



Application for Licence Amendment

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

Licence Number	L6315/1991/11
Licence Holder	Water Corporation
File Number	DWERVT16601
Premises	Denmark Water Resource Recovery Facility 33 Hodgson Street DENMARK WA 6333 Lot 965 on Deposited plan 183447
Date of Report	23 October 2024
Decision	Revised licence granted

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an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

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1. Decision summary

Licence L6315/1991/11 is held by Water Corporation (Licence Holder) for the Denmark Water Resource Recovery Facility (the Premises), located at Lot 965 on plan 18344, 33 Hodgson Street, Denmark.

This Amendment Report documents the assessment of potential risks to the environment and public health from proposed changes to the emissions and discharges during the operation of the Premises. As a result of this assessment, Revised Licence L6315/1991/11 has been granted. The Revised Licence issued as a result of this amendment supersedes the existing Licence previously granted in relation to the Premises.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this Amendment 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>.

2.2 Amendment summary

On 12 June 2024, the Licence Holder submitted an application to the department to amend Licence L6315/1991/11 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The following amendments are being sought:

- Alter the groundwater monitoring regime by reducing monitoring frequency from monthly to quarterly;
- Change the upgradient monitoring bore locations from bore 1/09 to bore 2/20, as shown in Figure 1, to improve safety considerations around the sampling of bore 1/09 during seasonal inundation; and
- Remove conditions relating to the now-completed construction of wastewater reuse offtake infrastructure and treatment system upgrades. DWER determining compliance has been demonstrated with Conditions 20-24 on 1 July 2024.



Figure 1: Existing and proposed monitoring bores

3. Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway and impact to receptors in accordance with the *Guideline: Risk assessments* (DWER 2020).

To establish a Risk Event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission.

3.1 Source-pathways and receptors

3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises operation which have been considered in this Amendment Report are detailed in Table 1 below.

Table 1 also details the proposed control measures the Licence Holder has proposed to assist in controlling these emissions, where necessary.

Table 1: Licence Holder controls

Emission	Sources	Potential pathways	Proposed controls
Spills/ discharges/ contaminated stormwater	Treated or untreated sewage discharged to lands or waters	Seepage to soil Infiltration to groundwater Overland runoff to surface water	Groundwater will continue to be monitored on a quarterly basis. The Licence Holder considers this frequency is consistent with other monitoring efforts at wastewater treatment premises across the state and is based on findings from historical monitoring results.
Chemical spill	Accidental spills or loss of containment Leaks from machinery/vehicles	Overland flow and infiltration to soil and groundwater	The substitution of monitoring bore 1/09 with 2/20 will continue to provide upgradient baseline data of groundwater quality parameters.

3.1.2 Receptors

In accordance with the *Guideline: Risk assessments* (DWER 2020), the Delegated Officer has excluded employees, visitors and contractors of the Licence Holder’s from its assessment. Protection of these parties often involves different exposure risks and prevention strategies and is provided for under other state legislation.

Table 2 and Figure 2 below provides a summary of potential human and environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises (*Guideline: Environmental siting* (DWER 2020)).

Table 2: Sensitive human and environmental receptors

ID (Figure 2)	Human receptors	Distance from prescribed activity
-	The nearest town of Denmark	Town centre is approximately 1.3 km north of the Premises.
H1	Residential Premises	~375 Northwest; ~450m northeast; ~500m to the East; ~550m to the South; ~500m to the West
H2	Recreational users	Wilson Inlet, Unallocated Crown Land and Crown Reserve (Parks & Recreation Reserve), including Denmark-Nornalup Heritage Rail Trail and minor waterway adjacent to northern premise boundary
	Environmental receptors	Distance from prescribed activity
-	Groundwater (non-potable purposes)	Depth below premises (groundwater monitoring data indicated standing water levels of between 7 and 17.5 m AHD, the premises is located within the 15 to 20 mAHD topographical contours
E1	Adjacent non-perennial watercourse	~160 m north east of the premises
E2	Wilson Inlet	~900 m west (hydraulically connected from the

		discharge point via the adjacent surface water stream and possible groundwater)
E3	Unallocated crown land and crown reserve (native vegetation)	Adjacent west, south and east.

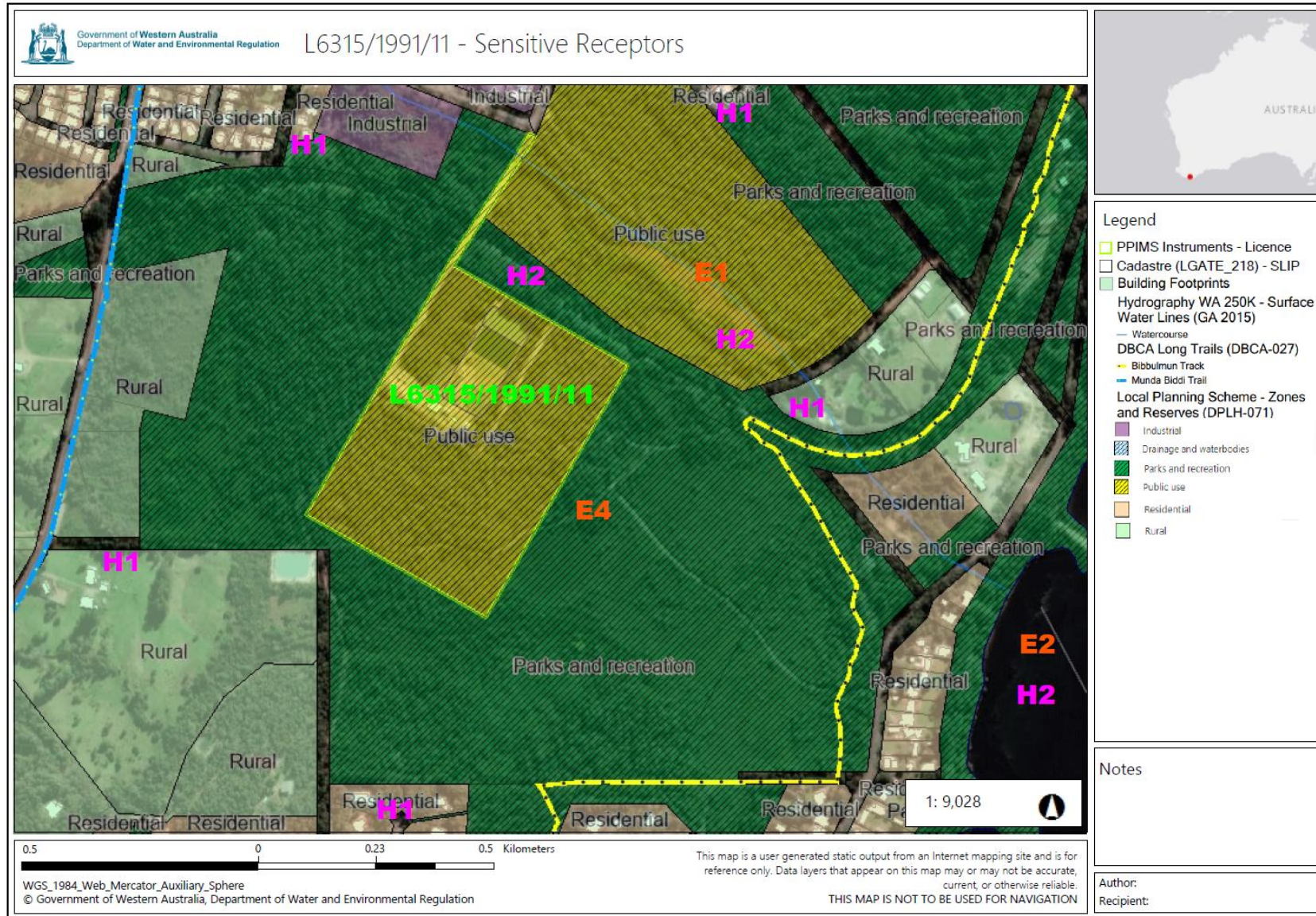


Figure 2: Distance to sensitive receptors

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IR-T15 Amendment report template v3.0 (May 2021)

3.2 Assessment of Licence Holder's request to amend monitoring conditions

The licence requires the monthly monitoring of various parameters in groundwater from three monitoring bores that surrounds the premises to identify contamination of groundwater indicative of subsurface seepage from treatment ponds. The Licence Holder has requested the amendment of the monitoring frequency to quarterly. Given the long-term monitoring results since 2010 have not shown any evidence of an increased in concentrations over time or impacts from the premises operation to groundwater, the Delegated Officer considers that that quarterly monitoring adequately characterises groundwater conditions at the site.

The Licence Holder has also requested that monitoring bore 1/09 be substituted with monitoring bore 02/20 (as indicated in Figure 1) to address safety concerns accessing 1/09 during seasonal inundation for approximately 5 months each year. Bore 1/09 is located up-hydraulic gradient from the treatment ponds. Bore 2/20 is located approximately 60m west of bore 1/09 and is also considered to be up-hydraulic gradient from onsite infrastructure. Sampling of nitrogen, phosphorus and major ion groundwater concentrations of both bores in November 2020 and June 2021 indicate similar water chemistry. The Delegated Officer considers bore 2/20 adequately characterises upgradient background water quality.

3.3 Assessment of Licence Holder's request to delete construction conditions

The Delegated Officer notes that the risk assessment associated with operation of the reuse offtake infrastructure, the subject of conditions 20-24, was conducted in the Licence Amendment granted on 9 June 2023 and compliance has been demonstrated. The Delegated Officer has removed the construction requirements (Condition 20-24) from the licence and amended cross-references to these conditions as detailed in Table 4.

The Revised Licence L6315/1991/11 that accompanies this Amendment Report authorises emissions associated with the operation of the Premises i.e. Category 54 activities. The conditions in the Revised Licence have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

4. Consultation

Table 3 provides a summary of the consultation undertaken by the department.

Table 3: Consultation

Consultation method	Comments received	Department response
Local Government Authority advised of proposal on 18 July 2024	None received	N/A
Applicant was provided with draft documents on 19 August 2024	See Appendix 1	See Appendix 1

5. Conclusion

Based on the assessment in this Amendment Report, the Delegated Officer has determined that a Revised Licence will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

5.1 Summary of amendments

Table 4 provides a summary of the proposed amendments and will act as record of implemented changes. All proposed changes have been incorporated into the Revised Licence as part of the amendment process.

Table 4: Summary of licence amendments

Condition no.	Proposed amendments
Condition 1 Table 1	The Licence Holder has satisfied the requirements of the construction requirements of Conditions 20-24 with the submission of the Environmental Compliance Report lodged in accordance with Condition 23. As such, Conditions 20-24 have been deleted and cross-references to these conditions have been amended and the infrastructure and equipment operational requirements added.
Condition 3 Table 3	The treated wastewater transfer design capacity has been included in the waste processing table (Table 3).
Condition 4	Authorisation for treated wastewater transfer has been included in Condition 4, and the authorised transfer point 'R1' including in Table 4.
Condition 5	The treated wastewater monitoring point 'R1' has been included in the emissions and discharge limits table (Table 5).
Condition 9 Table 6	The treated wastewater transfer monitoring point has been included in Table 6, Figure 1 and Figure 2 as 'R1'.
Condition 10 Table 7	The treated wastewater transfer monitoring point has been included in Table 7, Figure 1 and Figure 2 as 'R1'.
Condition 11	Deleted, with the monitoring requirements included in Condition 9, and renumbered subsequently.

Condition no.	Proposed amendments
Condition 12 Table 8	Changes to groundwater monitoring well locations to remove bore 1/09, include bore 2/20 and groundwater monitoring frequency from 'Monthly' to 'Quarterly'. Condition renumbered.
Condition 13	Deleted reference to Condition 25 as Schedule 2 reference is sufficient. Condition renumbered.
Condition 17	Deleted 'b)' and condition renumbered. The Licence Holder has satisfied the requirements of the construction requirements of Conditions 20-24 with the submission of the Environmental Compliance Report lodged in accordance with Condition 23. As such, Conditions 20-24 have been deleted and cross-references to these conditions have been amended.
Conditions 20, 21, 22, 23, 24	The Licence Holder has satisfied the requirements of the construction requirements of Conditions 20-24 with the submission of the Environmental Compliance Report lodged in accordance with Condition 23. As such, Conditions 20-24 have been deleted and cross-references to these conditions have been amended.
Definitions Table 12	Terms removed as no longer referred to in amended licence: 'Acid Sulfate Soil'; 'Acid Sulfate Soils Guidelines'; 'Environmental Compliance Report'; 'Neutralisation'; 'suitably qualified engineer';
Schedule 1: Maps Premises Map	Figure 1 updated to include R1 monitoring point, remove 1/09 groundwater monitoring bore and include 2/20 monitoring bore.
	Figure 2 updated to include R1 monitoring point and remove reference to 'proposed' new structure and pipework which has now been constructed.
	Figure 3 deleted as information now provided on updated Figure 1 and Figure 2.
Schedule 2	Deleted '25' numbering as unnecessary.

References

Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.

Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.

DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.

Appendix 1: Summary of Licence Holder's comments on risk assessment and draft conditions

Condition	Licence Holder's Requested Amendment (bold and red text)	Licence Holder's Additional Comments and/or Justification	Department's response
Condition 1, Table 1, 6. (a)	Overtopping of the ponds does not occur except where wastewater is directed to another pond.	This additional wording is proposed to include the authorised discharge from the balancing pond (pond 1) to the emergency storage pond (pond 2).	The condition has not been changed. No information has been provided to enable this requested change to be risk assessed. Transfer of wastewater between ponds should occur in a controlled manner through engineered infrastructure. The Licence Holder can amend the licence at a later date and provide information about the infrastructure in place for controlled transfer to occur.
Condition 1, Table 1, 6. (d)	Vegetation and floating debris (emergent or otherwise) is managed to minimise encroachment onto pond surfaces or inner pond embankments.	This change to wording is proposed as vegetation and floating debris cannot be prevented, only managed to minimise encroachment onto the ponds.	The condition has not been changed. The department considers the requested change is ambiguous and not enforceable.
Condition 1, Table 1, 7. (d)	Vegetation and floating debris (emergent or otherwise) is managed to minimise encroachment onto pond surfaces or inner pond embankments.	As above.	The condition has not been changed. The department considers the requested change is ambiguous and not enforceable.

<p>Condition 1, Table 1, 8. (a)</p>	<p>Impervious 11kL reuse transfer tank, with low level float switch set at 1.5 m, flow meter and pressure transmitter.</p>	<p>We request the reference to the low-level float switch being set at 1.5 meters is removed.</p> <p>This is to avoid a non-compliance resulting from the float switch being adjusted in the future for operational efficiency and optimisation of the reuse scheme.</p>	<p>Amended as per comment. The setting of the low level float switch does not increase the risk of adverse effects to receptors.</p>
<p>Condition 1, Table 1, 8. (b)</p>	<p>(b) 30,000 kL/year transfer design capacity.</p>	<p>We request the transfer design capacity is removed from Condition 1 as it's not an operational requirement. The capacity is a process limit and specification of the infrastructure, as currently captured in Condition 3, Table 3.</p>	<p>Amended as per comment.</p>
<p>Condition 1, Table 1, 8. (b)</p>	<p>(c) Reuse transfer pumps (one operational, one standby).</p> <p>(d) U-PVC transfer pipeline (~530m) and isolation valve.</p>	<p>We request the crossed-out text is removed as it is overly prescriptive and relates to the specifications of the infrastructure rather than the operational requirements of the reuse offtake structure.</p>	<p>Amended as per comment.</p>
<p>Condition 4, Table 4</p>	<p>Include:</p> <p>Emission – Treated wastewater transferred from the premises for reuse.</p> <p>Discharge point – R1.</p> <p>Discharge point location - As shown in Schedule 1, Figure 1</p>	<p>For consistency we request R1 be included in Table 4 as an authorised discharge point as it's referenced as such in Table 6.</p>	<p>Amended as per comment.</p>

	and Figure 2.		
Condition 9, Table 6	-	Footnote is yet to be added under Table 6 relating to superscript 1. (Assuming this relates to in field non-NATA testing being permitted).	Amended as per comment.
Condition 18, Table 10	Condition 9 and 10 Error! Reference source not found	Correction of cross reference error.	Amended as per comment.
Definitions, Table 12	Include: Discharge point R1 Means the treated wastewater discharge point from the Premises authorised under this licence, being the Reuse Transfer Pumps as depicted in Schedule 1.	Given L1 has a definition, this wording is proposed for R1 if it needs to be included. Note Table 12 should become Table 11 given the removal of the construction section which previously had table 11.	Definition for 'discharge point R1' included.
Footnote	L6315/1991/11	Correcting typo of Licence number in footnote.	Amended as per comment.
Schedule 1, Figure 2	Replace figure with corrected version	We identified a minor error in the site schematic where it's missing the flow path from the transfer tank to the discharge diversion manhole. A corrected version of the schematic has been included as an attachment to these comments.	Figure 2 replaced with corrected version provided by Licence Holder.