



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	DER2015/000323
Premises	Denmark Water Resource Recovery Facility 33 Hodgson Street DENMARK WA 6333 Lot 965 on Deposited plan 183447
Date of Report	09 June 2022
Proposed Decision	Revised licence granted

**MANAGER WASTE INDUSTRIES
REGULATORY SERVICES**
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 construction and operation of treated sewage reuse infrastructure at 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. The Revised Licence has been granted in a new format with existing conditions being transferred, but not reassessed, to the new format.

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 21/12/2021, 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:

- installation of wastewater reuse offtake infrastructure at the Denmark WWTP with a 30,000 kL/ year capacity (~950 kL/ week over 32 weeks); and
- operation of wastewater reuse offtake infrastructure and the provision of treated waste water to other premises for reuse.

The location of works within the Premises are depicted in Figure 1.

The Licence Holder proposes to undertake clearing of ~0.06 ha native vegetation in accordance with clearing permit CPS 185/8.(yellow text).

The construction and operation of works at the Premises will not alter the production or design capacity of the existing sewage treatment facility.

In addition, upgrades to the sodium hypochlorite dosing pump and tertiary filter feed pump flow control mechanism will allow flow rates to be controlled and improve the effectiveness of wastewater treatment.

The Licence Holder proposes to undertake clearing of ~0.06 ha native vegetation in accordance with clearing permit CPS 185/8.



Figure 1: Location of new infrastructure

2.3 Background

The Premises was upgraded about 8 years ago under works approval W4708/2010/1. As part of the approval process, the Ministers Appeal Determination dated 19/12/2011 for appeals 064 and 065 of 2011 imposed the requirement for a risk assessment of discharges from the Premises. The discharge of treated wastewater from the Premises is directed via an infiltration gallery and stream into Wilson Inlet (monthly average daily flow of 417 m³, min 215 m³: max 557 m³, in 2020/21). The requirements of the risk assessment were transferred via an amendment to the existing licence in 2014. Following this the report titled *Water Corporation Denmark WWTP final environmental improvement plan* (GHD Pty Ltd 2016) was submitted.

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.

The Delegated Officer has determined that the transfer of wastewater to an alternative premises is not an emission from the Premises and that the reduction in wastewater discharged from emission point L1 (estimated at ~33% of the weekly discharge volume for 32 weeks/ year) will not result in potential adverse effects and is therefore not a risk event considered in this assessment.

3.1 Source-pathways and receptors

3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises construction and 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
Construction			
Dust	Construction and installation works	Air/ windborne pathway	None specified
Noise			Develop <i>Construction and environmental management plan</i> to address:
Spills/ contaminated stormwater	Equipment and materials at the premises during construction and installation works	Discharge to land/ surface water, seepage to groundwater	<ul style="list-style-type: none"> • Compliance with the <i>Environmental Protection (Noise) Regulations 1997</i> (Noise regulations) • Address spills and clean-up
Acid sulfate soils	Construction and installation works (trench for the transfer pipe)		None specified: risk considered low with all excavation proposed above the groundwater water table

Emission	Sources	Potential pathways	Proposed controls
Operations			
Noise	Operation of the works	Air/ windborne pathway	No changes expected to current operations. Compliance with the Noise regulations
Spills/ discharges/ contaminated stormwater		Discharge to land/ surface water, seepage to groundwater	Impervious 25kL reuse transfer tank, with low level float switch set at 1.5 m, flow meter and pressure level transmitter. Transfer pumps: 1x operational, 1x standby. U-PVC pipeline (~530m) and isolation valve: to connect reuse offtake at the premises boundary. Potable water material defect test. Monitoring of treated wastewater quantity and quality transferred for reuse.

Consistent with the *Guideline: Industry Regulation guide to licensing* the commissioning of infrastructure with potable water is not environmental commissioning and no reasonably foreseeable environmental harm, emissions or discharges are considered to arise from the activity. The activity is considered to be a test for material defects in the constructed equipment and infrastructure, a matter addressed in the environmental compliance report.

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 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: Distances to sensitive human and environmental receptors

Human receptors	Distance from prescribed activity
Residential Premises	~375 northwest; ~450m northeast; ~500m to the east; ~550m to the south; and ~500m to the west
Recreational users	Wilson inlet and adjoined unallocated and crown reserve lands, including the adjacent stream.
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 m AHD topographical contours
Acid sulfate soils	Potentially present at the premises
Surface water: adjacent stream and Wilson Inlet	Adjacent stream ~160 m north east of the premises and Wilson Inlet ~900 m west (hydraulically connected from the discharge point via the adjacent surface water stream and possible groundwater)
Unallocated crown land (vegetated)	Adjacent west, south and east.
Crown resource (vegetated)	Adjacent north

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk assessments* (DWER 2020) for those emission sources which are proposed to change and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are incomplete they have not been considered further in the risk assessment.

Where the Licence Holder has proposed mitigation measures/controls (as detailed in Section 3.1), these have been considered when determining the final risk rating. Where the Delegated Officer considers the Licence Holder’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 Licence Holder’s controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 3.

The Revised Licence L6315/1991/11 that accompanies this Amendment Report authorises emissions associated with the installation and operation of waste water reuse offtake infrastructure at the Premises.

The conditions in the Revised Licence have been determined in accordance with *Guidance statement: Setting conditions* (DER 2015).

Table 3. Risk assessment of potential emissions and discharges from the Premises during construction and operation

Risk Event					Risk rating ¹ C = consequence L = likelihood	Licence Holder’s controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Source/ activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder’s controls				
Construction								
Construction and installation works for waste water reuse offtake infrastructure	Dust	Air/ windborne pathway causing impacts to health and amenity	Human receptors listed in Table 2	Refer to Section 3.1.1, Table 1	C = Slight; L = Unlikely Low risk	Y	N/A	Can be regulated by the provisions of the EP Act.
	Noise				C = Minor; L = Unlikely Medium risk	Y	N/A	Can be regulated by the provisions of the EP Act and the Noise regulations.
	Spills/ contaminated stormwater	Discharge to land/ surface water, seepage to groundwater	Environmental receptors listed in Table 2		C = Moderate; L = Rare Medium risk	Y	N/A	Can be regulated by the provisions of the EP Act and <i>Environmental Protection (Unauthorised Discharge) Regulations 2004</i> .
	Acid sulfate soils				C = Moderate; L = Rare Medium risk	N	Conditions 21 and 22	Due to the potential for acid sulphate soils (ASS), the Licence Holder is required to manage any ASS that is encountered in accordance with the relevant guidelines.

Risk Event					Risk rating ¹ C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Source/ activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls				
Operation								
Operations of waste water reuse offtake infrastructure	Noise	Air/ windborne pathway causing impacts to health and amenity	Human receptors listed in Table 2	Refer to Section 3.1.1, Table 1	C = Slight; L = Rare Low risk	Y	N/A	Can be regulated by the provisions of the EP Act and the Noise regulations.
	Spills/ discharges/ contaminated stormwater	Discharge to land/ surface water, seepage to groundwater	Environmental receptors listed in Table 2		C = Moderate; L = Rare Medium risk	Y	Conditions 1 (item 8) and 20 (infrastructure) and 10 and 11 (monitoring) <u>Conditions 23 and 24</u>	<p>The containment controls proposed by the Licence Holder for the operation of the treated sewage reuse infrastructure at the premises are considered sufficient and reflected in condition 20. Condition 1 (item 8) establishes that the construction requirements are to be maintained during operations – operations can only occur once the requirements of conditions 23 and 24 have been met.</p> <p>Condition 10 requires that the volume of any treated wastewater transferred from the premises for reuse must be monitored once operational.</p> <p>Condition 11 requires that the quality of any treated wastewater transferred from the premises for reuse must be monitored once operational.</p> <p>Conditions 23 and 24 require an Environmental compliance report (ECR), including certification that the design and construction requirements have been met. The Delegated Officer considered this appropriate taking into the consideration the quantity and quality of treated wastewater being contained within the infrastructure and the surrounding receptors.</p> <p>In consideration of the level of risk, the Delegated Officer has determined that the operation of the works can occur once the requirements of conditions 23 and 24 have been met and the ECR submitted to the department.</p>

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

Note 2: Proposed Licence Holder's controls are depicted by standard text. **Bold and underline text** depicts additional regulatory controls imposed by department.

4. Consultation

Table 4 provides a summary of the consultation undertaken by the department.

Table 4: Consultation

Consultation method	Comments received	Department response
Local Government Authority advised of proposal (30/03/2022)	None received	N/A
Department of Health (DoH) advised of proposal (30/03/2022)	None received	N/A
Other Stakeholders advised of proposal (30/03/2022)	None received	N/A
Licence Holder was provided with draft amendment on (06/05/2022)	Administrative error identified Administrative request to amend Condition 19 submission timeframe from 63 to 90 days	Administrative amendments made, including aligning the 90 day submission timeframe for conditions 16 and 19.

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 5 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 5: Summary of licence amendments

Condition no.	Proposed amendments
Condition 1 (item 8),	Provides for the works to be operated once the requirements of the relevant conditions have been met.
Conditions 10 and 11 (process monitoring)	Provides for any treated wastewater transferred from the premises for reuse to be monitored, once operational.
Conditions 20 through 24	Provides for: <ul style="list-style-type: none"> the works to be constructed, including requirements that will serve as controls when operational; the management of any acid sulphate soils; and reporting requirements to validate that works are constructed to the specified requirements.

Table 6 provides a summary of the conversion of condition numbering and format from the exiting licence to the Revised Licence. The intent of the conditions have not been amended in the conversion process.

Table 6: Conversion of licence conditions in this amendment

Existing condition	Condition summary	Revised licence condition	Conversion notes
1.1.1 1.1.2 1.1.3 1.1.4	Interpretation and definitions Australian or other standard Reference to code of practice	N/A – see Interpretation section, Definitions and Table 1	Redundant condition. Revised to current licensing format.
1.2.1	Emissions	N/A	Redundant condition. Revised to current licensing format.
1.2.2	Treated wastewater emission point L1	Condition 4	Adapted into current licensing format.
1.2.3	Waste acceptance	Condition 2	Revised to current licensing format.
1.2.4	Waste processing	Condition 3	Revised to current licensing format.
1.2.5	Waste containment infrastructure	Condition 1	Revised to current licensing format.
1.2.6	Wastewater storage pond management	Condition 1	Revised to current licensing format.
1.2.7	Wastewater treatment vessel management	Condition 1	Revised to current licensing format.
1.2.8	Sludge hardstand and dewatering management	Condition 1	Revised to current licensing format.
2.1.1	Record and investigate exceedances of limits or targets	N/A	Redundant condition. Deleted from licence.
2.2.1	Authorised emissions to land	Condition 4	Revised to current licensing format.
2.2.2	Emission to land limits	Condition 5	Revised to current licensing format.
3.1.1	Monitoring and sampling standards	Conditions 8, 9, 12 and 14	Revised to current licensing format.
3.1.2	Monitoring and sampling frequency	Condition 6	Revised to current licensing format.
3.1.3	Monitoring and sampling equipment calibration	Condition 7	Revised to current licensing format.
3.1.4	Monitoring and sampling equipment calibration	N/A	Redundant condition. Deleted from licence. Addressed by condition 7.
3.2.1	Monitoring emission to land	Condition 9	Revised to current licensing format.
3.3.1	Monitoring of input and outputs	Condition 10	Revised to current licensing format.

Existing condition	Condition summary	Revised licence condition	Conversion notes
3.4.1	Monitoring of surface water and groundwater	Conditions 12, 13 and 14	Revised to current licensing format; includes the provisions in condition 25, Schedule 2
4.1.1	Improvement program requirements: IR1 (Environmental Improvement Plan) and IR2 (alternative discharge works commissioning period and limit)	N/A	IR1 – deleted; the environmental improvement plan waste submitted, see section 2.3 of this decision report. IR2 – deleted; the relevant elements of the condition are addressed by condition 5.
5.1.1	Records management	Conditions 17 and 18	Revised to current licensing format.
5.1.2	Annual audit compliance report	Condition 16	Revised to current licensing format.
5.1.3	Complaints management system	Condition 15	Revised to current licensing format.
5.2.1	Annual environmental report	Condition 19	Revised to current licensing format.
5.2.2	Annual environmental report	Condition 19	Revised to current licensing format.
5.2.3	Non-annual reporting requirements	N/A	Redundant condition. Deleted from licence.
5.3.1	Notifications	N/A	Redundant condition. Deleted from licence.
Schedule 1 Maps	Premises map	Schedule 1: Maps	Updated map details
Schedule 2 Reporting & notifications	Annual Audit Compliance Report Form N1 Notification	N/A	Redundant attachment. Deleted from Licence Forms accessed at www.dwer.wa.gov.au

References

1. Department of Environment Regulation (DER) 2015, *Guidance statement: Setting conditions*, Perth, Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental siting*, Perth, Western Australia.
3. DWER 2020, *Guideline: Risk assessments*, Perth, Western Australia.
4. GHD Pty Ltd 2016, *Water Corporation Denmark WWTP final environmental improvement plan*.
5. Water Corporation 2021, *Denmark WWTP Treated wastewater reuse scheme (CS24699) Supporting information for approvals under Part V of the Environmental Protection Act 1986 Licence Amendment (L6315/1991/11) Supporting Information - December 2021*.

Appendix 1: Application validation summary

SECTION 1: APPLICATION SUMMARY				
Application type				
Amendment to licence	<input checked="" type="checkbox"/>	Current licence number:	L6315/1991/11	
		Relevant works approval number:		N/A <input checked="" type="checkbox"/>
Date application received	21/12/2021 (ref: DWERDT541918)			
Applicant and Premises details				
Applicant name/s (full legal name/s)	Water Corporation			
Premises name	Denmark Water Resource Recovery Facility (as per application) Denmark Wastewater Treatment Plant (as per licence)			
Premises location	33 Hodgson Street DENMARK WA 6333			
Local Government Authority	Shire of Denmark			
Application documents				
HPCM file reference number:	DER2015/000323-1			
Key application documents (additional to application form):	<p><i>Denmark WWTP treated wastewater reuse scheme (CS24699) Supporting information for approvals under Part V of the Environmental Protection Act 1986 (DWERDT541918)</i></p> <p>Letter dated 10/11/2021 re <i>Denmark Wastewater Treatment Plant L6315 – Condition 4.1.1 Improvement Program (DWERDT526017)</i></p>			
Scope of application/assessment				
Summary of proposed activities or changes to existing operations.	<p>In scope - Installation of waste water reuse offtake infrastructure at the Premises with a 30,000 kL/ year capacity, being:</p> <ul style="list-style-type: none"> • 25 kL wastewater reuse storage tank (connected to reuse transfer pipes and Denmark WWTP environmental discharge) • Reuse transfer pumps • Transfer pipeline and control valve at the premises boundary (~ xxx m) • Sodium hypochlorite dosing pump (to replace existing 'Hypo dosing pump') • Tertiary filter feed pump flow control (to control chloring contact time) <p>Out of scope - Installation of waste water reuse delivery infrastructure outside of the premises.</p>			

Category number/s (activities that cause the premises to become prescribed premises)

Table 1: Prescribed premises categories

Prescribed premises category and description	production or design capacity	Proposed changes to the production or design capacity (amendments only)
Category 54 - Sewerage Facility: premises- (a) On which sewerage is treated (excluding septic tanks); or (b) From which treated sewerage is discharged onto land or into waters.	1200 m ³	No change

Legislative context and other approvals

Has the applicant referred, or do they intend to refer, their proposal to the EPA under Part IV of the EP Act as a significant proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A Managed under Part V <input checked="" type="checkbox"/>
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Certificate of title <input checked="" type="checkbox"/>
Has the applicant obtained all relevant planning approvals?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Exempt: Public works under s.6 of the <i>Planning and Development Act 2005</i>
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	CPS No: CPS185/8 Potential for up to 0.06ha to install pipework
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A – Amendment does not result in a discharge of waste from the premises
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
Is the Premises subject to any other Acts or subsidiary regulations?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<i>EP (Controlled Waste) Regulations 2004; EP (Noise) Regulations 2004</i>
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i> ?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A