



Decision Document

Environmental Protection Act 1986, Part V

Proponent: Pearls Pty. Limited

Licence: L6859/1987/12

Registered office: Level 3
69 Smith Street
DARWIN NT 0800

ACN: 008 396 825

Premises address: Narrogin Farm
394 Narrakine Road South and 202 Wanerie Road,
DUMBERNING WA 6312
Being Lot 2581 on Plan 109130 and Lot 2582 on Plan 109129
as depicted in Schedule 1.

Issue date: Thursday, 8 September 2011

Commencement date: Sunday, 2 October 2011

Expiry date: Saturday, 1 October 2016

Decision

Based on the assessment detailed in this document, the Department of Environment Regulation (DER), has decided to amend the current license to reflect the new change of owner. DER considers that in reaching this decision, it has taken into account all relevant considerations and legal requirements and that the licence and its conditions will ensure that an appropriate level of environmental protection is provided.

Decision Document amended by: Nanette Schapel, Licensing Officer

Decision Document authorised by: Ed Schuller, Manager, Process Industries (Metro)



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1 Purpose of this Document

This decision document explains how DER has assessed and determined the application and provides a record of DER's decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to DER's assessment and decision making under Part V of the *Environmental Protection Act 1986*. Other approvals may be required for the proposal, and it is the proponent's responsibility to ensure they have all relevant approvals for their Premises.

Works approval and licence conditions

DER has three types of conditions that may be imposed on works approvals and licences. They are as follows;

Standard conditions (SC)

DER has standard conditions that are imposed on all works approvals and licences regardless of the activities undertaken on the Premises and the information provided in the application. These are included as the following conditions on works approvals and licences:

Works approval conditions: 1.1.1-1.1.4, 1.2.1, 1.2.2, 5.1.1 and 5.1.2.

Licence conditions: 1.1.1-1.1.4, 1.2.1-1.2.4, 5.1.1-5.1.4 and 5.2.1.

For such conditions, justification within the Decision Document is not provided.

Optional standard conditions (OSC)

In the interests of regulatory consistency DER has a set of optional standard conditions that can be imposed on works approvals and licences. DER will include optional standard conditions as necessary, and are likely to constitute the majority of conditions in any licence. The inclusion of any optional standard conditions are justified in Section 4 of this document.

Non standard conditions (NSC)

Where the proposed activities require conditions outside the standard conditions suite DER will impose one or more non-standard conditions. These include both premises and sector specific conditions, and are likely to occur within few licences. Where used, justification for the application of these conditions will be included in Section 4.



2 Administrative summary

Administrative details		
Application Type	Works Approval <input type="checkbox"/>	
	New Licence <input type="checkbox"/>	
	Licence Reissue <input type="checkbox"/>	
	Licence amendment <input checked="" type="checkbox"/>	
	Works Approval amendment <input type="checkbox"/>	
Activities that cause the Premises to become prescribed premises	Category number(s)	Assessed design capacity
	2	9,500 animals
Application verified	Date: 24/6/2011	
Application fee paid	Date: 07/07/2011	
Works Approval has been complied with	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	
Compliance Certificate received	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	
Commercial-in-confidence claim	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Commercial-in-confidence claim outcome		
Is the proposal a Major Resource Project?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the <i>Environmental Protection Act 1986</i> ?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Referral decision No: Managed under Part V <input checked="" type="checkbox"/> Assessed under Part IV <input type="checkbox"/>
Is the proposal subject to Ministerial Conditions?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Ministerial statement No: EPA Report No:
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the <i>Environmental Protection Act 1986</i>)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Department of Water consulted Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Is the Premises within an Environmental Protection Policy (EPP) Area	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
If Yes include details of which EPP(s) here.		
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
If Yes, include details here, eg Site is subject to SO ₂ requirements of Kwinana EPP.		



3 Executive summary of proposal

Overview:

Pearls Pty. Limited (Pearls) is the Licensee for Narrogin Farm, which is a 'prescribed Premises' under Category 2, Schedule 1 of the *Environmental Protection Regulations 1987* - Premises on which pigs are fed, watered and housed in pens.

The Licensee operates a combination of eco-shelters and conventional sheds. Due to RSPCA specifications based on aging infrastructure, the design capacity of the conventional sheds is 9,500 pigs at any one time. Odour generation is a potentially significant emission from the premises. Due to the solid and liquid wastes created by piggery operations, odour emissions can be generated from both the grower sheds and the wastewater treatment process if not properly managed.

Licence amendment:

This licence amendment is for a transfer of owners from Craig Mostyn Farms Pty Ltd to Pearls Pty. Limited. Based on correspondence received from the previous Licensee (Craig Mostyn Farms Pty Ltd) no pigs have been on site since the end of November 2014.

As part of this amendment, DER has not re-assessed the acceptability or impacts of emissions and discharges from the Premises or re-visited any existing emission control levels. Minor changes to the licence have been made to ensure that all conditions are in keeping with DER's current licence recommendations for Category 2 - Intensive Piggeries. Condition 4.1 has been updated to require the new Occupier to provide background information on the groundwater in the vicinity of the wastewater ponds. Similarly, because piggery production ceased in November 2014, there has not been any wastewater through the clay-lined wastewater treatment system. It is therefore necessary for the next Occupier of the Premises to demonstrate that the wastewater ponds and any hardstands where solid wastes are stored meet the required permeability of 1×10^{-9} metres/second.

Location:

The Premises is approximately 96.7 Hectares (239 acres) in area. It is located adjacent to the Narrogin Beef Feedlot and about 5 km south of the Narrogin town site. The nearest residential dwelling is approximately 1,500 metres north of the Premises boundary where the dwelling is located adjacent to an open farm piggery not associated with this Premises. The proximity of this residence is less than the Environmental Protection Authority's Guidance Statement No. 3 *Separation Distances between Industrial and Sensitive Land Uses* which recommends a buffer of 5,000 metres or more for intensive piggeries with more than 5,000 pigs.

There are no groundwater bores on site and no known groundwater users within 2 km of the Premises. The previous Licensee was not required to monitor groundwater. However, it is integral that information on the depth, quality and direction of the groundwater in the vicinity of the wastewater treatment system be provided to ensure that operations on site do not impact on the underlying groundwater.

An analysis of a composite sample of soil shows that the Premises is located on clayey sand soils with a trace of gravel. The nearest surface water body is Bottle Creek, located approximately 2.3 km from the Premises boundary in a north west direction. The Williams River is located 4 km south of the Premises and the area surrounding the Premises is part of the Arthur River catchment system.

Narrogin experiences prevailing moderate south-easterly winds in summer and moderate north-westerly winds in winter. The average rainfall of the area is recorded at 494 mm per year. However, over recent years the rainfall has been significantly lower than the average predictions.



Operations:

The piggery consists of straw-based eco-shelters and conventional indoor sheds that house grower and finisher pigs prior to dispatch. This licence does not apply to the pigs raised in the eco-shelters. When operational, pigs are received at approximately 11 – 12 weeks old from breeders in the Albany area. The pigs are conditioned for approximately 10 weeks prior removal off site at 21 weeks of age.

Conventional sheds:

The facility was initially constructed in the 1980s as an indoor 'grow-out' unit to house grower/finisher pigs using conventional sheds with pull-plug underfloor flushing. Six of the nine sheds were being utilised for the 'grow-out' process with one other shed used to temporarily store pigs either arriving or being transported off the premises.

Eco-shelters:

The piggery also includes 23 eco-shelters with deep litter straw lining on the Premises. The holding capacity is approximately 180 pigs in each shelter and the pigs are fed on grazing pellets and water is sourced from a combination of scheme and bore water. The shelter floors are concrete with a deep litter straw lining where the depth of straw varies according to the age of the pigs. Straw becomes contaminated with pig wastes and excess feed and it is replaced in each eco-shelter when the pigs are moved to another shed or transported off site.

Wastewater treatment system:

The wastewater treatment system has been established to screen solid waste and recycle wastewater for use on the Premises. All wastewater from the conventional sheds is channelled below ground to the wastewater treatment system via a concrete lined sump. The wastewater is pumped through a vertical screen where solids fall into a concrete hardstand and the effluent is diverted to a large, clay lined anaerobic pond (Pond 1), which is sectioned on the surface with floating tubing to promote the formation of an anaerobic crust in individual sections of the pond. Capacity is 5.6ML and depth is 2.4m at the outlet.

The wastewater is then gravity fed into a series of two clay lined aerobic ponds (Ponds 2 and 3). Capacity of Pond 2 is 5 ML and Pond 3 is 26 ML. When it reaches a certain height in Pond 3, the wastewater is pumped back to a concrete lined settling tank and then into a recycling tank where it can be used on site for cleaning and flushing operations. Both scheme and recycled wastewater are used to hand spray the pens and flush the drains beneath the conventional sheds, where the flushing occurs every 7 – 10 days on a rotation system for each pen (based on pig numbers and weather conditions). The flushing frequency is in keeping with the recommendations in the *National Environmental Guidelines for Piggeries* (Australian Pork Limited, revised 2010). Recycled water is not irrigated on the premises.

The wastewater treatment system includes a large evaporation pond (Pond 4) with a capacity of 75 ML. There are also two stormwater dams located in the south and east of the Premises which are used to capture stormwater runoff and retain the water within the Premises boundary.

The pond system and pond sizes were originally constructed for larger volumes than the throughput when the piggery was operating prior to November 2014. As a result, the second aerobic pond (Pond 3) rarely receives any wastewater over flow from the first aerobic pond (Pond 2) and, similarly, very little wastewater is discharged to the evaporation pond.

During a previous transfer of ownership of the piggery Licence (from the Great Southern Pig Company to Craig Mostyn Farms Ltd Pty), the wastewater ponds had dried during a period of non-operation. As a result, the ponds were desludged in 2009.



Solid waste:

Solid waste consists of the solids from the screening process and solid waste mixed with straw from the eco-shelters. These wastes are stored onsite on concrete or clay hardstand areas and removed from the Premises fortnightly for distribution on local agricultural land.

Deceased animals are buried on the Premises in designated clay lined burial pits and covered with suitable covering to limit odour, vermin and feral animals.

Other activities:

The Premises previously included a feed manufacturing plant and silos (Category 23). However, because these activities have ceased, Category 23 was removed from the licence when it was amended in 2011.

The instrument was issued for a five-year period, commencing 2 October 2011 and expiring 1 October 2016.



4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987* and DER's Operational Procedure on Assessing Emissions and Discharges from Prescribed Premises. Where other references have been used in making the decision they are detailed in the decision document.

DECISION TABLE				
Works Approval / Licence section	Condition number W = Works Approval L= Licence	OSC or NSC	Justification (including risk description & decision methodology where relevant)	Reference documents
Premises operation	L1.3.3, L1.3.4, L1.3.5 and L4.1	OSC	<p>Operation: <u>Emission Description:</u> <i>Emission:</i> Overflows from the wastewater treatment ponds and infiltration of wastewater from the ponds and areas where solid and liquid wastes are stored or buried.</p> <p><i>Impact:</i> Stormwater contaminated with nutrient high wastewater can overflow from the ponds and impact on the surrounding land. The closest surface water body is 2.3 km distance. Leachate from areas where solid and liquid wastes are stored or buried can infiltrate and impact on the underlying groundwater.</p> <p><i>Controls:</i> There are 4 wastewater ponds in series, with sufficient capacity to contain all wastewater associated with piggery operations. Ponds, burial pits and hardstanding areas are clay lined but further information is required regarding the permeability of the liners and hardstands and the depth, quality and direction of the groundwater are not known.</p> <p><u>Risk Assessment</u> <i>Consequence:</i> Moderate <i>Likelihood:</i> Possible <i>Risk Rating:</i> Moderate</p> <p><u>Regulatory controls:</u> L1.3.3 (Table 1.3.3) requires that the clay liner on the wastewater ponds, catch drains, burial pits and catch drains meet a permeability of $<1 \times 10^{-9}$ m/s. Condition 1.3.4 has been updated to a standard REFIRE and requires that overtopping of the ponds does not occur and a minimum freeboard of 500 mm is maintained. Condition 1.3.5 (Table 1.3.5) requires carcass burial pits to be located 100 m away from</p>	General provisions of the <i>Environmental Protection Act 1986</i> .



			<p>watercourses.</p> <p>Condition 4.1 (IR2, IR3 and IR4) requires the Occupier to provide information which demonstrates that the clay liner on the wastewater ponds and all areas where solid waste is stored or buried and liquid waste is channeled meets the required permeability of $<1 \times 10^{-9}$ m/s.</p> <p><u>Residual Risk</u> <i>Consequence</i>: Moderate <i>Likelihood</i>: Possible <i>Risk Rating</i>: Moderate</p>	
Improvements	L4.1.1 and L4.1.2	NSC	<p>As noted above, piggery operations have the potential to impact on the underlying groundwater. As the depth, quality and direction of the groundwater in the vicinity of the wastewater ponds, solid waste storage and carcass burial areas require further understanding, the following Improvement Conditions are required:</p> <p>IR1: Provide information on the depth, quality and direction of the groundwater beneath the wastewater treatment system on the premises</p> <p>IR2: Provide information on the permeability of the clay liners on all wastewater treatment ponds which demonstrates the clay liners meet the required permeability of $<1 \times 10^{-9}$ m/second:</p> <p>IR3: Carry out testing to ensure that all areas where solid waste is stored and the liner on the carcass burial pits meet the required permeability of $<1 \times 10^{-9}$ m/second.</p>	General provisions of the <i>Environmental Protection Act 1986</i> .
Licence Duration	N/A	N/A	The current licence is issued for a period of 5 years, expiring on Sunday 1 October 2016.	

5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
28/04/15	Proponent sent a copy of draft instrument	Licensee has requested a compliance date of 1 November 2015 to allow permeability testing and groundwater monitoring as required by Condition 4.1.1	Licence 4.1.1 compliance date changed to 1 November 2015



6 Risk Assessment

Note: This matrix is taken from the DER Corporate Policy Statement No. 07 - Operational Risk Management

Table 1: Emissions Risk Matrix

Likelihood	Consequence				
	Insignificant	Minor	Moderate	Major	Severe
Almost Certain	Moderate	High	High	Extreme	Extreme
Likely	Moderate	Moderate	High	High	Extreme
Possible	Low	Moderate	Moderate	High	Extreme
Unlikely	Low	Moderate	Moderate	Moderate	High
Rare	Low	Low	Moderate	Moderate	High



Appendix A

Premises Boundary and operations Plan of Pearls Pty. Limited

