



## Application for Works Approval

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

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<b>Works Approval Number</b>	W6647/2022/1
<b>Applicant</b>	AWE Perth Pty Ltd
<b>ACN</b>	009 204 031
<b>File number</b>	DER2022/000041
<b>Premises</b>	Waitsia Gas Project Stage 2 (WGP2) Produced Water Reinjection Rye Road MOUNT ADAMS WA  Legal description Part of Lot 4 on Plan 13178, Lot 3 on Plan 13178 and Lot 32 on Deposited Plan 74421, within Production Licence L1  As defined by the premises map attached to the issued works approval
<b>Date of report</b>	23 June 2022
<b>Decision</b>	Works approval granted

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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 recommissioning and operation of the premises. As a result of this assessment, works approval W6647/2022/1 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 <https://dwer.wa.gov.au/regulatory-documents>.

### 2.2 Application summary and overview of premises

On 6 January 2022, AWE Perth Pty Ltd, a wholly owned subsidiary of Mitsui E&P Australia (the applicant), submitted an application for a works approval to the department under section 54 of the *Environmental Protection Act 1986* (EP Act) for the disposal of produced formation water (PFW) generated from the Waitsia Gas Plant.

The applicant currently operates the Waitsia Gas Project Stage 1, which was commissioned in 2016 and has been producing from existing gas wells through the refurbished Xyris Production Facility (XPF). Stage 1 was expanded in September 2020 to increase the production capacity from 11.5 Terajoules per day (TJ/day) to about 30 TJ/day. Gas processed through XPF is delivered through the Dampier to Bunbury Natural Gas Pipeline (DBNGP) for both domestic and industrial consumption.

On 3 August 2021, works approval W6515/2021/1 was issued to the applicant for the Wastia Gas Project Stage 2. Stage 2 is separate from Stage 1 and relates to construction of a new gas processing facility (Waitsia Gas Plant) designed to produce an additional 250 TJ of natural gas per day.

On arrival at the Waitsia Gas Plant, the feed gas from the wells is separated into natural gas and PFW via the slug catcher. During normal operations, the Waitsia Gas Plant will generate up to 16m<sup>3</sup>/hr (140,160m<sup>3</sup> per year) of PFW which is directed to the Produced Water Storage tank (approved under W6515/2021/1) prior to treatment (i.e. filtration and dosing with biocide and corrosion/scale inhibitors) and disposal.

This application relates to the recommissioning and operation of reinjection wells, to enable disposal of the PFW via reinjection. Two decommissioned production wells (Hovea-13ST 1 and Eremia-04) will be repurposed as reinjection wells for the disposal of PFW into a pre-existing petroleum reservoir; the Dongara Sandstone formation, located approximately 2km below ground level.

In the event that the injection wells are offline, PFW will be diverted to an Evaporation Pond located at the Waitsia Gas Plant site constructed under W6515/2021/1.

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 W6647/2022/1.

The following components were previously assessed under W6515/2021/1 and are therefore outside the scope of this application:

- Infrastructure for the treatment of PFW within the Waitsia Gas Plant (e.g. inlet separation and filtration/dosing prior to reinjection); and

- Produced Water Tank; and
- Evaporation Pond.

## 2.3 Part IV of the EP Act

The Stage 2 proposal was referred to the EPA in August 2019 under section 38 of the EP Act. In October 2019, the level of assessment was set at Referral Information and a two-week public review period applied.

The EPA advertised the referral information for the proposal for public comment in September 2019 and received 273 submissions, with most submissions requesting the proposal be assessed at the level of Public Environmental Review.

The additional referral information was released for public review from 23 April 2020 to 7 May 2020. A total of 43 public submissions and three agency comments were received, with the key issues relating to:

- uncertainty of the impacts to groundwater and surface water from abstraction, gas processing and wastewater reinjection;
- potential impacts on air quality;
- impacts to flora and vegetation;
- potential impacts from greenhouse gas (GHG) emissions;
- increase in seismic activity due to reinjection of wastewater;
- potential impacts on cultural heritage; and
- concern regarding future hydraulic fracturing as part of the proposal.

The EPA released its final report on the assessment (EPA Report 1687) in September 2020. In its assessment, the EPA considered the *Waitsia Gas Project Stage 2 – Water Management Plan* (Rev 1, May 2020) was adequate to manage potential impacts to Ejarno Spring from the reinjection of PFW, and hence considered potential impacts could be managed through implementation of the approved plan.

The Minister for Environment (Minister) subsequently approved the project through the publishing of MS 1164 on 1 February 2021. MS 1164 sets out conditions (7-1 – 7-6) relating to the protection of groundwater and Ejarno Spring including the requirement to implement the above plan.

Advice was sought from EPA Services who, noting the EPA's advice in Report 1687, advised the *Waitsia Gas Project Stage 2 – Water Management Plan* is considered adequate to manage the impacts from construction and operation of the flowline and reinjection wells on Ejarno Spring.

## 2.4 Department of Mines, Industry Regulation and Safety

In Western Australia, all onshore petroleum exploration and developments are subject to approval by the Department of Mines, Industry Regulation and Safety (DMIRS) under the following legislation:

- *Petroleum and Geothermal Energy Resources Act 1967* (PGER Act);
- Petroleum and Geothermal Energy Resources (Environment) Regulations 2012 (PGER Regulations);
- *Petroleum Pipelines Act 1969*; and
- Petroleum Pipelines (Environment) Regulation 1969 (Pipeline Regulations).

DMIRS regulate the transport and disposal of PFW via the flowlines and reinjection wells at the Premises through approved Environment Plans in accordance with the PGER Regulations and Pipeline Regulations. The PGER Regulations require the Environment Plan implementation strategy to specifically consider the injection of PFW into wells, including specification of the maximum permissible concentration of petroleum in the PFW, and details regarding any chemicals or other substances that may be used in treatment fluids or introduced to the subsurface environment.

Relevant Environment Plans approved by DMIRS under the PGER Act and regulations include:

- *Perth Basin Facilities Environment Plan* (PB-HSE-PLN-00004, Revision 3D) covering the operational activities associated with the Hovea-13ST1 and the Eremia-04 water disposal wells; and
- *Waitsia Gas Project Stage 2: Flowline and Hubs Construction Environment Plan* (WGP-HSE-PLN-00002, Revision 3) covering the construction of the water reinjection flowline.

The Applicant has advised that an Environment Plan for the commissioning and operational activities associated with the Watisia Gas Project Stage 2 produced formation water reinjection system is yet to be submitted to DMIRS. Submission of the plan is imminent and is scheduled for approved later in 2022. All Environment Plans are assessed by DMIRS against the requirements of the PGER Regulations and Pipeline Regulations as applicable prior to approval.

DMIRS advised that it considers the environmental risks of the proposal, i.e. the construction, commissioning and operation of the flowlines and injection wells, would be appropriately assessed and managed under DMIRS administered legislation and assessment processes.

## 2.5 *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*

The proposal was referred to the federal Department of Agriculture, Water and Environment (DAWE) in March 2020 under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

In July 2020, DAWE advised the proposed action was not a controlled action and did not require further assessment and approval under the EPBC Act.

**Key findings:** The delegated officer has considered the above legislative context associated with the proposed reinjection activities and has determined that:

- Impacts to Ejaro Spring associated with the reinjection of produced formation water were assessed and conditioned under Part IV of the EP Act.
- The *Waitsia Gas Project Stage 2 – Water Management Plan* is considered adequate for managing the impacts from construction and operation of the flowline and reinjection wells on Ejaro Spring.
- DMIRS is the lead agency responsible for the regulation of activities associated with the transfer and disposal of PFW at the premises.
- Construction, commissioning and operation of the flowlines and injection wells, will be adequately assessed and managed under DMIRS administered legislation and assessment processes and therefore no further regulatory control is warranted under Part V of the EP Act.
- In order to avoid regulatory duplication, environmental risks associated with PFW disposal via reinjection, including impacts to ground and surface waters, have not been conditioned further under the works approval.

### 3. Consultation

Table 1 provides a summary of the consultation undertaken by the department.

**Table 1: Consultation**

Consultation method	Comments received	Department response
Application advertised on the department's website on 16 February 2022	None received	N/A
Local Government Authority advised of proposal on 16 February 2022	None received	N/A
Advice sought from EPA Services 8 February 2022	Refer to section 2.3	N/A
DMIRS advised of proposal 16 February 2022	Refer to section 2.4	Refer to section 2.4
Applicant was provided with draft documents on 24 May 2022	Refer to Appendix 1	

### 4. Conclusion

Based on the assessment in this decision report, the delegated officer has determined that a works approval will be granted.

The delegated officer has considered the legislative context of the proposal and determined not to undertake a detailed assessment of environmental risks associated with the construction and operation of the PFW flowline and the commissioning and operation of the reinjection wells, as it considers that as environmental risks will be adequately regulated through MS 1164 and DMIRS administered legislation (refer to section 2.3 and 2.4). On this basis, the works approval has been granted allowing construction and operation of the pipeline and reinjection well without the application of specific management controls for regulating environmental risks.

The works approval allows time limited operations of the reinjection wells for a period of 180 days to support the commissioning and time limited operations of the Waitsia Gas Plant authorised under W6515/2021/1.

## 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. Environmental Protection Authority (EPA) 2021a, *Report and recommendations of the Environmental Protection Authority, Waitsia Gas Project Stage 2, AWE Perth Pty Ltd*, EPA, Western Australia.
5. EPA 2021b, *Ministerial Statement 1164, Waitsia Gas Project Stage 2, AWE Perth Pty Ltd*, EPA, Perth, WA.

## Appendix 1: Summary of applicant’s comments on risk assessment and draft conditions

Condition / section reference	Summary of applicant’s comment	Department’s response
Licence cover page	<p>The Applicant raised concern regarding the applicability of <i>Category 11: Oil and gas production (other)</i> for this proposal noting that it varies from the category applied to the works approval for the associated Waitsia Gas Plant (W6515/2021/1). Noting that the Waitsia Gas Plant and the premises described in this works approval are spatially separate, the Applicant’s concern is that if the categories vary, <i>Category 61: Liquid waste facility</i> may also apply as the premises will be accepting waste from another premises, i.e. PFW from the Waitsia Gas Plant.</p>	<p>The delegated officer does not consider PFW from the Waitsia Gas Plant as liquid waste and therefore Category 61: Liquid waste facility does not apply. In making this determination the delegated officer has considered that:</p> <ul style="list-style-type: none"> <li>• the infrastructure assessed under this works approval will be physically connected to the Waitsia Gas Plant (via pipeline connection to the PFW Tank) and therefore is not considered a separate premises; and</li> <li>• the licence application for the Waitsia Gas Plant will include the reinjection system and therefore collectively they will form a single premises.</li> </ul>