Registration to authorise emissions associated with the ongoing operation of the premises i.e. bulk storage of chemical activities.

Risk events					Risk rating <sup>1</sup>	Annlinent		lugification for	
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls	C = consequence L = likelihood	controls sufficient?	Conditions <sup>2</sup> of works approval	additional regulatory controls	
Construction	Construction								
Construction of Unloading facility and Tanks	Noise	Air / windborne pathway causing impacts to health and amenity	Residents in East Rockingham located 1.5 km south of the premises boundary	Refer to Section 4.1	C = Slight L = Unlikely Low Risk	Y	N/A	N/A	
<b>Operation</b> (Registration 2542/20	023/1)								
Operation of KTF Vehicle movements	VOC emissions	Air / windborne pathway causing impacts to health and amenity	Residents in East Rockingham located 1.5 km south of the premises boundary	Refer to Section 4.1	C = Slight L = Unlikely Low Risk	Y	N/A	N/A	
	Noise	Air / windborne pathway causing impacts to health and amenity	Residents in East Rockingham located 1.5 km south of the premises boundary	Refer to Section 4.1	C = Slight L = Unlikely Low Risk	Y	N/A	N/A	
	Sediment laden stormwater / Leaks and spills	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality. Seepage into groundwater.	Groundwater 2mbgl Surrounding soils	Refer to Section 4.1	C = Slight L = Unlikely Low Risk	Υ	N/A	N/A	

#### Table 3: Risk assessment of potential emissions and discharges from the premises during construction and operation

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

Note 2: Proposed applicant controls are depicted by standard text. Bold and underline text depicts additional regulatory controls imposed by department.

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# 5. Consultation

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

#### Table 4: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website on 9 May 2023	None received	N/A
City of Kwinana advised of proposal on 8/6/2023. Comments due 21/6/2023.	The City of Kwinana replied on 21/6/2023. Refer to Appendix 1	Refer to Appendix 1
City of Rockingham advised of proposal on 8/6/2023. Comments due 21/6/2023.	The City of Rockingham replied on 14/6/2023. Refer to Appendix 1	Refer to Appendix 1
Department of Mines, Industry Regulation and Safety (DMIRS) advised of proposal 8/06/2023. Comments due 21/6/2023.	DMIRS replied on 20/6/2023. Refer to Appendix 1	Refer to Appendix 1
Applicant was provided with draft documents on 6/7/2023	Applicant provided a response to the two Stakeholder comments in Appendix 1 on 26/7/2023. Applicant has no comments on the Works Approval or Decision Document itself. Refer to Appendix 1	Refer to Appendix 1

## 6. Conclusion

Based on the assessment in this decision report, the delegated officer has determined that a works approval will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

## References

- 1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
- 2. DER 2016, Guidance Statement: Licence Duration, Perth Western Australia (WA)
- 3. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
- 4. DWER 2020, Guideline: Risk Assessments, Perth, Western Australia.



Figure 1 Premises overview identiying new Uploading faclity and Tanks

# Appendix 1: Summary of Stakeholder comments on Application

Stakeholder	Summary of applicant's comment	Department's response
City of Kwinana 21/06/2023	Thank you for the above invitation to comment for Puma Energy.	Noted.
	The supporting information with maps has a variation between the existing layout and the proposed layout at the front of this site. Please confirm with the applicant and ensure the correct layout is shown, incorporating the stormwater basin and treatment units.	The City of Kwinana comment on the variation of the existing and proposed layout will be presented to the Applicant for comment prior to Approval of the Works Approval. The Applicant advised on 26 July 2023 that Puma confirms that the correct site layout is shown on Figure A2 of Appendix C of the Supporting Information Document and in Appendix D (Site Layout) of the Supporting Information Document. The correct layout is also shown in Schedule 1 of the Draft Works Approval.
		It is noted that the Noise Assessment provided as Appendix F of the Supporting Information Document included an older (now incorrect) version of the site layout and it is assumed that this is the 'proposed layout' that City of Kwinana is referring to.
City of Rockingham 14/06/2023	Thank you for providing the City of Rockingham with the opportunity to review and provide comment on the Works Approval (W6801/2023/1) referral for the Puma Energy Fuel Terminal that is located partly within the City of Rockingham.	Noted.
	The City has reviewed the information provided and understands that this Works Approval is for minor infrastructure upgrades to an already licenced facility, including additional additive tanks and a condensate unloading facility. Given the relatively minor nature of these upgrades and DWER's capacity and expertise to appropriately consider the potential impacts associated with an industrial facility of this type (including vapour and noise emissions to nearby sensitive receptors), the City has no comments.	
DMIRS 20/06/2023	In response to the request for advice/comment in relation to the REFERRAL OF A WORKS APPROVAL UNDER THE <i>ENVIRONMENTAL</i> <i>PROTECTION ACT 1986</i> W6801/2023/1 Puma Energy Fuel Terminal	Noted.

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Stakeholder	Summary of applicant's comment	Department's response
	Kwinana the Department does not object to this proposal in relation to the application of the <i>Dangerous Goods Safety Act 2004</i> .	DMIRS comment on the possible amendment of the Applicants existing dangerous good licence will be identified to the Applicant through this Decision Report.
	Puma Energy may need to amend their existing dangerous goods licence and conduct a suitable dangerous goods risk assessment prior to undertaking this work. They should seek clarification from the Department, or an accredited consultant as required.	The Applicant advised on 26 July 2023 that Puma has engaged an accredited dangerous goods consultant and are in the process of amending the dangerous good licence for the Kwinana Fuel Terminal.

# **Appendix 2: Application validation summary**

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)						
Application type						
Works approval	$\boxtimes$					
		Relevant works approval number:			None	
		Has the works approva with?	l been complied	Yes	s□ No	
Licence		Has time limited operate works approval demon- acceptable operations?	tions under the strated	under the ed Yes □ No □ N/A □		
		Environmental Complia Critical Containment In Report submitted?	ance Report / frastructure	Report / ucture Yes □ No □		
		Date report received:				
Renewal		Current licence number:				
Amendment to works approval		Current works approval number:				
Amondmont to license		Current licence number:				
		Relevant works approval number:			N/A	
Registration		Current works approval number:			None	
Date application received		14 February 2023				
Applicant and premises details						
Applicant name/s (full legal name/s)		Puma Energy (Australia	a) Kwinana Pty Ltd			
Premises name		Puma Energy Kwinana				
Premises location		Part of Lot 108 on Dep	osited Plan 400167	•		
Local Government Authority		City of Kwinana				
Application documents						
HPCM file reference number:		DER2023/000273				
Key application documents (additional to application form):		Application Supporting Document				
Scope of application/assessment						
		Works approval				
Summary of proposed activities or changes to existing operations.		Proposed infrastructure to be constructed at the KFT will comprise a new condensate unloading facility and new additives storage. All new infrastructure will be constructed within the confines of the existing disturbance footprint and prescribed premise boundary.				

#### SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)

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 73: Bulk storage of Chemicals	220,140 m <sup>3</sup>	220,240 m <sup>3</sup>

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 🗆	No 🖂	Referral decision No: Managed under Part V □ Assessed under Part IV □	
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes 🗆	No 🖂	Ministerial statement No: EPA Report No:	
Has the proposal been referred and/or assessed under the EPBC Act?	Yes □	No 🖂	Reference No:	
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes ⊠	No 🗆	Certificate of title □ General lease ⊠ Expiry: 13/09/2043 Mining lease / tenement □ Expiry: Other evidence □ Expiry:	
Has the applicant obtained all relevant planning approvals?	Yes 🗆	No 🖂 N/A 🗆	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 □	No 🖂	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 🗆	No 🖂	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 □	No 🛛	Application reference No: Licence/permit No: Licence / permit not required.	

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)				
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes □ No ⊠	Name: N/A Type: Proclaimed Groundwater Area/Surface Water Area Has Regulatory Services (Water) been consulted?		
		Yes D No N/A Regional office: Swan Avon / Mid- West Gascoyne / Kwinana Peel / North West / South West / Goldfields / South Coast		
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes □ No ⊠	Name: N/A Priority: P1 / P2 / P3 / N/A Are the proposed activities/ landuse compatible with the PDWSA (refer to <u>WQPN 25</u> )? Yes I No I N/A I		
Is the Premises subject to any other Acts or subsidiary regulations (e.g. Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx)	Yes 🛛 No 🗆	Dangerous Goods Safety Act 2004		
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes ⊠ No □	Kwinana Airshed EPP		
Is the Premises subject to any EPP requirements?	Yes □ No ⊠	If Yes, include details here, e.g. Site is subject to SO <sub>2</sub> requirements of Kwinana EPP.		
Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i> ?		Classification: decontaminated (Decon) Date of classification: 1/08/2019		
	Yes ⊠ No □			