



Application for a works approval amendment

Division 3, Part V *Environmental Protection Act 1986*

Works approval number	W6006/2016/1
Works approval holder	Westpork Pty Ltd
ACN	009 148 789
DWER file number	DER2016/002175
Premises	Westpork Moora Piggery Complex 898 Agaton Rd DANDARAGAN WA 6507
Date of report	17 January 2023
Status of report	Final

Amendment description

This amendment is made pursuant to section 59 of the *Environmental Protection Act 1986* (EP Act) to amend the existing works approval issued for a prescribed premises as set out below. This notice of amendment is hereby given under section 59B(9) of the EP Act.

This amendment relates to the inclusion of time limited operations of the Moora Piggery Complex, which is subject to works approval W6006/2016/1.

In completing the assessment documented in this 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>.

Purpose and scope of assessment

Westpork Pty Ltd (Westpork/works approval holder), is seeking retrospective approval for time limited operations at its partially completed piggery complex near Moora. An application has been submitted for the following:

- inclusion of time limited operational provisions, until a licence is issued for the premises;
- sequential construction and commissioning of the remaining piggery module;
- updates to existing infrastructure table, including minor design changes to key infrastructure; and
- a 3-year extension to the duration of the works approval.

Background

Westpork proposes to develop a large indoor ‘farrow-to-finish’ piggery complex in the Dandaragan area, about 19 km northwest of Moora.

The complex is proposed to be developed as two separate modules with a combined design capacity of about 68,000 animals, or 71,350 standard pig units (SPUs). Once constructed, the complex will be the largest operating piggery in Western Australia.

Works approval W6006/2016/1 was initially granted to Westpork in December 2017, which comprises the following infrastructure:

- two separate piggery modules (‘Moora 2’ and ‘Moora 3’), each with 24 conventional piggery sheds and capacity to house up to 34,000 animals (35,675 SPUs);
- individual wastewater treatment systems (WTS) for each module, each comprising a covered anaerobic pond (CAP) with biogas collection and flaring, and a series of biological treatment ponds including settlement trenches, a facultative and final evaporation pond; and
- individual bunded hardstand pads for each module, for the stockpiling of screened solids and pond sludge, each with its own runoff collection pond.

Construction of the Moora 3 module commenced in January 2022, with the primary effluent system being mostly complete, except for installation of the cover liner for the anaerobic pond and commissioning of the associated flare system. Eight sheds have been built and stocking initially commenced in February 2022 (see below); the remaining sheds will be progressively built and stocked, with completion of the module expected in mid-2023.

Construction of the Moora 2 module has not yet commenced.

Proposed amendments

Provision for time limited operations

The initial works approval issued in 2017 does not include provision for the commencement of operations, i.e., stocking sheds with pigs, until the relevant construction compliance reports (CCRs) have been submitted and a licence has been issued for the premises.

A partial CCR was submitted by Westpork on 26 July 2022, regarding the first six sheds, effluent transfer pipework, storage tank, base liner of the anaerobic pond (cover liner yet to be installed), the two settlement trenches and facultative pond for the Moora 3 module. Several departures from the design and construction requirements specified in the works approval were noted but were deemed minor changes only that did not alter the assessed risk.

The partial CCR indicated Westpork commenced stocking the premises with pigs in February 2022 following completion of the first sheds, despite not having a licence in place or the necessary authorisation under the works approval to do so. Westpork advises this was based on the engineering requirements of an anaerobic digester, where the pond needs to be filled to enable the cover to be correctly fitted. Westpork considered filling the pond with groundwater instead of effluent was not an efficient use of water (as it would be evaporated from the facultative and evaporation ponds as it is progressively diluted with fresh effluent) and would delay the effective operation of the digester and commissioning of the gas flare by 12 – 18 months, as the clean water would require purging from the system.

A supplementary CCR was submitted by Westpork on 12 September 2022, following construction of a further two sheds (8 total) and the evaporation pond for the Moora 3 module.

The provision for time limited operations is therefore being sought by Westpork to allow continued operation of the first 8 sheds and WTS of the Moora 3 module and allow for the progressive stocking of subsequent sheds with pigs following their construction.

Sequential construction and commissioning of Moora 2

Westpork wishes for the works approval to include provision for the sequential construction and commissioning of Moora 2, where like Moora 3, the first four completed sheds are stocked and operated with effluent directed to the anaerobic pond, and the remaining sheds are progressively brought online as the pond is being filled, to facilitate installation of the cover liner.

There will be up to 33,181 pigs (34,806 SPUs) present on completion of all 24 sheds. Effluent stored in the underfloor pits would be released every 1 – 4 weeks via a pull-plug system into the drainage lines that gravity feed to the storage tank and the anaerobic pond.

Like Moora 3, the anaerobic pond would be uncovered during the initial stages of production, where odour emissions associated with a conventional anaerobic pond will occur until the pond is covered and the gas flaring system is commissioned. Westpork expects it would take up to 6 months for sufficient effluent to accumulate within the anaerobic pond to enable installation of the cover liner (despite it taking 12 months for Moora 3) and does not expect off-site odour impacts during this period (despite receiving nuisance odour complaints for Moora 3).

Updates to existing infrastructure table

The following changes are being sought for Moora 2:

- include provision for mechanically operated drop feeders within the dry sow sheds, in addition to electronic sow feeding (ESFs);
- location of the storage tank has moved closer to the sheds, based on civil engineering design recommendations;
- location of the two settlement trenches has moved, based on civil engineering design recommendations;
- allow commissioning and construction of the anaerobic pond in stages, and covered once filled with effluent to enable the cover to be floated into position;
- location of the biogas flare pad has moved, based on civil engineering design recommendations;
- design change to the settlement trenches; now proposed to be wider and shallower (originally 10 m wide and 4 m deep, now 15 m wide and 2.5 m deep), based on recommendations that sludge will not be able to dry out sufficiently at 4 m depth to enable safe excavation and handling. Total holding capacity remains unchanged;

- locations of the facultative and evaporation ponds have moved, based on civil engineering design recommendations; and
- updated maps have been provided to reflect the proposed changes to the location of key infrastructure for Moora 2 and Moora 3.

Extension of duration

Westpork seeks a further 3-year extension to the duration of the works approval, to provide sufficient time for the construction of Moora 2.

Decision

Provision for time limited operations

The initial works approval was issued in 2017, which precedes the advent of time-limited operational provisions under a works approval through the department publishing its *Guideline: Guide to Licensing* (DWER 2019).

Compliance matters

Construction of the first eight sheds and most of the WTS has been completed for Moora 3, and construction compliance reports have been received for this infrastructure. However, it is noted Westpork first commenced stocking pigs within sheds as they were completed from February 2022, and this has continued as subsequent sheds have been completed, with effluent being flushed through to the anaerobic pond. The delegated officer considers this to constitute the commencement of operations prior to the completion of key WTS infrastructure, prior to the certification of any works, and without the necessary authorisations in place.

These are compliance matters that will be addressed separately to this application.

Odour impacts

The delegated officer notes the initial odour assessment conducted under the works approval application in 2017, which determined there was a 'low' risk of odour impacts, to be based upon full operations only where the anaerobic pond was covered, and gas flared off – it did not consider a scenario where the anaerobic pond would remain uncovered during commissioning and the initial operational period where raw effluent would be used to fill the pond over a 12-month period, until the cover could be installed.

The department has received odour complaints from an adjoining landowner, alleging they first noticed strong pig odours at their place of residence around February 2022, i.e., the commencement of stocking at the premises, and that odour episodes have been an intermittent ongoing issue and offensiveness has gradually been getting worse since this time.

The landowner advises they have kept a detailed log of the times and dates when they have been impacted; for example, the log indicates they have rated piggery odour at their premises on a scale of 5 out of 5 for at least 15 days in November 2022. They have made several complaints directly to Westpork since February 2022, which according to the landowner have been simply dismissed or ignored. Regardless of whether Westpork agrees with this claim, to address any argument the delegated officer has determined to formally require the works approval holder to investigate every complaint it receives and communicate the outcomes to the complainant.

The delegated officer notes the cover for the Moora 3 anaerobic pond was installed by the end of December 2022, however, neighbouring residences advise there has been no noticeable improvement in the odour situation. It is understood Westpork are investigating the matter and trying to resolve the issue; however, in the case that odour does not abate following installation of the cover, the delegated officer has determined to only permit the commencement of stocking Moora 2 sheds once satisfactory performance of the CAP for Moora 3 (in terms of odour) has been demonstrated.

Given the initial risk assessment of odour was dependent upon the anaerobic pond being covered/capped and did not consider commissioning or operation without a cover being in place, it is entirely foreseeable that off-site odour impacts will continue if Westpork follow the same process for the Moora 2 anaerobic pond as it has done for Moora 3. The delegated officer has therefore determined to require the Moora 2 anaerobic pond be covered and the biogas capture and flare system installed and operational before the piggery sheds can be stocked – this will require the pond to be filled with either groundwater or effluent from off-site operations, to avoid the time delay that was experienced with Moora 3 and the subsequent odour issues.

This will also negate the need to commence stocking of the Moora 2 sheds until the entire WTS infrastructure has been constructed and works certified in accordance with the works approval, and the anaerobic pond and associated gas capture and flaring system is installed and operational, to minimise odour impacts as far as practicable.

Time limited operational requirements

To address ongoing operation of Moora 3 infrastructure that has been completed to date, the following time-limited operational requirements have been added to the works approval:

- general management practices for the conventional sheds, consistent with the *National Environmental Guidelines for Indoor Piggeries* (NEGIP) (Australian Pork Ltd 2018), relating to minimising odour emissions;
- operation of the anaerobic pond, before and after the cover liner has been installed;
- freeboard requirements for all holding ponds;
- management of pond solids on the bunded hardstand, including removal of all stockpiled solids within 3 months to a facility that is lawfully able to accept that kind of waste;
- mortalities management;
- infrastructure inspection requirements, to ensure integrity of the WTS; and
- ambient environmental monitoring, including groundwater quality, and monitoring of inputs and outputs.

The delegated officer has determined the initial assessment conducted under the works approval for spreading dried pond solids over paddocks on the premises requires more detailed review, which will be done as part of the licence assessment process. Therefore, this activity is not permitted under the provisions of time limited operations.

Note: DWER will liaise with Westpork separate to this application on this aspect.

Sequential construction and commissioning of Moora 2

To enable the sequential construction and commissioning for Moora 2, conditions have been included within the works approval that allow for the commencement of stocking the initial four piggery sheds and commissioning of the WTS, providing that:

- satisfactory performance of the Moora 3 anaerobic pond has been demonstrated;
- all key infrastructure for managing effluent have been constructed and/or installed, i.e., effluent pipelines, storage tank, CAP with biogas capture and flare, settlement trenches and facultative pond;
- all groundwater monitoring bores for Moora 2 have been installed;
- the burial pit has been established for managing any mortalities; and
- the construction compliance report(s) has been submitted for each item of infrastructure listed above.

For operation of additional Moora 2 sheds from the initial four sheds, the following conditions must have been met:

- the cover liner on the anaerobic pond must have been installed;
- the gas flare must have been commissioned and be operational;
- the evaporation pond must have been constructed; and

- the construction compliance report(s) for the above infrastructure must have been submitted by the works approval holder.

Updates to infrastructure table

The delegated officer notes the updates to infrastructure requirements in the works approval relate to changes that have already been implemented, i.e., the changes are to reflect 'as-constructed' changes.

The delegated officer considers the changes are not so significant they require further risk assessment. All updates have been made to relevant conditions within the works approval.

Extension to duration of works approval

The delegated officer notes the works approval was originally issued in 2017 for 6 years, expiring 11 December 2023, which is double the typical timeframe for a works approval.

Given the works approval has now been updated and amended to stage the construction timeframes for Moora 2 and considering the works approval has been updated to the current format (see below) and time limited operational provisions included, the delegated officer has determined to extend the duration by the requested 3 years.

Works approval update

In amending the works approval, the delegated officer has also made several changes to improve clarity and enforceability of conditions, and to ensure consistency with recent approvals issued for similar proposals. These changes include:

- restructuring the infrastructure table, by:
 - clearly delineating all infrastructure authorised under each of the Moora 2 and Moora 3 modules; and
 - updating key design requirements for each type of infrastructure, such as dimensions, capacity and lining requirements;
- including separate conditions for specifying minimum requirements for lining system options, including quality assurance and quality control requirements and validation reporting;
- including provision for separate compliance reporting for Moora 2 and Moora 3, and improving clarity of compliance reporting requirements;
- removing the outdated 'authorised emissions table', which duplicates existing obligations and requirements of the EP Act;
- including general monitoring conditions to provide further clarity and enforceability for monitoring purposes;
- including monitoring and recording of inputs and outputs;
- including complaints management requirements, including the requirement to record, investigate and document all actions taken in response to all complaints received;
- inclusion of additional definitions for newly defined terms;
- revised condition numbers, and removed any redundant conditions and realigned condition numbers for numerical consistency; and
- corrected clerical mistakes and unintentional errors.

The decision report for the original works approval will remain on the DWER website for future reference and will act as a record of DWER's decision making.

Consultation

The works approval holder was provided with drafts of the revised works approval and this report on 15 December 2022 and sought only minor corrections and clarifications that have been addressed in the final version.

Conclusion

Based on this assessment, it has been determined that an amendment will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

Summary of amendments

The below table provides a summary of the proposed amendments and will act as a record of implemented changes. All proposed changes have been incorporated into the revised works approval as part of the amendment process.

Condition no.	Proposed amendments
Cover page	Updated, consistent with current DWER template Added prescribed premises category information, including design capacity, in animal numbers and SPUs. Clearly delineate Moora 2 and Moora 3 Duration extended by 3 years, to 11/12/2026
Works approval history	Inserted, consistent with current DWER template
Explanatory notes	Removed, consistent with current DWER template (this information is available within the <i>Guide to Licensing</i> (DWER 2019))
Interpretation	Inserted, consistent with current DWER template
Condition 1, Table 1	Previously Table 5 (Schedule 2), moved to condition 1, with the following infrastructure changes: <ul style="list-style-type: none"> • Dry sow sheds have electronic feeders, instead of ESFs; • Removed operational controls, such as freeboard requirements, to separate table; • Removed infrastructure lining requirements, to separate table;
Conditions 2 – 4 (new)	Inserted new conditions specifying lining options for key infrastructure, including minimum requirements for lining materials
Conditions 6 & 7	Updated compliance reporting conditions, to clearly delineate reporting for each module (to allow TLO) Inserted new requirements for submission of clay materials testing
Conditions 9 & 10 (old)	Removed authorised emissions table, as this duplicates existing obligations under the EP Act
Conditions 10 & 11 (new)	Inserted new requirements for the commencement of TLO for Moora 3, and timeframe for TLO
Condition 12 (new)	Inserted new requirement for stocking subsequent sheds for Moora 3
Condition 13 (new)	Inserted new requirement for the cover to be installed on the Moora 3 anaerobic pond by 31 December 2022
Conditions 14 & 15 (new)	Inserted new requirements for the commencement of TLO for Moora 2, and timeframe for TLO, which clearly stipulates that stocking of shed must not occur until key WTS infrastructure has been completed and certified and satisfactory performance of the Moora 3 CAP and flare has been demonstrated
Condition 16 (new)	Inserted new requirements for operational controls during TLO, consistent with NEGIP requirements
Conditions 17 & 18 (new)	Inserted new requirements to conduct inspections of WTS infrastructure
Conditions 19 – 22 (new)	Inserted standard conditions specifying general monitoring requirements, such as specifying relevant standards for each

	monitoring type, minimum timeframe between sampling events and equipment calibration requirements
Condition 24 (new)	Inserted new requirement for monitoring of inputs and outputs
Conditions 25 & 26 (new)	Inserted new requirements for the works approval holder to investigate all complaints received and communicate the outcomes to the complainant
Condition 27 (new)	Inserted new requirement to record all details of complaints received, investigations and action(s) taken
Condition 30 (new)	Inserted new requirement to notify the CEO before commencing stocking pigs in Moora 2 module
Definitions	Definitions removed: 'AS 1289.3.1.2', 'AS 1289.3.3.1', 'AS 1289.3.6.1', 'AS 1289.3.8.1', 'AS 1289.5.2.1', 'AS 1289.5.4.1', 'AS 1289.6.7.1', 'Department Request', 'DWER', 'HDPE', 'Inspector', 'Landfill Definitions', 'MDD', 'NEGP', 'uPVC' – conditions which contained these references have been changed or removed as part of this amendment
	Definitions added: 'AS/NZS 5667.1', 'ASTM D5092/D5092M16', 'averaging period', 'BGL', 'books', 'bore', 'condition', 'Environmental Compliance Report', 'freeboard', 'NATA', 'NATA accreditation', 'piggery module', 'premises', 'prescribed premises', 'qualified professional engineer', 'quarterly', 'spot sample', 'Standard Pig Unit', 'time limited operations', 'works approval', 'works approval holder'.
Schedule 1: Maps	Premises map updated
	Map of infrastructure added – Moora 2 and Moora 3