



Application for Works Approval Amendment

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

Works Approval Number	W6809/2023/1
Works Approval Holder	Energy Farmers Australia Pty Ltd
ACN	151 350 784
File Number	DER2023/000309
Premises	Wickett Farm 2685 Chapman Valley Road CHAPMAN VALLEY WA 6532 Legal description – Part of Lot 15 on Deposited Plan 231959 As defined by the coordinates in Schedule 2
Date of Report	08 January 2024
Decision	Revised works approval granted

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1. Decision summary

Works Approval W6809/2023/1 is held by Energy Farmers Australia Pty Ltd (Energy Farmers Australia, works approval holder) for the Wickett Farm Trial (the Premises), located at 2685 Chapman Valley Road, Chapman Valley.

This Amendment Report documents the assessment of potential risks to the environment and public health from proposed changes to the emissions and discharges during operation of the premises. Noting that all items of infrastructure have been installed and the required environmental compliance report was submitted by the works approval holder on 20 August 2023. As a result of this assessment, Revised Works Approval W6809/2023/1 has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this Amendment Report, the Department of Water and Environmental Regulation (DWER, the department) has considered and given due regard to its Regulatory Framework and relevant policy documents which are available at [DWER Regulatory documents | Western Australian Government \(www.wa.gov.au\)](http://www.wa.gov.au).

2.2 Application summary

On 16 November 2023, the works approval holder submitted an application to the department to amend Works Approval W6809/2023/1 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The works approval authorises establishment and trial operation of a package pyrolysis plant for the purposes of a three day validation trial. Following the trial all infrastructure, equipment and produced biochar will be removed from the premises and the plant is to be re-established in a permanent location.

The following amendments are being sought:

- extending the duration of the works approval from 23 January 2024 to 30 June 2024; and
- updating the time limited operations condition to specify time limited operations may be conducted for a seven-day period in aggregate opposed to consecutively.

The requirement for these amendments arose from complications faced by the works approval holder during the planned trial undertaken in August 2023. Issues were encountered due to the presence of rocks within the spinifex feed stock causing uneven feeding to the storage container and heating of the feed auger. Consequently, the trial was temporarily suspended to facilitate engineering design changes to address the issues with the feed material.

The works approval holder states that engineering design modifications have been finalised although there is a delay for the necessary parts required and these parts are not anticipated to arrive prior to the current expiry date of the works approval being 23 January 2023. The works approval holder intends to recommence the trial in March of 2024 but are anticipating periods of total fire bans and restrictions. Consequently, they are requesting an extension until 30 June 2024 to allow for ample time for the trial.

2.2.1 Bushfires Act 1954

The Shire of Chapman Valley issues an Annual Fire Break Notice in accordance with section 33 of the *Bushfire Act 1954*. This section enables local governments to notify all landowners and occupants within the district to implement preventive measures against the outbreak, spread, or extension of bushfires. The notice specifies two distinct periods: a prohibited

burning period and a restricted burning period for specific regions within the Shire. The premises is situated within Zone 4, and for the 2023/2024 period, the prohibited burning period for Zone 4 is from 15 October to 14 February. Following this, a restricted burning period extends from 15 February to 7 April. During the restricted burning period landholders must acquire a permit from the shire to conduct burning activities including operation of the pyrolysis plant.

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 *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.

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 works approval holder has proposed to assist in controlling these emissions, where necessary.

Table 1: Works Approval Holder controls

Emission	Sources	Potential pathways	Proposed controls
Uncontrolled fire (smoke and combustion emissions)	Fire ignition within the pyrolysis plant or of feed vegetation	Air/windborne pathway	Works approval holder has not proposed any additional controls. There are existing controls within the works approval which address fire risk.

3.1.2 Receptors

In accordance with the *Guideline: Risk assessments* (DWER 2020), the Delegated Officer has excluded employees, visitors and contractors of the Works Approval 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 (*Guideline: Environmental siting* (DWER 2020)).

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

Human receptors	Distance from prescribed activity
Closest residential receptor (Nanson township)	About 940 metres southeast of the pyrolysis plant
Environmental receptors	Distance from prescribed activity
Chapman River	600 metres east of the pyrolysis plant

3.2 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 take 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 Works Approval 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 Works Approval Holder'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 Works Approval 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 Works Approval W6809/2023/1 that accompanies this Amendment Report authorises construction only and time-limited operations. The conditions in the Revised Works Approval have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

As this works approval is for a short term trial of the process a licence will not be required because the project will be completed under time limited operations.

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

Risk Event					Risk rating ¹ C = consequence L = likelihood	Works Approval Holder's controls sufficient?	Conditions ² of works approval	Justification
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Works Approval Holder's controls				
Operation (including time-limited-operations operations)								
Operation of the Pyrolysis plant past January 2023 Fire ignition within the pyrolysis plant or of feed vegetation	Uncontrolled fire (smoke and combustion emissions)	Air/windborne pathway causing impacts to health and amenity	Residences 940m southeast of plant	None	C = Moderate L = Rare Medium Risk	Y	N/A	It is proposed that the works approval holder will recommence the pyrolysis plant three-day trial in March of 2023 presenting a potentially increased risk of fire ignition which could result in air emissions impacting sensitive receptors. Considering the Shire of Chapman Valley's Fire break notice outlined in section 2.2.2 and the conservative nature of the controls specified in the works approval, the delegated officer considers that the risk is appropriately mitigated by existing conditions of the works approval and the extension does not significantly alter the risk profile of the activity.

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

Note 2: Proposed Works Approval 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
Local Government Authority advised of proposal on 1 December 2023.	<p>The Shire of Chapman Valley replied on 15/12/2023 advising in general, that they have no concerns with the extension given the existing controls within the works approval, although they did comment that:</p> <ul style="list-style-type: none"> The works approval holder should contact the Shire's Chief Bushfire Officer prior to commencing the trial to discuss the operation of the unit to ensure that it meets with the fire requirements; and A fire permit will be required from the Shire if the trial is to occur within the restricted fire period being 15 February 2024 and 7 April 2024 and that if the trial is soon after this period, they should contact the Shire to ensure the restricted fire period has not been extended. 	The Delegated Officer noted the advice and it is included in this report to ensure awareness of the requirements by the works approval holder.
Works Approval Holder was provided with draft amendment on 3 January 2024.	On 04/01/2024 the Works Approval Holder waived the 21 day consultation period and requested the Amended Works Approval be issued as soon as possible.	N/A

5. Decision

The delegated officer has determined that the proposal to extend the duration of the works approval to 30 June 2024 and allow for time limited operations to occur for seven-days in aggregate (rather than over a continuous seven-day period) does not pose an unacceptable risk of impacts to receptors and is appropriate on the basis that it will provide sufficient time for completion of trial operation of the plant.

The determination is based on the following:

- An environmental compliance report has been received for the premises and assessed confirming that the design and construction / installation requirements have been met.
- There are existing operational requirements conditioned within the works approval to reduce the risk of fire ignition within the pyrolysis plant and of the spinifex feed vegetation.
- The Shire of Chapman Valley's Annual Fire Break Notice prohibits the operation of the plant until 14 February 2024 and the works approval holder will have to obtain a permit from the shire to operate during the restricted burning period between February 15 and April 7.

Based on the assessment in this Amendment Report, the Delegated Officer has determined that a Revised Works Approval 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 Works Approval as part of the amendment process.

Table 5: Summary of works approval amendments

Condition no.	Proposed amendments
Cover Page	Duration extended to 30/06/2024
Condition 5	Amended to allow for time limited operations to occur for seven calendar days in aggregate

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. Energy Farmers Australia Pty Ltd 2023, Wickett Farm Trial works approval application and supporting information, Perth, Western Australia
5. Shire of Chapman Valley 2023, Fire Break Notice 2023/2024 Period, Nabawa, Western Australia