



# Decision Document

## *Environmental Protection Act 1986, Part V*

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**Proponent:** Water Corporation

**Licence:** L4201/1991/11

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**Registered office:** 629 Newcastle Street  
LEEDERVILLE WA 6007

**Premises address:** Woodman Point Wastewater Treatment Plant  
Cockburn Road  
MUNSTER WA 6166  
Being Lot 9 on Diagram 31097

**Issue date:** Thursday, 28 October 2010

**Commencement date:** Monday, 1 November 2010

**Expiry date:** Friday, 31 October 2031

### 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.

Decision Document prepared by: Caroline Conway-Physick  
Licensing Officer

Decision Document authorised by: Caron Goodbourn  
Delegated Officer



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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.



## 2 Administrative summary

Administrative details		
Application type	Works Approval <input type="checkbox"/>	<input type="checkbox"/>
	New Licence <input type="checkbox"/>	<input type="checkbox"/>
	Licence amendment <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Works Approval amendment <input type="checkbox"/>	<input type="checkbox"/>
Activities that cause the premises to become prescribed premises	<b>Category number(s)</b>	<b>Assessed design capacity</b>
	54 – Sewage facility	160,000 cubic metres per day
	61 – Liquid waste facility	50,000 tonnes per annual period
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	N/A	
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 checked="" type="checkbox"/>	Referral decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input type="checkbox"/>
		Ministerial statement No: 490 & 665 EPA Report No: Mandatory Audit Report, 2013/0000447726.
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 checked="" type="checkbox"/> No <input type="checkbox"/>		
Environmental Protection (Swan Coastal Plain Lakes) Policy 1992 – revoked; Environmental Protection (Kwinana)(Atmospheric Wastes) Policy 1999 and Regulations 1992 (Area C) - enacted. Relates to atmospheric emissions of SO <sub>2</sub> and fugitive (dust emissions).		
Is the Premises subject to any EPP requirements? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Emission types from the primary activities of the premises do not fall within the EPP requirements within which the premises exists.		



### 3 Executive summary of proposal and assessment

The Woodman Point Wastewater treatment Plant (WWTP) is owned and operated by Water Corporation and is located approximately 25km south west of Perth. The premises is surrounded by 'Special Use' town planning scheme zoned areas to the east, south and west, and is adjacent to the 'Jervoise Bay Cove' to the west. The premises services the southern suburbs of Perth which has a nominal contributing population of approximately 700,000.

The WWTP consists of pre-treatment, primary treatment and secondary treatment, which includes a four quadrant sequencing batch reactor (SBR) and an anaerobic sludge digestion process.

Treated wastewater is discharged to the Sepia Depression via a 23km Sepia Depression Ocean Outfall Landline (SDOOL) and ocean outfall via the Jervoise Bay Cove.

An Odour Control Facility (OCF) treats odours from the pre-treatment and primary treatment facility, the SBR bio-selectors and the sludge handling area. The plant also has a Tanker Receiver Facility (TRF), which accepts third party waste. The TRF has a separate dedicated chemical odour scrubber to control odour. Dewatered sludge is removed from the premises and disposed of to landfill, with the liquid fraction from the WWTP and TRF being discharged to the flow balancing dam.

The plant is designed to treat up to 160 ML influent per day, with the average daily inflow currently at 141ML/d, for the 2014/ 2015 reporting period. As the premises is nearing capacity, the Licensee has proposed an upgrade to the premises which will increase the design capacity to 180 ML/d. This will require the current operation to be taken off line and operated through a temporary (150 ML/d) system until the works are completed. The proposed works will be constructed over a 2.5 year period consisting of three stages that will include construction of the following:

Stage one –

- Two new 9.75 m vortex grit tanks;
- Four new primary sedimentation tanks;
- Eight secondary sedimentation tanks (temporarily designed as aeration tanks, four with lift out diffused aeration grids and four operated as clarifiers);
- New recycled water pump station and filtration system.

Stage two –

- Conversion of the SBR to a Modified Ludzack-Ettinger (MLE) configuration (Treated wastewater from the primary sedimentation tanks will bypass the SBR to the temporary secondary sedimentation tanks for a period of nine months).

Stage three –

- Secondary sedimentation tanks retrofitted from temporary aeration tanks to fully functioning secondary sedimentation tanks;
- Mixed liquor transferred to MLE quadrants over 2-3 days and blended with imported seed sludge.

A desk top assessment of groundwater bore (Site Id. 20022946) on the western boundary of the premises identifies depth to groundwater at approximately 10.4 mBGL, with TDS approximately 5,000 mg/L (saline). The groundwater forms part of the Murray River Basin and Bartram Road Catchment.

The closest sensitive residential receptor has been identified by the Licensee as approximately 0.5 km south of the premises. The premises operation includes an odour buffer of 750 m to the nearest land use.

The premises is subject to conditions within Ministerial Statement 665.



The main potential emissions during construction are expected to be odour issues from the change in operational process and noise and dust emissions from site construction.

This Licence is a DER initiated amendment to undertake administrative changes from the previous amendment process carried out for the works upgrade at the premises. Comments from the draft review process were omitted within the final draft submitted for signing.



## 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.

<b>DECISION TABLE</b>			
<b>Works Approval / Licence section</b>	<b>Condition number W = Works Approval L = Licence</b>	<b>Justification (including risk description &amp; decision methodology where relevant)</b>	<b>Reference documents</b>
<b>Interpretation</b>	L1.1.2	<p><b>Construction and operation</b></p> <p>Conditions 1.1.1 – 1.1.4 require that terminology used within the Licence is referenced to the appropriate definitions where applicable, and that any reference to a standard or guideline is to the most current version of that standard or guideline.</p> <p>An administrative change has been undertaken to amend minor changes to the Licence from a previous amendment process. Definitions have been updated.</p> <p>Condition 1.1.2 includes additional definitions in relation to an 'engineered containment system' and 'tanker receival facility discharge stack'.</p>	General provisions of the <i>Environmental Protection Act 1986</i> .
<b>General conditions</b>	L1.2.3 L1.2.7 L1.2.9	<p><b>Construction and operation</b></p> <p>An administrative change has been undertaken to amend minor changes to the Licence from a previous amendment process.</p> <p>Condition 1.2.3, Table 1.2.1, Note 1: Updated to reflect conditions under the Licence.</p> <p>Condition 1.2.7 amended to require the submission of the compliance document "within one month" following construction of each stage. The wording "and prior to operating the new works" has been removed as the proponent determined that this would not be feasible/ possible within the previous timeframe.</p> <p>Condition 1.2.9 has been amended with the removal of CEO approval and inclusion of</p>	Application supporting documentation.  General provisions of the <i>Environmental Protection Act 1986</i> .



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		'in accordance with Licence conditions 1.2.6-1.2.8'.	
Premises operation	L1.3.3	<p><b>Construction and operation</b> An administrative change has been undertaken to amend minor changes to the Licence from a previous amendment process.</p> <p>Condition 1.3.3, Table 1.3.2 'Waste processing' has been amended with the removal of pH range from the liquid waste section and with the addition of reporting requirements within condition 4.3.1.</p> <p>Condition 1.3.5, Table 1.3.4, 'Management actions', point a) amended to define "corrective actions" instead of "management actions". Point d) removed from the table, and point e) includes "in writing".</p> <p>Condition 1.3.6 (a) amended to require compliance to condition 1.3.5 and removal of "recorded the actions taken to maintain compliance with the Licence".</p>	<p>General provisions of the <i>Environmental Protection Act 1986</i>.</p> <p>Application supporting documentation.</p> <p><i>Environmental Protection (Controlled Waste) Regulations 2004</i></p> <p><i>Environmental Protection (Noise) Regulations 1997</i></p> <p><i>Environmental Protection (Unauthorised Discharges) Regulations, 2004.</i></p> <p>Australian and</p>



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
			New Zealand guidelines for fresh and marine water quality – 2000.
Improvements	L4.1.1	<p><b>Operation</b></p> <p><u>Emission Description</u>  <i>Emission:</i> Discharge of Hydrogen Sulphide (H2S) from the Tanker Receival Facility stack at the premises  <i>Impact:</i> Reduced local air quality and odour emissions which could potentially interfere with the health welfare, convenience, comfort or amenity of any person.  <i>Controls:</i> The proponent monitors parameters for point source emissions at the Tanker Receival Facility (TRF) stack (S1004857) which includes H2S. The TRF includes a chemical scrubber and discharge stack (50 m). Water Corporation have an 'Odour Improvement Plan and Mitigation Strategy' in place and have undertaken an odour control summary to assess emissions from the premises operation (as defined within condition 2.4.1 of the Licence.</p> <p>The closest residential receptor is 500 m south of the premises.</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>            Condition 1.3.5 has been included to require monitoring of H2S emission levels at the Tanker Receival Facility stack and includes management actions in the event of</p>	General provisions of the <i>Environmental Protection Act, 1986.</i>





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<b>Works Approval / Licence section</b>	<b>Condition number W = Works Approval L= Licence</b>	<b>Justification (including risk description &amp; decision methodology where relevant)</b>	<b>Reference documents</b>
		<p>exceedences of the limit specified.</p> <p>Condition 2.4.1 defines the operating documents for consideration in and management of odour emissions at the premises.</p> <p>Condition 3.2.1 requires monitoring of point source emissions to air at the premises which includes the Tanker Reival Facility (TRF).</p> <p>Condition 4.1.1, Improvement Programme has been included within the Licence as it has been identified, through the review of the draft Licence amendment documentation by Water Corporation, that the TRF does not have an operational H2S analyser to determine H2S emissions as defined within condition 1.3.5. It is considered that the ability to assess if the TRF is emitting emission levels above the required limit set that the Licensee is able to more promptly respond to the exceedence and implement appropriate management actions to mitigate and manage such issues and potential complaints. It is considered that this will assist in reducing the volume of odour emissions from the premises and improve monitoring of H2S emissions at the premises.</p> <p><u>Residual Risk</u>  <i>Consequence:</i> Minor  <i>Likelihood:</i> Possible  <i>Risk Rating:</i> Moderate</p>	
<b>Information</b>	L5.2.1	<p><b>Operation</b></p> <p>Condition 5.2.1, Table 5.2.1 includes a summary for reporting of any exceedences according to guidance as defined within Ministerial Statement 665, relating to the premises. This relates specifically to Table 3.3.1 of the Licence.</p>	N/A



<b>DECISION TABLE</b>			
<b>Works Approval / Licence section</b>	<b>Condition number W = Works Approval L= Licence</b>	<b>Justification (including risk description &amp; decision methodology where relevant)</b>	<b>Reference documents</b>
<b>Licence Duration</b>	N/A	<p>The current Licence will expire on 31 October 2016 in line with DER 'Licence duration, May 2015', guidance statement.</p> <p>"Woodman Point WWTP (Lot 9) is reserved as 'Public Purposes - Water Authority of WA'. Lot 20 is reserved "Public Purposes - special uses'. Development Approval is not required for Woodman Point WWTP (Note: A Development Approval is not required for development on reserved land that is owned by or vested in a public authority for the purpose of the supply, treatment, drainage or conveyance of water or wastewater (Clause 16(1a) of the MRS) where the land is: reserved for Water Corporation 'Public Purpose' use; vested in, or owned by the Water Corporation, and does not involve the clearing of regionally significant bushland in a Bush Forever Area)."</p>	N/A



## 5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
30/05/2016	Proponent sent a copy of draft instrument	<p>Comments on draft received from Water Corporation, Danielle Berry, via email to Chris Slavin (DER) on 20 April 2016, that were not addressed through the initial works upgrade amendment process:</p> <ol style="list-style-type: none"> <li>1) Minor change- Bold “Tanker Receival Facility Discharge Stack” at the top of page 7.</li> <li>2) Remove the definition for “Freeboard” – it is not referenced in this Licence.</li> <li>3) Define ‘engineered containment system’ in the definitions.</li> <li>4) Note 1 (below table 1.2.1) refers to the Licence as a Works Approval. Please replace the words ‘Works Approval’ with ‘Licence’ (as this is not a WA).</li> <li>5) It doesn’t make sense to refer to the Licence Amendment Supporting Document here. A lot of the information in this document is background info (including current operation of the plant), and was submitted to provide information for the DER to enable them to draft this revised Licence. The upgrade information in section 6 is repeating what is listed in table 1.2.2 of the draft Licence. The DER should have extracted the various sections of this document, and used the info to develop conditions relating to the upgrade works.</li> <li>6) General comment – whilst we have put a lot of effort into defining exactly what we want in the BDC documents eg. 5No. MLR pumps, the Delivery Alliance will still be able to offer</li> </ol>	<p>DER initiated amendment on comments not addressed, as follows:</p> <ol style="list-style-type: none"> <li>1) Definition placed within condition 1.1.2;</li> <li>2) Removed;</li> <li>3) Definition placed within condition 1.1.2;</li> <li>4) Changed;</li> <li>5) Statement. No change. This does not relate to the application or premises but a formatting approach.</li> <li>6) No change. Noted. The Licence is based on current operation with the amendment defining what the proposed works upgrade incorporates. Once the upgrade is completed, then an amendment is required to update the Licence to the new and final operation design. This cannot be done until all works are completed and a compliance document submitted as per condition 1.2.7 and 1.2.8 of the Licence.</li> <li>7) No change. The specifics of the upgrade must be defined within the documentation in order to define the basis of the risk assessment on what is proposed (DER process). See comment above regarding conditions 1.2.4, 1.2.5 and 1.2.6.</li> </ol>



Date	Event	Comments received/Notes	How comments were taken into consideration
		<p>alternatives if they can demonstrate a significant NPV advantage to the Corporation. Stage 1, Item 7: I think that this should be either left out or simplified. The Alliance may be able to come up with a better NPV alternative to the proposed 720kW RAS system, which may only require 4No. pumps instead of 16No. Stage 2 is quite prescriptive, and could be reduced to three Items, in the order No. 3, No. 1 and No. 2. Leave the rest out, as how we reconfigure the SBR to an MLE reactor is entirely up to us?</p> <p>7) As per Wayne's comment above the licence shouldn't specify the design details. Condition's 1.2.4 and 1.2.5 are confusing and contradict each other.</p> <p>8) What if the change in specification is not minor, but improves the functionality of the infrastructure? The last line states 'and all other conditions in this Licence are still satisfied'. If you change the specs listed in Table 1.2.2, we may not be compliant with the doc referenced in Table 1.2.1.</p> <p>9) This doesn't allow time for the compliance report to be written (following construction and prior to commissioning applies commissioning cannot commence until the compliance document has been submitted however the compliance document cannot be written until construction is complete. I.e. this condition implies works will have to stop while the report is written and submitted?</p> <p>10) We cannot provide a commitment at the end of construction that there are no material defects. Defects are sometimes not discovered until commissioning is undertaken. Remove the reference to /no material defects'.</p>	<p>8) No change – see condition 1.2.5 which clarifies this point.</p> <p>9) Amended.</p> <p>10) No change. The requirement for a suitably qualified professional engineer or builder is to give surety that to the best of their ability/ knowledge it has been adequately constructed to operate as defined. This is a standard condition within DER.</p> <p>11) No change. This will be removed on completion of the upgrade and submission of a compliance report for review, through the final amendment process to reflect the final upgrade once in place. The interim process has been designed at the lower capacity therefore full capacity for the interim operational phase is not permitted.</p> <p>12) Amended.</p> <p>13) No change. Defined within Licence – see condition 1.3.4, Table 1.3.3.</p> <p>14) Removed. Seawater pH range is considered approximately between 7.5-8.4. Emissions to Ocean of pH 4 is not considered appropriate. Assessment of the 2014/ 2015 AER identifies that the premises discharge pH parameter is currently achieving a suitable pH range.</p> <p>15) No change – comment does not correlate</p>



Date	Event	Comments received/Notes	How comments were taken into consideration
		<p>11) Contradicting to limit the premises capacity to 160 ML/d, when Table 1.3.1, 1.3.2 and the premise category (pg. 1) states 180 ML/d. Cannot control inflow – please remove this condition.</p> <p>12) If the condition has to stay in, Define ‘reviewed’? Does this refer to DER acknowledging the submission of the reports or do we require the CEO’s approval?</p> <p>13) Expand acronym ‘ASD’</p> <p>14) Current pH acceptable range is 4-8 (Licence specifies 6.5-8). Please amend.</p> <p>15) Fifth entry should be “MLE reactor”</p> <p>16) We do not have online H2S analyser at the TRF, as such this is not relevant. Please remove the Tanker Reival Facility from this Table.</p> <p>17) What is the difference between a management action and a corrective action? I would have thought that a corrective action IS a management action. Suggest changing to: “Implement Management Actions including: Assess operation to determine any failure... Undertake corrective action... Restore normal operation... Notify CEO...”</p> <p>18) It is impractical to state that we shall not restart operations until we have recorded all actions taken to maintain compliance with the Licence. Is the intention of that condition to only mean actions taken in relation to the OCF (not the whole Licence). The top priority is to ensure that the odour control facilities are back up and operational – any report/records will be completed as soon as practicable (but not necessarily before operations are restarted). The problem will be ‘rectified’ as</p>	<p>to Table 1.3.3?</p> <p>16) Discharge points are identified at both facilities for H2S and monitoring is required at both facilities. Table 1.3.4 defines management actions/ approach required on emission levels. Please explain how assessment has been undertaken from this part of the facility, and reported in the past, as an emissions stack is present?</p> <p>17) Amended.</p> <p>18) Condition 1.3.6 amended.</p> <p>19) No change. Section 5.5 of the submitted application supporting documentation identifies the ‘Odour Control Summary’ as Appendix 1, within AQUA no. 13945397.</p> <p>20) Amended, with inclusion into Table 4.3.1.</p> <p>21) No change. Table requires continuous monitoring frequency with a monthly averaging by use of inflow/ outflow meters.</p>



Date	Event	Comments received/Notes	How comments were taken into consideration
		<p>part of management actions in accordance with Table 1.3.4. Please remove condition 1.3.6.</p> <p>19) The Odour Management Plan and Mitigation Strategy for the upgrade refers to doc PM#13945397. This doc is in word version – and DOES NOT include the referenced Appendix 1. In other words, the Licence keeps referencing a document which doesn't contain the specified odour mgt plan. This needs amending to the correct PM#- which is 14290847.</p> <p>20) Note 2: please exclude pH and E.Coli from the contaminant loading requirements. Note 4: why is MS 665 referenced here? Not sure what this note means or its relevance as MS 665 doesn't define that emission point.</p> <p>21) How can we monitor cumulative ML/day flow rates each month? Needs to be monthly cumulative flow rates in ML, AND/OR daily averaged flow rates in ML/d.</p> <p>Comments received back from Danielle Berry on 17 June 2016 as a result of 21 day consultation period of the Licence amendment process. Comments included:</p> <p>1) General comment – there is potential that the contractor tenders may propose slightly different and potentially more efficient/effective infrastructure therefore a reduce level of detail would be prudent to avoid the need for a licence amendment down the track when final design is confirmed.</p> <p>2) Stage 2, Item 7 should read" into each MLE basin". Stage 3, Item 1 – does the number of SSTs</p>	<p>DER response to comments received on 17 June 2016:</p> <p>1) Refer to condition 1.2.4, 1.2.5 and 1.2.6 of the Licence with regards to 'Departures'</p> <p>2) The Licence amendment incorporates a works upgrade as per the details supplied in the application supporting documentation. The risk assessment has been based on the design specification supplied. Any departures from the design specifications supplied are to be addressed through conditions 1.2.4, 1.2.5 and 1.2.6 of the Licence.</p> <p>3) Incorrect. No change.</p>



Date	Event	Comments received/Notes	How comments were taken into consideration
		<p>need to be specified? Stage 3, Items 2 &amp; 3 – the Construction Alliance may decide on a different configuration. Does the level of detail specified need to be this specific?</p> <p>3) Condition's 1.2.4 and 1.2.5 contradict each other.</p> <p>4) 1.2.5: If the construction Alliance change the specs listed in Table 1.2.2, we may not be compliant with the doc referenced in Table 1.2.1. Is this level of infrastructure to be construction required?</p> <p>5) 1.2.8: Can the reference to no material defects' be removed? Compliance doc will confirm the infrastructure has been constructed as described however defects potentially won't be identified until commissioning and can be reported via the commissioning report.</p> <p>6) 1.3.3: Expand acronym 'ASD'</p> <p>7) 1.3.5: We do not have online H2S analyser at the TRF. Please remove the Tanker Receiving Facility from this Table.</p> <p>8) The condition states that we can't restart until we have complied with condition 1.3.5. This is an issue because condition 1.3.5 requires a written notification to DER. We cannot wait until we have notified DER in writing to restart the odour control facility. Please amend Table 1.3.4 to remove "in writing".</p> <p>9) The TRF stack is 50m.</p> <p>10) Can the AQUA#13945397 be changed to AQUA#14290847?</p> <p>11) There is no continuous monitoring device to record volumetric flow rate of the TRF. Can only record volumes of liquid waste as each</p>	<p>4) Any departures from the design specifications supplied are to be addressed through conditions 1.2.4, 1.2.5 and 1.2.6 of the Licence.</p> <p>5) No change. Condition is consistent with those used by DER.</p> <p>6) The initial application referenced ASB which was defined as the Anaerobic Biosolids Digester which was defined within the respective condition – addressed in previous comments sent to Water Corporation above (30/5/2016). The acronym has now been changed from ASD to ABD.</p> <p>7) The condition has been amended however an improvement condition has now been proposed within Section 4 Improvement programme for the installation of an H2S analyser.</p> <p>8) No change. Written correspondence can be notification via any written form confirming operation is now rectified e.g. email.</p> <p>9) Amended stack height.</p> <p>10) As previously stated, the Application Supporting Document does not reference this number however I have included this number as follows within Table 2.4.1: "(Water Corporation independent document reference number AQUA#14290847)".</p> <p>11) Amended to each load received.</p> <p>12) Removed and placed within Table 5.2.1.</p> <p>13) Amended from 3.1.3 to 3.1.4.</p>



Date	Event	Comments received/Notes	How comments were taken into consideration
		<p>truck comes in. Please amend to reflect this process.</p> <p>12) This new text needs to be removed. MS 665 is not specifically on Woodman Point WWTP - it is on the SDOOL line (which includes a number of dischargers/participants). An exceedance of criteria therefore cannot be attributed necessarily to Woodman Point WWTP. MS 665 exceedances are managed through the MMP (which states that the DER is to be notified), and should not be regulated through the DER Licence.</p> <p>13) This should reference condition 3.1.4 (not condition 3.1.3), as the condition refers to the calibration reports that need to be developed if calibration requirements can't be met.</p> <p>Final comments received from Danielle Berry via email (6 July 2016) through the draft referral process included:</p> <p>1) 1.3.1: Table 1.3.2 states that dewatered biosolids to be sent to registered landfill. Biosolids sent to storage facility or to farm (licenced facilities) - not to landfill. Please amend/remove.</p> <p>2) 1.3.5: Table 1.3.4 should refer to 5.3.1, not 4.3.1</p> <p>3) 1.3.6: States that we cannot restart operations until we have complied with all the management actions in Table 1.3.4. We cannot wait until we have assessed H2S issue, rectified and notified DER before we restart operations. We need to be able to restart operations as soon as possible to avoid unnecessary odour emissions. Please amend.</p> <p>4) 2.2.1: amended the height of the wrong</p>	<p>DER response to comments received from draft referral process, as follows:</p> <p>1) Changed biosolids to read: "Dewatered biosolids to be removed for offsite disposal</p> <p>2) Typographical error: changed to 5.3.1</p> <p>3) Condition 1.3.5 and 1.3.6 must be read in the context of Table 5.3.1 – No change.</p> <p>4) Amended.</p> <p>5) Removed. The summary of exceedences does incorporate other premises and as such the independent reporting of any exceedence should be emailed through to DER CEO, outside of the Licence.</p> <p>6) Awaiting confirmation of construction details/ permeability from Licensee.</p> <p>7) Typographical error. Amended.</p> <p>8) Amended to 31/01/2017 (six months).</p> <p>9) Amended to read: "... and ocean outfall</p>





Date	Event	Comments received/Notes	How comments were taken into consideration
		<p>stack. OCF is 50m high, TRF is 12 m high. Please amend</p> <p>5) 5.2.1: the requirements in MS665 relate to overall SDOOL discharge, not individual plants. It is unreasonable to include a summary of any exceedance relating to Woodman Point operations, as a MS exceedance cannot necessarily be attributed to Woodman Point WWTP (or effluent quality as referred to in the decision doc). DER will be notified of EQO exceedances as per the Ministerial. Please amend or remove.</p> <p>6) 1.3.4: Table 1.3.3 refers Flow Balancing Dam as “constructed of concrete”. Please amend to “plastic lined”.</p> <p>7) 1.3.4: Table 1.3.3 – Please correct “Anerobic biosolids digester” to “Anaerobic biosolids digester” (typo)</p> <p>8) IR condition - September 2016 is not feasible (need 6-12 months).</p> <p>9) Premises Description: Talks about discharge of final effluent through the SDOOL and 4.2km Ocean Outlet through “Jervoise Bay Cove”. Ocean outlet is 4.2 km from Point Peron to Sepia Depression.</p> <p>10) 2.3.1, Table 2.3.1: Spelt “Priority” wrong.</p>	<p>via the Jervoise Bay Cove.”</p> <p>10) Typographical error. Amended.</p>



## 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

### Point source emissions to air including monitoring

For the Woodman Point Wastewater Treatment Plant facility, the principle emissions of concern are emissions to air (odour from Hydrogen sulphide emissions). DER has reviewed the proponent's impact assessment for emissions to air from the premises and is satisfied with the assessment provided by the proponent.

The proponent has an 'Odour Management Plan and Mitigation Strategy' and 'Odour Improvement Plan' and is required to comply with Ministerial requirements for the reduction of odour emissions by at least 50% since 2005 within three years for the premises. The long term objective has been defined by the Licensee as "*achieving [a] long term 73% reduction in odour emissions as envisaged in the SER (Strategic Environmental Review),...to the extent that there are no noticeable odour beyond the existing buffer zone*" (Appendix 1 – Odour Control Summary, application supporting documentation).

The proposed works upgrade is considered by the Licensee to have the ability to further improve odour emissions from the premises through improved technology installation (conversion of SBR to MLE and providing separate secondary clarifiers within the new MLE).

The proponent has undertaken two Odour monitoring and modelling programmes (MAM) since 2008/2009 to assess compliance against Ministerial requirements and in 2010 determined that the premises has reduced emissions by 55% since the Ministerial determination in 2005.

The upgraded premises, at full capacity of 180 ML/ day, is expected to have odour emissions of 118,500 OU/s as compared to emissions before 2009 of 297,100 OU/s.

The odour analysis/ assessment and modelling (Appendix A 'Odour modelling' within Odour Control Summary Appendix 1 of the application supporting documentation) provided was submitted to DER Air Quality Branch on 29 February 2016 for review. The review determined that the risk is considered low once operational, with low to moderate risk during the operation of the temporary facility configuration (construction phase/ concurrent operation). The secondary treatment facility is considered to be overloaded during the SBR retrofitting phase.

The drafting of the Odour Improvement Plan (OIP) in accordance with the East Rockingham Wastewater Treatment Plant is considered appropriate, which the proponent has committed to undertaking. The OIP is to comprehensively assess risk related to:

- sources and operations on site;
- their monitoring;
- corrective actions to be implemented if necessary; and
- contingencies should the corrective actions not be effective.

The WWTP is expected to continue growing to its anticipated ultimate capacity of 320ML/ day in the future, based on the capacity of the catchment and the main sewer system feeding the Munster Pumping Station. An upgrade to 220ML/ day will require a separate plant to be built onto the site which may impact the current buffer separation distance currently within the premises (750 m). This expansion is approximately 40 years into the future.

### **Emission Risk Assessment – Construction and Operation**

#### Emission Description

*Emission:* Odorous emissions (Hydrogen sulphide) from the Tanker Receiving Facility, Odour Control Facility operations, pre-treatment works, stack emissions, SBR operation (normal operation) and as a



result of the proposed works upgrade (abnormal operations/ alteration of process by taking current process off line to operate through a temporary process).

*Impact:* Reduction in local air quality. Nearest sensitive residential receptor is approximately 1.2 km south of the premises.

*Controls:* All odour emissions from the operation of the premises are directed through to the Odour Control Facility (OCF). The enclosed OCF and enclosed Tanker Receiving Facility (TRF) both have chemical scrubbers to assist in the reduction of odour emissions. Sewage sludge is processed and stored within the enclosed Anaerobic Sludge Digestors (ASD) facility prior to discharge off site to an authorised landfill.

The following has been determined from Appendix 1 – Odour Control Summary (from the application supporting documentation):

**Preliminary/ Pre-treatment: Grit removal**

Entire process train from each tank to collection container for the inlet screening is to be enclosed to minimise fugitive emissions. Foul air extraction incorporated for the grit washing and classification systems.

**Primary treatment (PST's)**

The new PST's 5-8 will be covered and sealed as per the existing PST's 1-4 but with improved sealing on the skimming (scum) line. Foul air collection ductwork will be extended from the current PST's to service the new PST's.

**SBR to MLE Conversion**

Conversion to MLE continuous process with separate clarifiers is considered to be a more stable operation. The proponent has determined that similar operations at the Beenyup WWTP have "confirmed that there will be a considerable reduction in odour from a continuously aerated reactor as in the MLE format." This has predominantly been determined as a result of the spike in odour emissions caused from the start-up of the aeration process within the current SBR, which will be eliminated from the MLE conversion.

Additional covers and ventilation will be provided for the first anoxic zones in each MLE basin to counteract potential emissions from turbulence caused by mixing of the Mixed Liquor Recycle (MLR) and selector outlet streams. The Odour Control Summary, section 5.2, (Appendix 1 of the application supporting documentation) further identifies odour control efficiency requirements for the odour control facility for OU and H<sub>2</sub>S and in relation to upgrades on the odour covers (section 5.3, Appendix 1, of the application supporting documentation).

**Solids treatment area (ASD)**

The works upgrade will not alter or increase any aspect of the current process, therefore no change to odour emissions from this area of the premises is expected.

Risk Assessment

*Consequence:* Moderate

*Likelihood:* Possible

*Risk Rating:* Moderate

Regulatory Controls

Condition 1.2.10 limits the increase in design capacity until review of the compliance documents for all stages of the works upgrade has been completed.

Condition 1.3.5 requires the management of hydrogen sulphide emission levels at the premises.



Condition 1.3.9 requires the Licensee to develop an 'Odour Monitoring Strategy' for the premises.

Condition 1.3.10 requires an odour monitoring and modelling (MAM) programme verification and the development of contingencies/ mitigation measures where any failures/ risks have been identified.

Condition 2.4.1 requires the Licensee to manage odour emissions according to the specific management plans relevant to the premises operation.

Condition 3.2.1 requires the Licensee to monitor odour emissions for hydrogen sulphide from the premises operations.

Condition 4.1.3 includes a detailed complaints management system requirement for the recording of complaints.

Condition 4.2.1 requires the reporting of all complaints.

Condition 4.3.1 requires the reporting/ notification of all limit exceedences where management action was taken.

Residual Risk

*Consequence:* Minor

*Likelihood:* Possible

*Risk Rating:* Moderate