Government of Western Australia
Department of Water and Environmental Regulation

Amendment Report

Application for licence amendment

Division 3, Part V *Environmental Protection Act 1986*

Licence number	L8344/2009/2
Licence holder	Primary Partners Pty Ltd
ACN	108 266 548
DWER file number	DER2016/001679
Premises	Roebuck Export Depot Lot 382 Broome Rd ROEBUCK WA 6725
Date of report	22 February 2024
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 licence 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 primarily relates to changing existing waste management requirements at the Roebuck Export Depot, which is subject to licence L8344/2009/2.

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

Primary Partners Pty Ltd (PPPL/licence holder) is seeking to change the requirements for manure handling and management at its livestock holding facility near Broome.

An application was submitted in September 2022, originally seeking to reduce the frequency of removing accumulated manure from the pen floors from quarterly to once per year, prior to the wet season.

An addendum to this application was subsequently received in April 2023, for proposed works to construct a bunded hardstand pad for the storage and processing of manure, and to include the stormwater retention and evaporation pond constructed in 2016 on the licence as authorised infrastructure.

Background

PPPL operate the Roebuck Export Depot, a livestock holding facility for the live export and domestic cattle industry about 30 km north-east of Broome.

The facility is registered under the *Export Control Act 2020 (Cth)* to assemble and hold livestock prior to live export through the Port of Broome, with a maximum of 17,444 cattle (average weight of 300 kg per head) able to be held for up to 30 days. The facility also holds cattle that are to be sent to domestic markets in southern WA and other destinations domestically.

The facility comprises 3 rows with 46 individual intensive pens, and several other ancillary pens for handling and processing animals. The holding pens sit on a bed of Pindan soil, which is typical of cattle station holding yards in the northern region of WA.

A stormwater retention and evaporation pond was constructed in 2016 to contain the large volume of surface runoff from stock holding and processing areas. A weighing station and concrete-lined plunge dip (17 kL capacity) are also used as part of site operations.

Due to the distinct monsoonal wet season of the Kimberley region, the facility does not typically operate between January and March. The usual season of operation is between March and December, during which only 15% of annual average rainfall occurs.

Proposed amendments

Manure management

The existing licence L8344 currently requires that when animals are being held within the pens, manure must be removed directly off-site from the pens at least once every 3 months, with all manure to be removed from the premises by 15 December each year, prior to the wet season.

PPPL initially sought to reduce the frequency of accumulated manure removal to only once per operating season, prior to the wet season and by 15 December, due to the availability of local contractors (with suitable machinery available for removing the manure) during the operational season.

On review, the department advised that due to the risk of public health and environmental impacts, the current practice of removing raw (untreated) manure off the premises for spreading on other properties cannot continue, and that the manure must either be taken to a premises that is lawfully able to accept that kind of waste, such as a licensed composting or organics recycling facility or a solid waste facility, or it must firstly be processed on-site (i.e., pastuerised) to reduce the level of pathogens, before it can be given away or sold to farmers for spreading.

PPPL therefore propose to invest in a transportable composting system at the premises that will allow the immediate processing of manure, spoilt feedstock and mortalities generated as part of operations, into a high-quality compost. The composting technology being proposed is an off-the-shelf modular system that will be operated and managed by the manufacturer (FABCOM).

To facilitate the composting process, PPPL propose to construct a storage/processing pad at the premises, on which the transportable composting infrastructure can be deployed, and compost produced from the on-site manure and mortalities.

Inclusion of the stormwater retention and evaporation pond

PPPL are also seeking to include the stormwater retention and evaporation pond on the licence as approved infrastructure, to provide the necessary authorisation for its ongoing use.

The pond was constructed in 2016 as an improvement under the existing licence L8344. It is 200 m long and 95 m wide with an embankment slope of 2.5:1. The overall depth is 2 m including a 500 mm freeboard. The pond is designed with sufficient capacity to accommodate a 10% Annual Exceedance Probability event and was constructed with compacted in situ Pindan soil (permeability $1x10^{-5}$ m/s) – a lesser standard of liner that was accepted by the department at the time due to the facility only being operated during the dry season and there being adequate separation to groundwater and sensitive surface water systems.

Consultation

The Department of Primary Industries and Regional Development (DPIRD) supports improved management of manure at the facility, noting there are limited options for disposing of raw manure by using it as fertiliser in cropping rotations in the Kimberley region, whereby land is mostly used for pastoralism, with only a few for horticulture or irrigation fodder production.

The Shire of Broome verbally advised it also supports the proposal (to change to on-site composting) and that additional approvals are not required under their local planning or health laws. The Shire did not provide formal confirmation of this in writing.

Risk assessment

The table below describes the risk events associated with the amendments 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 (refer to conditions of the granted instrument)
Source/ Activities	**Potential emissions**	**Potential receptors, pathway and impact**	**Works approval holder controls**					
PROPOSED AMENDMENTS								
Composting manure removed from pens, spoilt feedstock and mortalities, including on-site stockpiling and processing	Nutrient-laden leachate from manure, urine, mobilised by surface water runoff	Uncontrolled overland runoff, causing contamination of nearby surface water systems, soil contamination, impacts to health of native vegetation	Construction of a manure storage and processing pad	Mid-level on-site impacts **Moderate**	Not likely to occur in most circumstances **Unlikely**	**Medium** Acceptable, subject to regulatory controls	The delegated officer notes the licence holder has investigated the licensing of local farmers to accept raw manure (as solid waste facilities) and processing the manure on-site and has determined to compost the material on-site. The licence holder has engaged the composting technology provider who is currently servicing Bunbury Harvey Regional Council's FOGO composting operation in Dardanup. To facilitate the on-site processing of manure, the licence holder is required to construct a suitable manure storage and processing pad. In the absence of design and construction details provided with the application, the licence will be amended to include improvement conditions to ensure the proposed pad meets the benchmark controls outlined in the Organics Recycling Guidelines (DWER 2022), including suitable controlled drainage infrastructure and surface water containment, and post-construction compliance certification and reporting requirements. A construction certification report will be required to be submitted upon completion of installation, and all controlled drainage infrastructure will need to be constructed and relevant compliance reporting submitted, prior to the commencement of manure stockpiling and composting operations.	- Improvement conditions to require construction of an impermeable bunded hardstand for storage of manure and composting mortalities - Processing conditions
	Odour, from manure stockpiles and composting windrows	Unreasonable interference with the amenity of nearby sensitive receptors (>1.5 – 3.0 km)	Manure and mortalities processed (composted) using remote process monitoring, control & access	Low-level off-site impacts to amenity **Minor**	Not likely to occur in most circumstances **Unlikely**	**Medium** Acceptable, subject to regulatory controls	The delegated officer considers there is sufficient separation in place (>1.5 – 3.0 km to nearest receptors – Roebuck Plains caravan park & Broome's Gateway caravan park, >30 km to nearest populated area). Providing the manure is handled, stockpiled and composted in accordance with the Code of Practice (i.e. using an aerobic composting process, turning and aerating the material, maintaining suitable moisture levels and temperature, having a suitable C:N ratio, etc.), the delegated officer considers it unlikely that odour from manure storage or composting operations will significantly impact on the amenity or health of off-site human receptors. This also assumes that only low risk feedstocks are brought onto the premises for incorporating into the composting process, such as green waste, untreated timber and natural fibrous organics, which all have low odour potential. To ensure an acceptable level of risk is maintained during ongoing operations, these requirements will be imposed on the licence as operational controls. The delegated officer also notes this will result in additional improvements at the site in terms of managing mortalities, with dead animals to now be composted instead of current practice of burying on-site.	- Only low risk feedstocks brought onto the premises for incorporating into the composting process

Decision

Manure and mortalities management

Due to the risk of public health and environmental impacts, the common practice for many agribusiness operations to give away or sell their raw (untreated) manure to farmers for spreading on other properties as a soil ameliorant cannot continue, unless the manure has firstly been processed on-site (i.e., pasteurised) to ensure it does not pose a risk to public health or the environment.

The licence holder has acted on the advice of the department and proposes to change the management of manure and mortalities to on-site composting, which the delegated officer considers will result in significant environmental improvements at the site and will ensure there is not an unacceptable risk of impacts to nearby human and environmental receptors from ongoing operations. This determination is based on the following:

- the proposal will facilitate the on-site stockpiling and processing of manure and mortalities, which can be managed in-house (and addresses the issue of availability of local contractors for off-site removal of manure every 3 months);
- the proposal being consistent with the *National Beef Feedlot Environmental Code of Practice (*MLA 2012a), in terms of environmental protection standards, and is the department's preferred method of managing manure at intensive cattle holding facilities;
- the processing technology being proposed will ensure a high-quality compost product is being produced, which can then be taken off-site without further environmental approvals and presenting a low risk of causing off-site public health and nuisance impacts (or used on-site);
- the hardstand pad to be constructed will be required to meet the benchmark standards of modern-day composting operations, i.e., comprise a fully contained, controlled drainage system; and
- the change in managing mortalities by composting rather than on-site burial will result in a significant environmental improvement.

An improvement condition has been added to the licence to require the licence holder to firstly prepare and submit a proposal for construction of the new hardstand pad and surface runoff containment, including details on design specifications, construction materials and testing, and construction quality assurance and quality testing. It is expected that information will be provided to demonstrate how the pad will be sufficiently sized to manage the expected volumes of manure and mortalities, and a water balance on the expected volumes of runoff from the pad and confirmation the existing stormwater retention and evaporation pond has sufficient capacity to accept the additional inflows.

In addition to ensuring the new hardstand pad is fit for purpose, the key risks from this proposed change in manure and mortalities management relate to the control and containment of surface runoff from the pad and the potential for odour (and flies) from stockpiled manure and compost windrows. Controls have been added to the licence to specify operational requirements, consistent with relevant sections of the *National Guidelines for Beef Cattle Feedlots* (MLA 2012b).

The delegated officer is satisfied the above controls lower the overall risk profile of the premises and are critical for maintaining an acceptable level of risk of impacts during ongoing operations.

Following the completion of construction works for the hardstand pad, the licence holder must submit a compliance engineering report that certifies the works have been completed in accordance with design specifications, prior to the commencement of manure stockpiling and composting operations.

Addition of stormwater retention and evaporation pond

As part of a previous amendment to the licence in 2016 to increase the design capacity of the premises, conditions were added to the licence to require improvements to stormwater management infrastructure, in which PPPL chose to construct a new, larger retention pond to replace the former-retention pond that was significantly under-sized.

A design report was submitted to the department, as required by the licence, for a much larger pond measuring 210 m long by 105 m wide and 2 m deep (2.2 ha) with a designed holding capacity of 37,100 m^3, which is sufficiently sized to contain a 1:10 year storm event of 72 hours' duration (16,800 m^3). A separate sedimentation pond, measuring 12 x 4 x 1.5 m, was also constructed, to contain the high levels of silt and sand that is transported through the surface runoff from the yards.

Both ponds would be constructed with in-situ Pindan soils, with a soil permeability of around $1x10^{-5}$ m/s, which at the time, the department accepted this lesser standard due to the low risk of impacts to groundwater (~35 mbgl and the Pindan soils having a high phosphorus retention index) and there being sufficient separation in place to sensitive surface water systems, such as Roebuck Bay.

The department was notified of the completion of construction in December 2016 with attached photographs; however, the department has been unable to verify whether the ponds have been constructed to design specification and are fit for purpose in the absence of engineering documentation or compliance certification being provided, as per condition 2.1.2 of the licence.

The department subsequently conducted an inspection of the premises in April 2017, at the start of the operating season for that year, which only included general observations of the newly constructed ponds.

The inspection identified the newly constructed sedimentation pond as being full of silt and sediment, and also significant erosion on the embankments of the newly constructed stormwater pond following heavy rain events. The licence holder subsequently made arrangements for the pond contractor to complete the required repair works, which included a change to the slope of the main pond batter outer walls (to prevent future erosion), and slight redesign and reconstruction of the sedimentation pond to eliminate the build-up of excessive silt and sediment. It is understood the required repair works were completed prior to the 2018 wet season and the ponds have been operated since without incident.

On review of available information, the delegated officer is satisfied the ponds are fit for the intended purpose if they have been constructed to the design specifications outlined in the documentation submitted to the department in 2016 (EEI 2016), and therefore has added the relevant authorisation for its continued use on the licence.

To ensure the ponds are operating as designed and to minimise the risk of overtopping, controls have also been added to the licence to require regular visual inspections and desludging of the sedimentation pond.

Extension of licence duration

The existing licence is due to expire on 6 May 2024.

Given the proposed changes to on-site manure management and the completion of upgrades to stormwater retention and containment, the delegated officer is satisfied the key issues and risks to the environment at the premises have been addressed through the amended licence and has therefore, in accordance with the *Guidance Statement: Licence duration* (DER 2016), determined to extend the duration by a further 10 years.

The licence holder is also seeking to obtain approval to operate the holding yards during the "off-season" period.

The delegated officer understands the facility was designed to only operate during the driest months; detailed assessment would therefore be required to determine the feasibility of operating during the wet season, and if feasible, whether any improvements or upgrades would be required to infrastructure on the premises to ensure the risk of environmental impacts can be acceptable.

Note: the department will liaise with the licence holder on this aspect separate to this application.

Licence update and consolidation

As part of this amendment the delegated officer has updated the format and appearance of the licence, consistent with the current DWER template, and incorporated changes made under previous amendment notices. This includes the introduction of an authorised infrastructure table and operational requirements table, which the department is incorporating into all licences, for the purpose of clearly listing infrastructure that is authorised on the premises to assist with compliance inspections.

The controls listed in these new tables are based on the department's understanding of existing infrastructure and operational practices currently in place for the purpose of ensuring there is an acceptable risk from emissions and discharges from ongoing operations at the premises.

No additional assessment has been conducted as part of this update and consolidation. Decisions relating to the consolidated licence are published in previous amendment notices, and in accordance with section 59(1) of the EP Act, incorporating these changes into a single amended licence is not appealable.

In amending the licence, the delegated officer has also:

- deleted redundant AACR form set out in Schedule 1 of the previous licence;
- revised condition numbers, and removed any redundant conditions and realigned condition numbers for numerical consistency; and
- corrected clerical mistakes and unintentional errors.

The amendment notices for the previous licence will remain on the DWER website for future reference and will act as a record of DWER's decision making.

Consultation

The licence holder was provided with drafts of the amended licence and this report on 29 January 2024 and sought changes to reflect the use of a forced aeration composting system and not an open-air windrow system, in addition to other minor corrections and clarifications.

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. All new conditions have been determined in accordance with the *Guidance Statement: Setting Conditions* (DER 2015).

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 Duration extended by 10 years, to 06/05/2034

Licence history	Inserted, consistent with current DWER template
Introduction	Removed, consistent with current DWER template (this information is available within the *Guide to Licensing* (DWER 2019)
Interpretation	Inserted, consistent with current DWER template
Condition 1, Table 1	Previously Table 1.2.1, moved to condition 1, with the following infrastructure changes: • Added the number of cattle pens and their design specifications; • Added reference to the controlled drainage area; • Added reference to the sedimentation pond and evaporation pond, including design specifications;
Condition 2, Table 2	New improvement conditions relating to construction of a bunded hardstand pad for stockpiling and composting manure and mortalities, with requirements consistent with the benchmark controls of the Organic Recycling Guideline (DWER 2022)
Conditions 3, 4 & 5	Post-construction compliance reporting requirements for the composting pad
Condition 6, Table 3	New operational requirements table, replaces existing conditions 1.2.3 – 1.2.10 Additional conditions added consistent with the current management practices at the premises, relating to manure and mortalities management
Condition 7 & 8	New conditions relating to inspection of the stormwater infrastructure
Conditions 9 & 10	New conditions relating to the processing and testing requirements for composting manure and mortalities
Condition 11	New condition relating to keeping records of off-site removal of manure and mortalities
Conditions 13 & 14	Updated conditions relating to complaints management, consistent with current DWER template
Conditions 15, 16 & 17	Updated conditions relating to record-keeping, consistent with current DWER template
Condition 18	New condition relating to notification of mass mortalities events
Definitions	Definitions removed: ‘hardstand’, ‘Schedule 1’, ‘Schedule 2’ – conditions which contained these references have been changed or removed as part of this amendment
	Definitions added: ‘AS 1289’, ‘As 4454’, ‘books’, ‘composted manure’, ‘CFU’, ‘condition’, ‘EAD’, ‘licensed composting facility’, ‘licensed solid waste facility’, ‘manure’, ‘mass mortalities event’, ‘mortalities compost’, ‘MPN’, ‘pasteurisation’, ‘qualified professional engineer’
Schedule 1: Maps	Premises map updated
	New map of infrastructure added

References

1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. DER 2016, *Guidance Statement: Licence duration*, Perth, Western Australia.
3. Department of Water and Environmental Regulation (DWER) 2019, *Guideline: Industry Regulation Guide to Licensing*, Perth, Western Australia.
4. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.

5. DWER 2022, *Guideline: Better practice organics recycling*, Perth, Western Australia.
6. Environmental Engineers International Pty Ltd (EEI) 2016, *Stormwater retention system for Roebuck Export Depot*, report prepared for the Indigenous Land Corporation, May 2016.
7. MLA 2012a, *National Beef Cattle Feedlot Environmental Code of Practice, 2nd Ed.* Meat & Livestock Australia Limited.
8. MLA 2012b, *National Guidelines for Beef Cattle Feedlots in Australia, 2nd Ed.* Meat & Livestock Australia Limited.