



Application for licence

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

Licence number	L9379/2023/1
Applicant	Steven Kevin Sexton & Prema Sexton
DWER file number	DER2023/000161
Premises	Glenark Farms Piggery 49 Pauley Road COMMODINE WA 6311
Date of report	11 September 2023
Status of report	Final

1. Purpose and scope of assessment

Steve & Prema Sexton (the applicant) are seeking retrospective approval to operate their existing piggery near Cuballing. A licence application was submitted under Division 3 Part V of the *Environmental Protection Act 1986* (EP Act) on 2 March 2023.

This report sets out the delegated officer's assessment of potential risk events arising from emissions and discharges that are generated from existing piggery operations at the premises.

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>.

2. Application details

Overview of existing premises

'Glenark Farms Piggery' is an existing intensive piggery in the small rural location of Commodine, about 20 km northeast of Narrogin.

The existing premises comprises an indoor piggery (deep litter shelters) that houses up to 8,000 pigs. The piggery is certified under the Australian Pork industry's voluntary on-farm quality assurance system (APIQ), which requires operators to have in place all relevant state and local government approvals to operate.

Table 1 describes the prescribed premises category the application is subject, as defined in Schedule 1 of the Environmental Protection Regulations 1987.

Table 1: Prescribed premises category

Classification of premises	Assessed design capacity (as per shire approval)
Category 2: Intensive piggery: premises on which pigs are fed, watered and housed in pens.	8,000 pigs (normal operations) 8,720 pigs (maximum, subject to conditions)

Background

The applicant established and has operated the piggery since 2003, which has expanded in capacity since this time. The piggery operations and expansions have not been subject to works approval.

In December 2015, the Shire of Cuballing (Shire) issued retrospective planning approval for the existing operation at that time (6,000 pigs capacity with 17 shelters) and further expansion works (additional 5 shelters) to a maximum capacity of 7,500 pigs.

In June 2023, the Shire issued further retrospective approval to reflect an additional 3 shelters that had already been established (total 25 shelters – normal operating capacity of 8,000 pigs).

Existing piggery design and operation

The existing piggery comprises a grow out facility, in which weaners from other breeder farms are brought to site and grown out to finishing weight.

Animals are kept in deep litter shelters which comprise a roofed structure over a concrete base with straw used for bedding. Different size shelters are used for grouping each class of pig, depending on their age and dietary requirements. Spent bedding is removed from each shelter once every eight weeks and is stockpiled (see below).

- Weaner piglets are kept in 12 x 28 m shelters for 8 weeks from 3 weeks to 11 weeks of age. There are 5 weaner shelters – 4 can house up to 720 pigs and one can house up to 240 pigs;
- Grower pigs are kept in 10 x 28 m shelters for 6 weeks from 11 weeks to 17 weeks of age. There are 12 grower shelters – 10 can house up to 360 pigs and two can house up to 240 pigs;

- Finisher pigs are kept in 12 x 28 m shelters for about 4 weeks from 17 weeks to 20 weeks of age. There are 8 finisher shelters – 6 can house up to 360 pigs and two can house up to 240 pigs.
- At any one time, there will be 4 empty grower shelters and 2 empty finisher shelters, that allow up to 2 weeks of sale pigs (800 pigs) to be kept on the premises in the event of supply interruptions or delays to the movement of pigs off the premises. However, the normal operating capacity of the piggery is around 8,000 pigs.

Herd size and housing

Table 2: Existing piggery – herd size and housing

Pig class	SPU factor	Pig numbers	SPUs	Housing
Weaner (6.7 – 55 kg)	0.5	3,360	1,680	Deep litter
Grower (55 – 80 kg)	1.0	2,640	2,640	Deep litter
Finisher (80 – 104 kg)	1.6	1,920	3,072	Deep litter
Total		7,920*	7,392	

* The facility has capacity to hold up to 800 sale pigs on the premises for short periods, if required (up to 8,720 pigs capacity).

Manure management

Spent bedding and manure that has accumulated within the shelters is collected every 8 weeks and stockpiled within a paddock adjacent to the shelters, pending being spread over paddocks once per year, prior to seeding of the autumn crop. The stockpile area does not comprise a hardstand base, which does not meet the minimum environmental protection standards outlined in the *National Environmental Guidelines for Indoor Piggeries* (NEGIP) (Australian Pork Ltd 2018).

The applicant estimates between 800 – 1,000 tonnes of spent bedding is spread every year, with different paddocks being used from year to year. The applicant has access to about 1,500 ha of cropping land within the local district, however, only about 570 ha of suitable land is available on the premises for spreading. Historically, spreading rates have not considered nutrient loading.

Mortalities management

Carcasses are currently being composted near the spent bedding stockpiles; this area also does not comprise a hardstand base and does not meet NEGIP environmental protection standards.

A small farm dam is located downgradient of the stockpile area, which appears to comprise a simple excavation into the in-situ gravel-clay soils. The runoff area between the composting area and the dam is also unlined, with any runoff likely to substantially infiltrate before reaching the dam.

No information on the composting process was provided with the application – it is unclear what process is being followed, the composting standard that is being achieved, and how the finished product is disposed.

Nutrient management

With P being the limiting factor for sustainable spreading of spent bedding, the applicant has prepared a cumulative nutrient budget for application of these wastes over a proposed 5-year rotational cropping program.

The budget indicates a single spreading rate of 1.2 t/ha can be sustainably spread on a per paddock basis, in accordance with a rotational plan (in terms of both crop and spreading rotations).

The spreading plan is built on a crop rotation that considers various agronomic principles, such as break crops for soil borne diseases, stubble borne diseases (multiple crops of the same

type year on year), and current outlook on rotational profitability. The rotational plan may be subject to change to take advantage of seasonal and market conditions and should be revised every 2 – 3 years to reflect any of these changes.

The rotational plan includes pasture rotations where the dominant livestock are sheep, noting that nutrient withdrawal from animals are lower than that of cropping. Paddocks that have a livestock rotation generally have higher residual P net of manure additions and crop nutrient withdrawal; however, paddocks that have 100% livestock rotation across the 5 years accounted for in the nutrient plan have been close to zero residual P, and in some cases, end up with a negative P value.

The residual values average out at -10.88 kg P across the premises, considering both positive amounts (net additions over 5 years) and negative amounts (net withdrawals over 5 years), which indicates a whole farm net removal of P.

Exclusions to this assessment

The following matters are out of the scope of this assessment and have not been considered within the risk assessment detailed in this report:

- other general farming activities being conducted on the premises, outside of manure utilisation areas;
- vehicle (i.e., livestock truck) movements on private or public roads; and
- land use zoning and compatibility with surrounding land uses.

3. Industry guidelines

The NEGIP provides a general framework for managing the environmental issues associated with indoor piggeries in Australia.

The criteria outlined in Appendix A of the NEGIP has been used as a baseline for rating the vulnerability of major natural resources from the existing piggery operations and the risk of environmental impacts from the existing design and operational features.

Table 2 provides a summary of the risk of the existing piggery using the NEGIP performance standards, where 1 is low risk and 4 is high risk.

Table 2: Summary of Glenark Farms Piggery against NEGIP performance standards

NEGIP aspect	Risk criteria – NEGIP performance standard	Risk rating
Soils of reuse areas		
Soils of reuse areas	Reuse areas:	
	• are suited to growing a broad range of broad acre crops and pastures	1
	• have a soil depth of at least 1 m	1
	• have soils that are well structured, non-rocky, non-saline and non-sodic	1
	• have soils that are sandy loam (10-25% clay) in texture	2
	• are not prone to waterlogging	1
	• flood at a frequency of less than once every ten years	1
• have slopes that promote infiltration, rather than runoff or erosion	1	
Groundwater quality and availability	Depth to groundwater is always at least 10 m below the ground surface or the base of any piggery infrastructure	2
Surface water quality and	The piggery is located within 100 m of the closest watercourse	4

availability	The piggery is located at least 800 m from the closest major water supply storage	1
	Reuse areas comply with the buffer distances specified in the NEGIP	2
	The piggery is located above the 1:100 year flood line	1
	Reuse areas are located above the 1:100 year flood line	1
Community amenity	The piggery has received four or more complaints (on average) from the public or regulators for over the past five years	4
	Levels of odour, dust and noise around the property boundary area checked occasionally	3
	Surrounding land is all designated rural and is not designated for future development or rezoning	1
	The piggery is fairly well concealed from roads and neighbours	2
	Vehicle movements and other noisy activities occur only during the day, except under exceptional circumstances	1
	Mechanical equipment used on-farm is generally fitted with manufacturer specified exhaust devices	2
	Dust from traffic movements, manure handling and reuse and feed milling is not specifically controlled but dust does not seem to cause nuisance	2
	A complaints management procedure is in place that includes complaints recording, investigation and corrective action	2
	Mediation is used to try to settle disputes with neighbours	Unknown
Design and operation		
Pig housing	Shelters are oriented east-west and are constructed to maintain temperatures within the required range with no mechanical heating or cooling	1
	The shelter bases are concreted	1
	Feeding systems rarely allow feed to be visible on the floor or in the bedding near the feeders	2
	Naturally ventilated sheds are not well ventilated, as they are not separated by a distance of at least 3 times their height	4
	Stocking densities meet the requirements of the <i>Model Code of Practice for the Welfare of Animals: Pigs</i>	1
	Bedding is mostly kept dry and friable; pigs are generally clean	2
	Water used to washdown deep litter housing after spent bedding removal is contained within each shelter and absorbed by the spent bedding	3
Nutrient content of manure	The quantities of nutrients in manure that will be applied to land are estimated using conservative figures in accepted industry nutrient mass balance models	2
Solid waste storage	Solid waste storage areas are not within a controlled drainage area	4
	The base of solid waste storage areas are not built from well compacted clay or other low permeability material	4
	The depth to water tables beneath the base of manure storage areas exceeds 2 m at all times	1

	Stockpiles are generally managed to maintain low odour emissions, but significant odour releases occur about once a year on average	2
Mortalities management	Dead pigs are almost always removed from the sheds or pens daily	2
	Mortalities management always occurs within 36 hours of death	2
	Mortalities management is by composting	1
	Mortalities management areas are not on a well-sealed site	4
	Mortalities are always promptly covered with at least 300 mm of spent bedding and continuously kept covered	1
	Mortalities management does not occur within a controlled drainage area	4
	In the case of a mass mortalities event, there is a suitable site selected but no real plan for managing mass mortalities	3
Reuse areas	The nutrients in manure have been budgeted to ensure they are applied at rates that are based on expected nutrient removals by crop or pasture harvest using average historical property crop yields	1
	Nutrient export from reuse areas is minimised through good farming practices (e.g. conservation tillage)	2
	Manure is spread somewhat evenly, but generally only spread when active plant growth is expected	3
	Manure is spread at any time of the day, but not normally on weekends or public holidays	3
	Soils of reuse areas will be tested at least annually	1

Comparison with NEGIP criteria

Siting and design

- The existing piggery complex is sited on priority agricultural land and is well separated from populated areas. Its location in a climate with high annual moisture deficit (i.e., low rainfall, high evaporation) reduces the risk of common environmental issues associated with wetter climates; however, it is noted there are receptors within 2 - 3 km in all directions from the piggery complex and 1 - 1.3 km of manure spreading areas, and that nuisance odour complaints have been received by the department and the shire in recent years.
- Key piggery infrastructure is located about 100 m from a minor ephemeral watercourse, which flows into the Hotham River. Minimising the potential for surface runoff to this watercourse from ongoing piggery operations is therefore critical.
- The design and operation of the deep litter shelters appears to be consistent with the NEGIP from an animal welfare standard, in terms of stocking densities, general animal cleanliness and husbandry, except for the shelters not being washed out after spent bedding is removed, which accounts for the lack of containment infrastructure for managing wash water. It is also noted the shelters may not be adequately ventilated, given the lack of separation (between shelters).
- Manure spreading areas on the premises run adjacent to the Hotham River, which has been assessed as part of the department's [Healthy Rivers Program](#) as having poor water quality (particularly eutrophication, secondary salinization, low dissolved oxygen and contaminants) resulting from extensive clearing for agriculture and uncontrolled livestock access within riparian zones. The Commodore Nature Reserve also abuts the eastern boundary of Lot 15028.
- Several pockets of remnant vegetation within the premises and surrounding areas comprise

a nationally recognised threatened ecological community (TEC) – the Eucalyptus Woodlands of the WA Wheatbelt, which is listed as critically endangered under federal environmental protection laws (*Environment Protection and Biodiversity Conservation Act 2016*). Protection of this vegetation complex from ongoing manure spreading operations is also critical.

Manure and nutrient management

- Manure storage and mortalities composting do not meet environmental protection standards under the NEGIP, as the area does not comprise an impermeable, bunded hardstand area. Processing dead animals by composting is the most preferred option under the NEGIP for managing mortalities.
- The management of manure (spent bedding and mortalities compost) by land application once every year at the proposed loading rate, appears to be sustainable with the proposed offtake strategy (5-yearly cropping/grazing program in each paddock); however, it is noted the nutrient budget calculations are based on a single manure sample. It is preferable that spreading rates are determined by several samples over a representative time period, to reduce the risk of outlier samples and improve both accuracy and confidence of the analysis results.
- About 830 ha of cropping land is required to spread the amount of manure generated each year; as such, there is insufficient land available on the premises for spreading the amount of manure generated annual by the piggery operations (570 ha available). The proposal to process (i.e., pasteurise) and/or compost manure to achieve specified maturity levels is supported, such that it can be taken off-site for spreading at other leased premises, without posing an increased risk to public health or nuisance odour.
- Several areas on which manure is being spread are adjacent to seasonal watercourses and vegetation that comprise the Eucalypt Woodlands TEC (including the Commodine Nature Reserve) – careful management, regular soil monitoring and adequate separation will be required to ensure that nutrient leakage to surface water and other forms of land degradation do not occur.

4. Other approvals

Planning approvals

A conditional retrospective development approval (DA) for an intensive piggery was issued by the shire in December 2015. The DA included approval for the existing operation at that time (6,000 pigs capacity with 17 shelters) and further expansion works (additional 5 shelters) to a maximum capacity of 7,500 pigs.

The shire issued a further retrospective planning approval in June 2023, to reflect an additional 3 shelters that had already been established (total 25 shelters – maximum capacity of 8,000 pigs).

5. Consultation

The application was referred to relevant public authorities and was advertised for public comment on the department's website during March 2023.

Public authorities

The Department of Primary Industries and Regional Development (DPIRD) advised on compliance with the environment and design aspects of the existing piggery, and the capability of the applicant to manage the amount of manure produced. DPIRD's commentary is summarised for each of these aspects in the risk assessment table below.

The shire provided an update on the DA for the proposed capacity increase (see above).

Public submissions

Two submissions were received during the public comment period, which indicated the

existing piggery operations are impacting on nearby neighbouring premises, in the form of nuisance odour and flies (particularly from the stockpiling, and subsequent spreading of manure), and raising concerns that increasing the number of pigs on the premises will further exacerbate this issue.

Other concerns were raised that are not directly related to emissions and discharges from the proposal and are beyond the scope of Division 3 Part V of the EP Act, including local water supply issues and property devaluation.

6. Risk assessment

Determination of emission, pathway and receptor

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.

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 identified potential source-pathway and receptor linkages. Where linkages are in-complete they have not been considered further in the risk assessment.

Where the applicant has proposed mitigation measures/controls, 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 licence 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 the below table.

Risk assessment table

The table below describes the risk events associated with the proposal consistent with the *Guideline: Risk Assessments* (DWER 2020). The table identifies whether the risk events are acceptable and tolerated, or unacceptable and not tolerated, and the appropriate treatment and degree of regulatory control, where required.

Risk Event				Consequence rating ¹	Likelihood rating ¹	Risk ¹	Reasoning	Regulatory controls
Source/ Activities	Potential emissions	Potential receptors, pathway and impact	Applicant controls					
Category 2: Intensive piggery								
Feeding, watering and housing of animals within deep litter shelters	Nutrient-laden leachate from spent bedding (spilt feed, urine, faeces), accumulated in shelters	Seepage/infiltration, causing contamination of shallow groundwater	Applicant advises the deep litter shelters comprise concrete base	Low level on-site impacts Minor	Will probably not occur in most circumstances Unlikely	Medium Acceptable, subject to regulatory controls	The deep litter shelters have been constructed with a concrete base, which is consistent with NEGIP environmental protection standards. Providing the deep litter shelters are managed according to the NEGIP, the ongoing risk of groundwater contamination from ongoing operation of the deep litter shelters appears to be acceptable.	- Infrastructure design and operational requirements specified in infrastructure table
	Odour, from spent bedding accumulated in shelters	Unreasonable interference with the health, welfare, convenience, comfort and amenity of nearby sensitive receptors (9 within 3-5 km radius)	Spent bedding replaced every 8 weeks	Low level off-site impacts to amenity Minor	Could occur at some time Possible	Medium Acceptable, subject to regulatory controls	The NEGIP recommends fixed separation distances of at least 250 m to rural dwellings and 750 m to a townsite. The closest rural dwellings are about 1.7 km south, 1.9 km north and 2 west of the piggery complex, and 6 others within a 3-5 km radius. The nearest town of Cuballing is about 10 km to the south-west. Both the department and the shire have received nuisance odour complaints about this piggery; however, whilst the delegated officer considers the pig shelters themselves may be contributing to this issue, the key odour source is likely to be predominantly related to manure handling, stockpiling, and spreading activities (see below). Spent bedding is removed from the shelters every 8 weeks, which is consistent with the NEGIP. Providing the deep litter shelters are managed according to NEGIP requirements, the risk of off-site odour impacts from ongoing operation of the deep litter shelters appears to be acceptable.	- Minimum frequency of spent bedding removal, as per NEGIP
	Odour, from deceased animals		Deceased animals are removed from shelters daily	Low level off-site impacts to amenity Minor	Could occur at some time Possible	Medium Acceptable, subject to regulatory controls	Dead animals are composted on-site, which is the preferred method of disposal for managing mortalities according to the NEGIP. The frequency of removal from the shelters is also consistent with the NEGIP. Providing the minimum requirements outlined in the NEGIP are being implemented, the ongoing risk of off-site odour impacts from mortalities management appears to be acceptable.	- Dead pigs must be removed from pens within 24 hours of death; - Mass mortalities contingency plan must be in place
	Noise, from animals and machinery movements		None specified	Low level off-site impacts to amenity Minor	Likely to occur only in exceptional circumstances Rare	Low Acceptable, not subject to controls	Some noise is expected during operation of the piggery; however, the nature of animal noise and machinery movements is likely to be consistent with that of a typical rural area and given the separation to nearby receptors and being located within a rural area, the ongoing risk of off-site noise impacts appears to be acceptable.	None specified.
Management of manure and mortalities								
Transfer of spent bedding from deep litter shelters Stockpiling of spent bedding (aging) Processing and/or composting spent bedding Composting mortalities	Nutrient-laden leachate from spent bedding, mobilised by surface water runoff	Uncontrolled discharge, runoff to nearby watercourse, causing localised surface water contamination of the Hotham River, impacts to riparian native vegetation	Stockpiling spent bedding, prior to spreading Composting mortalities, prior to spreading	Mid-level on-site impacts Low-level off-site impacts on local scale Moderate	Will probably occur in most circumstances Likely	High Acceptable, subject to multiple regulatory controls	Spent bedding removed from the deep litter shelters is being stockpiled on the bare ground, along with the composting of mortalities, at the western end of the shelters, which does not meet the environmental protection standards of the NEGIP that requires solids storage on impermeable, bunded hardstand areas to protect water resources. Controls in the form of improvement conditions have therefore been added to the licence to require upgrades to ensure this aspect of the piggery operation meets the environmental protection standards of the NEGIP.	- Improvement conditions to require construction of an impermeable bunded hardstand for storage of spent bedding and composting mortalities
	Odour, from spent bedding stockpiles and compost windrows	Unreasonable interference with the health, welfare, convenience, comfort and amenity of nearby sensitive receptors (9 within 3-5 km radius)	Spent bedding aged in large windrows (no turning) Mortalities composted in large windrows	Low level off-site impacts to amenity Minor	Could occur at some time Possible	Medium Acceptable, subject to regulatory controls	The NEGIP recommends fixed separation distances of at least 250 m to rural dwellings and 750 m to a townsite. The closest rural dwellings are about 1.7 km south, 1.9 km north and 2 west of the piggery complex, and 6 others within a 3-5 km radius. The nearest town of Cuballing is about 10 km to the south-west. Both the department and the shire have received nuisance odour complaints about this piggery, which appear to be predominantly related to manure handling, stockpiling, and spreading activities (see below).	- Manure handling and stockpiling, management specified, in accordance with NEGIP

Risk Event				Consequence rating ¹	Likelihood rating ¹	Risk ¹	Reasoning	Regulatory controls
Source/ Activities	Potential emissions	Potential receptors, pathway and impact	Applicant controls					
							The applicant's current management practices for manure handling and stockpiling are unclear from the application – in the absence of detailed information, the delegated officer considers the risk of off-site odour impacts from the handling and stockpiling of manure should be acceptable if it is being done in accordance with the performance measures outlined in the NEGIP. As such, the NEGIP performance measures for handling and stockpiling manure and composting mortalities will be imposed on the licence, as they are considered critical for ensuring an acceptable level of risk.	
Spreading of aged manure and mortalities compost over available cropping land	Leaching or runoff of nutrients from spread manure and compost	Contamination of soil, surface water and shallow groundwater resources Soil acidification Excessive build-up of soil P	Manure is spread evenly at a consistent application rate, in accordance with a detailed nutrient management plan	Low level on-site impacts Minor	Will probably not occur in most circumstances Unlikely	Medium Acceptable, subject to regulatory controls	<p>The delegated officer has considered advice provided by DPIRD on the applicant's proposed 5-year rotational spreading and cropping program (using aged and/or processed manure) and has determined it poses an acceptable risk of nutrient leakage to groundwater and other forms of land degradation, subject to careful management and regular monitoring.</p> <p>At the proposed spreading rate (1.2 t/ha), about 50% of the aged/processed manure and mortalities compost generated by the piggery each year can be spread over the paddocks nominated within the premises, with the remaining 50% required to be processed (i.e., pasteurised) and removed off-site for spreading at other premises.</p> <p>Appropriate separation to environmentally sensitive areas will also be imposed, including 50 m to any TEC and watercourse. Annual surface water monitoring will be required within the Hotham River, to provide assurance that manure spreading is not causing water quality impacts on this river system. Annual soil sampling will also be required, to ensure there is sufficient uptake of nutrients being applied, and that it is not being stored or leaching through the soil profile.</p> <p>These controls will be added to the licence as they are considered critical for maintaining an acceptable level of risk from spreading aged and processed manure, however, provision has also been made in the licence for managing manure that has been properly composted in accordance with the Australian Standard for composting (AS 4454).</p> <p>The delegated officer considers there to be a low risk of impacts from the spreading of manure that has been properly composted and meets specified maturity levels, on the view that it can be safely used on land and can come into direct contact with plants without negative effects, and its management can be similar to that of any normal synthetic fertiliser or other high quality soil ameliorant (with less regulatory controls).</p>	<ul style="list-style-type: none"> - Manure utilisation areas delineated on licence; - Maximum application rate specified; - Spreading requirements specified, including separation distances; - Excess manure must be processed and removed from the premises; - Annual soil sampling requirements - Annual surface water monitoring
	Odour, from spread manure and compost	Unreasonable interference with the health, welfare, convenience, comfort and amenity of nearby sensitive receptors (9 within 3-5 km radius)	Not spreading within 25 m of premises boundary Timing of spreading during optimal weather conditions	Low level off-site impacts at local scale Moderate	Could occur at some time Possible	Medium Acceptable, subject to regulatory controls	<p>There are several rural dwellings within proximity to the paddocks where manure is being spread, and nuisance odour complaints have been received during periods when manure is being handled and during spreading operations.</p> <p>The NEGIP outlines detailed recommendations on the optimal times and conditions for the spreading of raw manure – the delegated officer considers there should only be a low risk of off-site odour impacts if manure is being spread in accordance with these requirements. As such, these requirements will be imposed on the licence.</p> <p>As there is insufficient land available on the premises for spreading all the manure generated as part of piggery operations, and the manure must firstly be processed to facilitate off-site disposal, the delegated officer considers the odour situation should improve.</p> <p>The applicant has also expressed an interest in new composting technology, to produce a high quality fertiliser.</p>	<ul style="list-style-type: none"> - Must only spread during optimal weather conditions, as per NEGIP

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

7. Decision

The delegated officer has determined that ongoing operation of an intensive piggery complex on the premises, with an assessed design capacity of 8,000 pigs, may pose an unacceptable risk of impacts to public health and the environment due to the following aspects being assessed as inconsistent with the environmental protection standards of the NEGIP:

- spent bedding and mortalities being stockpiled on the bare ground (instead of a bunded, hardstand pad), prior to spreading;
- the design and construction standard of the existing containment dam is unclear, due to the lack of materials testing and construction certification details;
- it being unclear whether historical spreading of spent bedding and mortalities compost has been applied sustainably and in a manner that protects the environment; and
- on-site manure spreading practices have resulted in nuisance odour complaints.

The remaining aspects of the operation, such as the siting, design and day-to-day management of the piggery have been assessed as being consistent with the NEGIP and do not pose an unacceptable level of risk of impacts to on- and off-site receptors. This is based on the following:

- being located in a climate with high annual moisture deficit, which lowers the overall risk of environmental impacts commonly associated with wet conditions;
- the piggery complex being located on priority agricultural land and well separated from populated areas; and
- the deep litter shelters have been constructed on a concrete base.

Key risks from ongoing operations of this piggery largely relate to the management of manure and mortalities, i.e., stockpiling, and subsequent spreading of aged manure and mortalities compost over cropping land on the premises. Controls have been added to the licence to require the upgrading of infrastructure for the initial processing of manure and mortalities, to ensure it meets the environmental protection standards under the NEGIP.

To address current issues with manure management, the applicant has preferred the proper composting of manure, to produce a stabilised material that poses a low risk of odour and public health issues and can also be taken off-site for spreading on other properties. As such, controls have been imposed on the licence to specify the processing and monitoring requirements and maturity specifications for composted manure. Provision has also been included for manure to be managed as aged manure and processed (pasteurised) manure, with controls added commensurate with this risk.

The delegated officer notes the applicant, in showing a preference to properly compost manure in accordance with AS 4454, has set the benchmark for piggery operators to follow.

Draft decision and applicant comments

Licence L9379/2023/1 that accompanies this report authorises emissions and discharges from ongoing operations of the existing piggery complex (8,000 pigs). The proposed conditions in the licence, as outlined in the above risk table, have been determined in accordance with the *Guidance Statement: Setting Conditions* (DER 2015).

The applicant was provided with drafts of the licence and this report on 20 July 2023, and sought only minor comments and clarifications.

8. Conclusion

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

In accordance with the *Guidance Statement: Licence duration* (DER 2016), the licence will be

issued with a duration of 20 years.

References

1. Australian Pork Ltd 2018, *National Environmental Guidelines for Indoor Piggeries* (NEGIP).
2. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
3. DER 2016, *Guidance Statement: Licence duration*, Perth, Western Australia.
4. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Risk Assessments*, Perth, Western Australia.