



Decision Document

Environmental Protection Act 1986, Part V

Proponent: Water Corporation

Licence: L5997/1992/11

Registered office: 629 Newcastle Street
LEEDERVILLE WA 6007

Premises address: Mandurah No. 2 (Halls Head) Wastewater Treatment Plant
Peelwood Parade
HALLS HEAD WA 6210
Being Lot 10 on Diagram 79777

Issue date: Thursday, 24 October 2013

Commencement date: Friday, 01 November 2013

Expiry date: Wednesday, 31 October 2018

Amendment date: Thursday, 18 February 2016

Decision

Based on the assessment detailed in this document the Department of Environment Regulation (DER), has decided to issue an amended licence. 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.

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Decision Document authorised by: Caron Goodbourn
A/Manager Licensing (Waste Industries)



Contents

Decision Document	1
Contents	2
1 Purpose of this Document	2
2 Administrative summary	3
3 Executive summary of proposal and assessment	4
4 Decision table	5
5 Advertisement and consultation table	8
6 Risk Assessment	11

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.



2 Administrative summary

Administrative details		
Application type	Works Approval <input type="checkbox"/>	
	New Licence <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
	54	5800 m ³ /day
Application verified	Date: N/A	
Application fee paid	Date: N/A	
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"/>
Is the proposal subject to Ministerial Conditions?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
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"/>
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"/>



3 Executive summary of proposal and assessment

The Mandurah No.2 (Halls Head) WWTP is located at Lot 10, Peelwood Parade, Halls Head. The WWTP is located on the Swan Coastal Plain; it is generally low-lying and flat bordered by the Indian Ocean to the west. The site is located within the Spearwood Dune System, and the soils on-site consist of flat stony plain with poorly drained shallow siliceous sands and large areas of bare limestone pavement.

The WWTP is located within the residential area of Halls Head. The plant is surrounded on three sides by houses the closest being 200m from the actual WWTP.

The WWTP is designed to treat wastewater to a tertiary standard and consists of two oxidation ditches and four clarifiers. All waste activated sludge is thickened on site and trucked to the Gordon Road WWTP for dewatering. All treated wastewater is discharged into on-site infiltration basins. A portion of infiltrated wastewater is recovered via bores surrounding the WWTP and used to irrigate public open space in the Seascapes urban development.

The groundwater at the site is generally within 2.0-4.0m of the natural ground surface. The WWTP is within 5km of the Ramsar site wetland the Peel-Yalgorup System.

The potential emissions from the site are fugitive emissions in the form of odour and discharges to land from the on-site infiltration and off site reuse (irrigation) of infiltrated/treated wastewater.

This partial decision document has been prepared for amendment to the licence. Table 4 provides details and justification for the amendments. Water Corporation submitted a P4 application dated 26 May 2015 to amend its Licence. The application requests that the volume of treated wastewater discharged to the infiltration ponds be determined by the existing inflow monitoring device. Mandurah No. 2 WWTP is a tank based system. The variance between the measured inflow and outflow will be insignificant for a tank based system.

In progressing this amendment, DER has considered whether the risk profile of emissions and discharges from the premises have significantly changed since the previous licence was granted. No significant changes have occurred and therefore DER has not amended conditions relating to emissions and discharges. Category 61 has been removed on the advice from Water Corporation that it does not accept liquid wastes generated from other premises at Halls Head WWTP.



4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987*, DEC's Policy Statement - Limits and targets for prescribed premises (2006), 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	Justification (including risk description & decision methodology where relevant)	Reference documents
Interpretation	L1.1.1 – L1.1.5	Changes have been made to update the licence to a current licence format. This has involved the addition of conditions 1.1.1 to 1.1.4	N/A
Premises operation	L1.2.1 – L1.2.5	<p>The change of licence format has involved the addition of condition 1.2.1, 1.2.2 and 1.2.3.</p> <p>Condition 1.2.1 and Table 1.2.1 have been included to the licence, which specifies the type of waste accepted on site and its limitation. It includes pump station reticulated sewage transported to WWTP.</p> <p>Condition 1.2.2 and Table 1.2.2 have been included to the licence, which outlines the process requirements of waste accepted on site. The condition provides information on how sewage will be treated and the storage of sewage sludge on site.</p> <p>Condition 1.2.3 and Table 1.2.3 have been included to the licence, which describes the requirements of the containment infrastructure for grit and screenings, controlled waste, wastewater, treated wastewater and sewage sludge. Sewage sludge is thickened in dissolved air floatation thickener (DAFT) and stored in metal storage tank for dewatering in another premises of water Corporation.</p> <p>Condition 1.2.4 has largely been transferred from the previous licence. The condition requires the Licensee to maintain the integrity of the containment infrastructure and manage vegetation floating debris and ponds overflow. This</p>	Application supporting documentation



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		condition replaces condition W1 of the previous licence. Condition 1.2.4 has been amended as the plant does not have trapped overflows system in place.	
Emissions to land	L2.1.1	<p>There is no direct discharge to the land. Emissions to land occur via infiltration. Treated wastewater of tertiary standard is discharged to the infiltration ponds. A portion of infiltrated wastewater is recovered via bores surrounding the WWTP and used to irrigate public open space in the Seascapes urban development.</p> <p>Condition 2.1.1 relating to emissions to land has been included in the licence as infiltration as a disposal method was referred to in the previous licence.</p>	Application supporting documentation
General monitoring		<p>Condition 3.1.1 ensures treated wastewater and groundwater sampling are carried out in accordance with the Australian standards and submitted to a NATA accredited laboratory for analysis. This condition replaces condition W4 (a) and W4 (b) of the previous licence.</p> <p>Condition 3.1.2 specifies the frequency of monitoring must be undertaken within the specified days apart at that frequency.</p> <p>Changes have been made to update the licence to a current licence format. This has involved the addition of conditions 3.1.3 to 3.1.4. Conditions 3.1.3 and 3.1.4 require that monitoring equipment used is calibrated to the manufacturer's specifications and any discrepancies are brought to the attention of CEO.</p>	Application supporting documentation
Emissions to land including monitoring	L3.2.1	Condition 3.2.1 effectively replaces condition W2 (a) of the previous licence. The monitoring of treated wastewater under this condition provides information on the quality of treated wastewater being discharged to the infiltration pond.	



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
Monitoring of inputs and outputs	L3.3.1	Condition 3.3.1 has been included to the licence which requires inflow and outflow monitoring at a specified frequency. P4 application dated 26 May 2015 requests that the volume of treated wastewater discharged to the infiltration ponds to be determined by existing inflow monitoring device. DER has considered the application on the basis that Mandurah No. 2 WWTP is a tank based plant and for a tank based plant outflow will be similar to the volume of inflow. This amendment reflects in condition 3.3.1.	N/A
Ambient quality monitoring	L3.4.1	Condition 3.4.1 and Table 3.4.1 have been included to the licence for groundwater monitoring at the specified bores for the required parameters and at a required frequency. The condition effectively replaces condition W3 of the previous licence.	
Information	L4.1.3 – L4.1.4	Condition 4.1.3 has been included to the licence, which requires the Licensee to complete Annual Audit Compliance Report and it replaces condition G2 of the previous licence. Condition L 4.1.4 has been included to implement a complaints management system. The WWTP has the potential to cause odour emissions from its treatment process. The nearest residence is about 200 m away from the premises boundary. This condition replaces condition G3 of the previous licence.	N/A
Information	L4.2.1 – L4.2.2	Condition 4.2.1 has been included to the licence, which effectively replaces condition G1 (a) of the previous licence. The condition relates to the submission of the Annual Environmental Report by 1 September each year. Condition 4.2.2 has been included to the licence due to change of the licence format. These conditions were not in the previous licence.	N/A
Notification	L4.3.1	Condition 4.3.1 has been included to the licence due to change of the licence format. The condition was not in the previous licence	N/A
Licence Duration	N/A	Licence duration has not changed as a result of this amendment	N/A



5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
03/12/2015	Proponent sent a copy of draft instrument	<p>Comments received are the following:</p> <ul style="list-style-type: none"> • Table 1.2.1 - Consider adding footnote to the table “includes pump station reticulated sewage transported to WWTP” clarifying that pump station sewage can be trucked to the WWTP under the Cat 54, and a Cat 61 is not required for this activity. • Table 1.2.3 - All excess sludge is thickened in Dissolved Air Floatation Thickener (DAFT) and then stored in sludge storage tank. Thickened sludge is then carted to other treatment plant (currently carted to Mandurah No. 1 WWTP) for dewatering. Please add DAFT tank (concrete), DAFT sludge tank (concrete) and Sludge Storage Tanks (metal) in the table. • Table 1.2.2, Table 1.2.3 - It has been decided that the sludge drying beds are no longer needed at Halls Head WWTP. All references to them can be removed from the licence. They will not be used into the future. All excess sludge is thickened in Dissolved Air Floatation Thickener (DAFT) and then stored in sludge storage tank. Thickened sludge is then carted to other treatment plant (currently carted to Mandurah No. 1 WWTP) for dewatering. 	<ul style="list-style-type: none"> • Foot note is added in Table 1.2.1 as requested. This will allow Water Corporation to transport from its pump station reticulated sewage to the WWTP. • The requirement of sludge drying bed is removed in Table 1.2.3. The Table1.2.3 has been amended to incorporate sludge is thickened in dissolved air floatation thickener (DAFT) and then stored in metal sludge storage tank. • Same as the previous comment.
		<ul style="list-style-type: none"> • Condition 1.2.4 - It is recommended that this condition is re-written in a similar format to condition 1.3.1 in Licence L5950/1991/11 for Mandurah 1 WWTP (Gordon Road) and suggested as follows:. 	<ul style="list-style-type: none"> • The comment is reasonable as there are no constructed trapped overflows on the evaporation /infiltration ponds. Condition (b) is removed. Condition 1.2.4 is amended to include ‘there is



Date	Event	Comments received/Notes	How comments were taken into consideration
		<p>The Licensee shall ensure that:</p> <p>(a) Overtopping of the wastewater treatment vessels or evaporation/infiltration ponds does not occur; and</p> <p>(b) There is no discernible seepage loss from the wastewater treatment vessels or sludge holding ponds.</p> <ul style="list-style-type: none"> • Table 3.4.1 - Remove standing water level unit m (BGL). This is not value adding, nor consistent with other licences. Add foot note to Table 3.4.1 enabling in-field non NATA analysis of pH be permitted in line with other DER licences. • Condition 3.1.3 - Recommend adding "...or specifications further optimised for the Facility". Manufacturer's specifications are adhered to and in some cases further optimised to benefit the operations. • Table 4.2.3 - Amend Parameter: "Taking a treatment pond offline for maintenance works" to relate specifically to odour as per Mandurah 1 WWTP Licence L5950/1991/11. As such reword to "Taking a treatment pond offline for maintenance works that may result in an increase in odour emissions from the premises". This is consistent with the existing licence at Halls Head WWTP. Remove Parameter: It has been decided that the sludge drying beds are no longer needed at Halls Head WWTP. All references to them can be removed from the licence. All excess sludge is thickened in Dissolved Air Flootation Thickener (DAFT) and then stored in sludge storage tank. Thickened sludge is then carted to other treatment plants (currently carted to 	<p>no discernible seepage loss from the wastewater treatment vessels or sludge holding ponds'.</p> <ul style="list-style-type: none"> • Removed m(BGL) and kept unit mAHD for monitoring Standing Water Level (SWL)l. Foot note is included in Table 3.2.1 and 3.4.1 consistent with Water Corporation's other premises. • No change. This is a DER standard condition. • Table 4.2.3 – Parameter has been amended to ""taking a treatment pond offline for maintenance works that may result in an increase in odour emissions from the premises" as requested. <p>Table 4.2.3 - Removed the parameter "removal of sewage sludge from a</p>



Date	Event	Comments received/Notes	How comments were taken into consideration
		<p>Mandurah No. 1 WWTP) for dewatering on a daily basis. Operationally this notification requirement does not add value or prevent environmental pollution.</p> <ul style="list-style-type: none">Table 4.2.1- Remove LR1 Form. Reporting formats are already agreed with DER. Remove AGWQ1 From. This is not provided in Schedule 2 of the licence, nor is it consistent with other licence reporting formats.	<p>treatment or sewage sludge storage pond or Geobag” considering all excess sludge is thickened in DAFT and stored in metal tank and carted to Water Corporation’s other treatment plant for dewatering on a daily basis.</p> <ul style="list-style-type: none">Removed LR1 based on the reporting agreement with DERRemoved AGWQ1



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