



# Works Approval

## *Environmental Protection Act 1986, Part V*

**Works Approval Holder:** Water Corporation

**Works Approval Number:** W5467/2013/1

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

**Premises address:** Pemberton Wastewater Treatment Plant  
Lot 13459 on Plan 192273, Crown Reserve 44628  
PEMBERTON WA 6260  
Being Lot 13459 on Plan 192273

**Issue date:** Thursday 29/08/2013

**Commencement date:** Thursday 29/08/2013

**Expiry date:** Tuesday 30/08/2016

The following category/s from the *Environmental Protection Regulations 1987* cause this Premises to be a prescribed premises for the purposes of the *Environmental Protection Act 1986*:

Category number	Category description	Category production or design capacity	Premises production or design capacity
54	Sewage facility: premises – (a) on which sewage is treated (excluding septic tanks); or (b) from which treated sewage is discharged onto lands or into waters	100 cubic meters or more per day	300 cubic meters per day

### Conditions

This Works Approval is subject to the conditions set out in the attached pages.

.....  
**Caron Goodbourn**

Officer delegated under section 20  
of the *Environmental Protection Act 1986*



# Works Approval Conditions

## 1 General

### 1.1 Interpretation

1.1.1 In the Works Approval, definitions from the *Environmental Protection Act 1986* apply unless the contrary intention appears.

1.1.2 In the Works Approval, unless the contrary intention appears:

**'Act'** means the *Environmental Protection Act 1986*;

**'AS/NZS 5667.1'** means the Australian Standard AS/NZS 5667.1 *Water Quality – Sampling – Guidance of the Design of sampling programs, sampling techniques and the preservation and handling of samples*;

**'AS/NZS 5667.10'** means the Australian Standard AS/NZS 5667.10 *Water Quality – Sampling – Guidance on sampling of waste waters*;

**'averaging period'** means the time over which a limit or target is measured or a monitoring result is obtained;

**'CEO'** means Chief Executive Officer of the Department of Environment Regulation;

**'CEO'** for the purpose of correspondence means;

Chief Executive Officer  
Department Administering the *Environmental Protection Act 1986*  
Locked Bag 33  
CLOISTERS SQUARE WA 6850  
Email: [info@der.wa.gov.au](mailto:info@der.wa.gov.au)

**'Commissioning'** means the process of operation and testing that verifies the works and all relevant systems, plant, machinery and equipment have been installed and are performing in accordance with the design specification set out in the works approval application;

**'commissioning period'** means the time period under which Commissioning takes place;

**'commissioning plan'** means the document which details the Commissioning process and includes the information referred to within conditions 2.1.1, 2.1.2 and 3.1.1;

**'commissioning report'** means the document which details the outcomes of the Commissioning process and includes the information referred to within conditions 4.1.3;

**'NATA'** means the National Association of Testing Authorities, Australia;

**'NATA accredited'** means in relation to the analysis of a sample that the laboratory is NATA accredited for the specified analysis at the time of the analysis;

**'Premises'** means the area defined in the Premises Map in Schedule 1 and listed as the Premises address on page 1 of the Works Approval;

**'Schedule 1'** means Schedule 1 of this Works Approval unless otherwise stated;

**'spot sample'** means a discrete sample representative at the time and place at which the sample is taken;



**'Works Approval'** means this Works Approval numbered W5467/2013/1 and issued under the Act; and

**'Works Approval Holder'** means the person or organisation named as the Works Approval Holder on page 1 of the Works Approval.

1.1.3 Any reference to an Australian or other standard in the Works Approval means the relevant parts of the standard in force from time to time during the term of this Works Approval.

## 1.2 General conditions

1.2.1 The Works Approval Holder shall construct the works in accordance with the documentation detailed in Table 1.2.1:

Table 1.2.1: Construction Requirements <sup>1</sup>		
Document	Parts	Date of Document
GHD 2013, Pemberton Waste Water Treatment Plant Upgrade Works Approval, Report 61/28787, Water Corporation	All	May 2013
GHD 2013, Pemberton Sports Oval Nutrient and Irrigation Management Plan, Report 61/28787, Water Corporation	All	April 2013
Water Corporation 2013, Addendum 1 to Pemberton WWTP Improvements Works Approval (C S 01688): DEC comments with Water Corporation responses.	All	July 2013
Water Corporation 2013, Appendix 2 CS0688 Pemberton WWTP Improvements Schedule 26 <sup>th</sup> June 2013.	All	July 2013
EMS Design 2013, Appendix 2 Pemberton WWTP site layout information plan CK74, Water Corporation.	All	July 2013

Note 1: Where the details and commitments of the documents listed in condition 1.2.1 are inconsistent with any other condition of this Works Approval, the conditions of this Works Approval shall prevail.

1.2.2 The Works Approval Holder shall undertake Commissioning in accordance with the commissioning plan required by condition 3.1.1

1.2.3 The Works Approval Holder shall commission the Pemberton Wastewater Treatment Plant, for a period not exceeding 4 months.

## 2 Monitoring

### 2.1 General monitoring

2.1.1 Works Approval Holder shall ensure that:

- (a) all water samples are collected and preserved in accordance with AS/NZS 5667.1;
- (b) all wastewater samples are collected in accordance with AS/NZS 5667.10;
- (c) all laboratory samples are submitted to a laboratory with current NATA accreditation for the parameters to be measured.

2.1.2 The Works Approval Holder shall undertake the monitoring specified in Table 2.1.1 during the commissioning period.



**Table 2.1.1: Monitoring of effluent quality**

Monitoring point reference	Parameter	Target	Units	Averaging period	Frequency <sup>1</sup>
W1 and L1 – final effluent outfall	Aluminium	-	mg/L	Spot sample	Weekly
	pH <sup>1</sup>	>6.5; <8.5	pH units		
	BOD	<10	mg/L		
	COD	-	mg/L		
	<i>E.coli</i>	<150	cfu/100 ml		
	Total Dissolved Solids	<1000	mg/L		
	Total Nitrogen	<5	mg/L		
	Ammonium-nitrogen	<0.5	mg/L		
	Nitrate and nitrite-nitrogen	-	mg/L		
	Total Phosphorous	<1	mg/L		
	Total Suspended Solids	<20	mg/L		
	Effluent flow rate <sup>1</sup> : (a) to Lefroy Brook; and (b) to sports oval	Total ≤300	kL/day	24 hours	Continuous

Note 1: In-field non-NATA accredited analysis permitted.

### 3 Improvements

- 3.1.1 The Works Approval Holder shall complete the improvements in Table 3.1.1 by the date specified.

**Table 3.1.1: Improvement program**

Improvement reference	Improvement	Date of completion
IR1	<p>The Works Approval Holder shall, prior to commencing Commissioning of the Pemberton Wastewater Treatment Plant, submit a commissioning plan. The commissioning plan shall include details relating to:</p> <ul style="list-style-type: none"> <li>(a) the commissioning stages and expected timescales for commissioning;</li> <li>(b) expected emissions and discharges during commissioning and the environmental implications of the emissions;</li> <li>(c) how emissions and discharges will be managed during commissioning;</li> <li>(d) the monitoring that will be undertaken during the commissioning period;</li> <li>(e) how accidents or malfunctions will be managed;</li> <li>(f) start up and shut down procedures; and</li> <li>(g) reporting proposals including accidents, malfunctions and reporting against the commissioning plan.</li> </ul>	One month prior to the commencement of commissioning

### 4 Information

#### 4.1 Reporting

- 4.1.1 The Works Approval Holder shall submit a compliance document to the Director, following the construction of the works and prior to commissioning of the same.



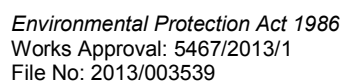
- 4.1.2 The compliance document shall:
- (a) certify that the works were constructed in accordance with the conditions of the works approval;
  - (b) be signed by a person authorised to represent the Works Approval Holder and contain the printed name and position of that person within the company.
- 4.1.3 The Works Approval Holder shall submit a commissioning report for the Pemberton Wastewater Treatment Plant within two months of the completion of commissioning. The report shall include:
- (a) a summary of the environmental performance of the Pemberton Wastewater Treatment Plant as installed, against the design specification set out in the works approval application;
  - (b) a review of performance against the works approval conditions; and
  - (c) where they have not been met, measures proposed to meet the design specification and/or works approval conditions, together with timescales for implementing the proposed measures.

## 4.2 Notification

- 4.2.1 The Works Approval Holder shall ensure that the parameters listed in Table 4.2.1 are notified to the Director at the contact address and in accordance with the notification requirements of the table.

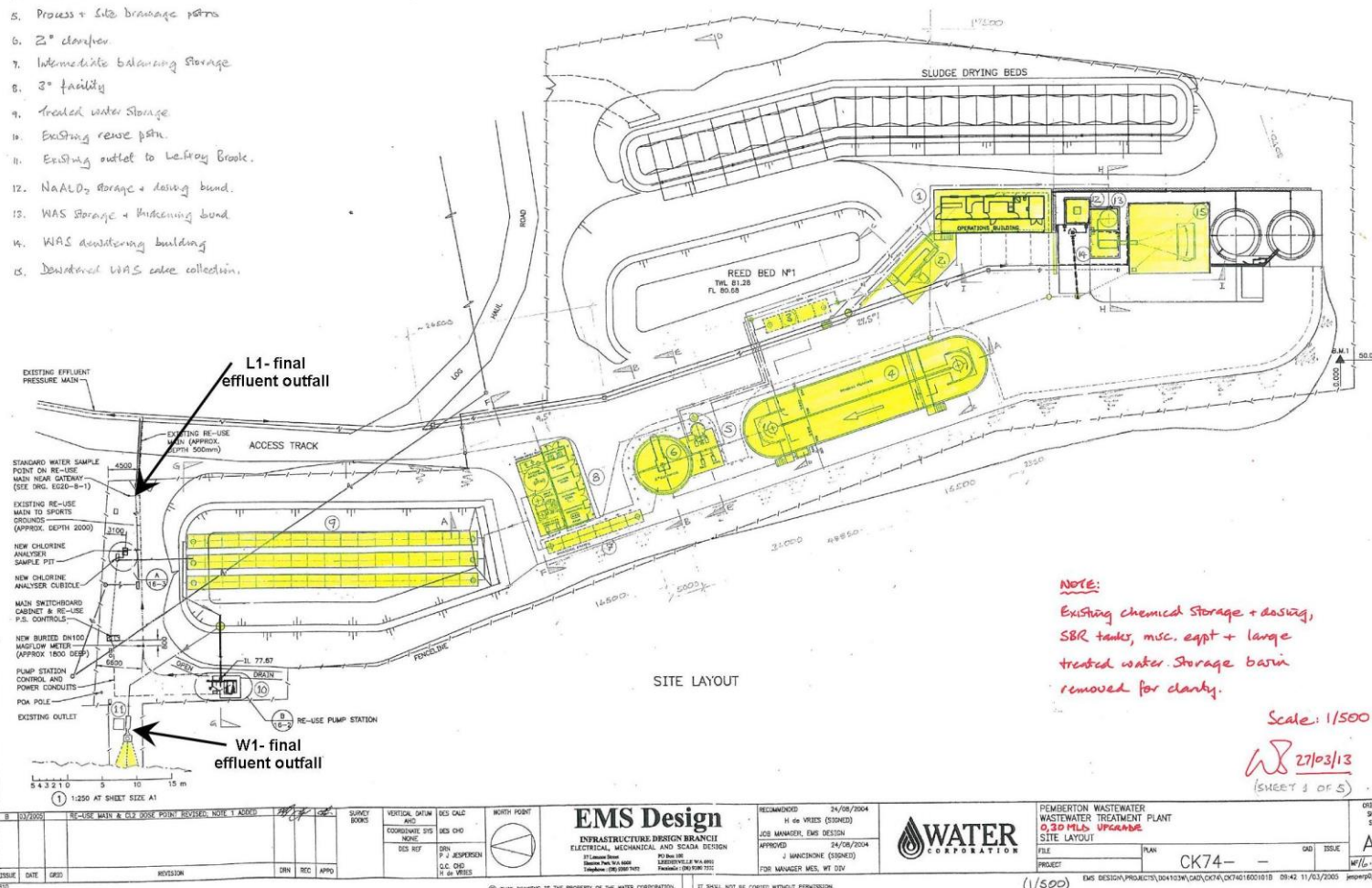
Table 4.2.1: Notification requirements			
Condition or table (if relevant)	Parameter	Notification requirement	Format or form
1.2.4	Commencement of commissioning	7 days prior to start	None specified
	Completion of commissioning	7 days after completion	

The Premises is shown in the map below. The red line depicts the Premises boundary



### Map of emission points

1. Prefabricated Operations Building
2. Package inlet works
3. Selector zone
4. Process reactor
5. Process + Site drainage ponds
6. 2<sup>nd</sup> clarifier
7. Intermediate balancing storage
8. 3<sup>rd</sup> facility
9. treated water Storage
10. Existing re-use psm.
11. Existing outlet to Leifroy Brook.
12. NaAlO<sub>2</sub> Storage + dewater bund.
13. WAS Storage + thickening bund
14. WAS dewatering building
15. Dewatered WAS cake collection.





## ***Environmental Protection Act 1986, Part V***

**Works Approval: W5467/2013/1**

**Expiry date:** Tuesday 30/08/2016

Decision Document authorised by: Caron Goodbourn  
Delegated Officer



## Contents

Contents	2
1 Purpose of this Document	2
2 Administrative summary	3
3 Executive summary of proposal and assessment	4
4 Decision table	4
5 Advertisement and consultation table	8
6 Risk Assessment	9

## 1 Purpose of this Document

This decision document explains how the DER has assessed and determined the application and provides a record of the DER's decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to the 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 type="checkbox"/> Works Approval Amendment <input checked="" type="checkbox"/>	
Activities that cause the premises to become prescribed premises	Category Number(s)	Design Capacity
	54 – Sewage Facility	300 cubic meters per day
Application Verified	Date: 18/06/2013	
Application Fee Paid	Date: 27/06/2013	
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	Not applicable	
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"/>	Referral Decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input type="checkbox"/>
Is the proposal subject to Ministerial Conditions?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Ministerial Statement No: EPA Report No:
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 type="checkbox"/> No <input checked="" type="checkbox"/>		
Is the Premises subject to any EPP requirements? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		



### 3 Executive summary of proposal and assessment

Water Corporation has approval under works approval W5467/2013/1 to upgrade the Pemberton Wastewater Treatment Plant (WWTP). The WWTP is located about one kilometre south west of the Pemberton town centre, adjacent to the Vasse Highway. The original intermittent decant extended aeration type WWTP was commissioned in 1994 and subsequently upgraded in 2004 to a sequencing batch reactor type WWTP. The upgrade of the WWTP to an oxidation ditch type WWTP will include new:

- package inlet works (screening, fats, oil, grease and grit removal) and chemical unloading, storage and dosing facility;
- oxidation ditch-type reactor with separate selector zone, platform mounted mechanical surface aeration and external secondary clarifier, with sludge suction extraction;
- secondary treatment process pump-station for return activated sludge and waste activated sludge streams;
- intermediate secondary treated water storage, and tertiary treatment system comprising filter feed pump-station, two-stage denitrification-filtration system with supplementary carbon dosing, and chlorine disinfection;
- tertiary treated water storage, immediately upstream of existing public open space irrigation pump-station and outfall flume to Lefroy Brook;
- waste activated sludge management facilities, consisting of intermediate storage and thickening tank, automatic polymer dilution and dosing system, mechanical dewatering system and dewatered cake conveyor;
- pre-fabricated operations building comprising of switch room, control room, store room, laboratory and amenities;
- prefabricated tertiary treatment building, consisting of chlorine storage, control and dosing facilities, compressed air system and carbon source storage and dosing system;
- site drainage collection system and transfer pump-station;
- service water storage tank and service water booster pump-station; and
- earthworks, site works and electrical, instrumentation, control and Supervisory Control and Data Acquisition systems for integrated, automatic operation of the plant.

The new WWTP will have wastewater treated to the following quality:

Wastewater treatment parameter	Wastewater treatment design target
Biological Oxygen Demand	< 10 mg/ L
<i>E. coli</i>	< 150 cfu/ 100 ml
Suspended Solids	< 20 mg/ L
Total Nitrogen	< 4.5 mg/ L
Total Phosphorus	< 0.7 mg/ L

This Decision Document outlines administrative amendments and amendments requested by Water Corporation for the following:

- Condition 1.2.3 (previously 1.2.4): extend commissioning period from 4 months to 6 months – refused.
- Condition 3.1.1 (previously 4.1.1): change to date of completion for the commissioning plan from 31/01/2015 to 'one month prior to the commencement of commissioning' – condition reinstated with the submission date proposed by Water Corporation.

### 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.



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
General conditions	N/A	<p><b>Construction and Commissioning</b></p> <p>Administrative updates were made with regards to the following:</p> <ul style="list-style-type: none"><li>Condition 1.2.2 relating to storage of hazardous materials has been deleted: the condition is considered redundant. Operation is adequately managed under the existing Licence conditions and provisions of the <i>Environmental Protection Act 1986</i>.</li></ul> <p>The application for an amendment to Condition 1.2.3 (being condition 1.2.4 under the previous Works Approval version issued 29 August 2013) to extend the commissioning period from 4 to 6 months has been refused. The supporting justification for an extension to the commissioning period is not considered adequate:</p> <p><i>'As commissioning is likely to complete after summer reuse on the Pemberton Sports Oval (Oct-May), it is anticipated that the TWW will be discharged to Lefroy Brook after commissioning'.</i></p> <p>Commissioning, operation and the temporary waiver of more stringent emission controls, including treated sewage emission limits, are more suitably addressed under the operating licence L7717/1993/9 which will require amendment. Water Corporation should begin consultation regarding the amended licence L7717/1993/9 in an appropriate timeframe.</p>	General provisions of the <i>Environmental Protection Act 1986</i>
Emissions general	N/A	<p><b>Construction and Commissioning</b></p> <p>All parts under the emissions section of the licence have been deleted based on the following justification and relevant sections below:</p> <ul style="list-style-type: none"><li>Condition 2.1.1 has been deleted: there are no targets or limits under the emission section of the licence which may require investigation.</li><li>Section 2.2, 2.4, 2.6 and 2.8 have been deleted: the provisions are not a conditions and are considered redundant.</li></ul>	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
Point source emissions to surface water including monitoring		<b>Construction and Commissioning</b> All conditions under the emissions section of the licence have been deleted based on the following justification: <ul style="list-style-type: none"><li>Conditions 2.3.1 and 2.3.2 have been deleted: the targets are considered redundant as there is no outcome should the targets be exceeded. Operation is adequately managed under the existing Licence conditions and provisions of the <i>Environmental Protection Act 1986</i>.</li></ul>	General provisions of the <i>Environmental Protection Act 1986</i>
Emissions to land including monitoring	N/A	<b>Construction and Commissioning</b> All conditions under the emissions section of the licence have been deleted based on the following justification: <ul style="list-style-type: none"><li>Conditions 2.5.1 and 2.5.2 have been deleted: the targets are considered redundant as there is no outcome should the targets be exceeded. Operation is adequately managed under the existing Licence conditions and provisions of the <i>Environmental Protection Act 1986</i>.</li></ul>	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
Odour	N/A	<p><b>Construction and Commissioning</b></p> <p><u>Emission description:</u> <i>Emission:</i> There are no planned odour emissions from the works however, there is the risk of odour emissions to occur as a result of waste handling, pond decommissioning and works. <i>Impact:</i> Interference with the health, welfare, convenience, comfort or amenity of sensitive residential receptors is possible on windy days, the closest sensitive receptor is about 400 m to the southwest. <i>Controls:</i> Normal operation of the existing sewage treatment facility will be undertaken during the upgrade and commissioning/ transition process.</p> <p><u>Risk assessment:</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Moderate</p> <p><u>Regulatory Controls:</u> It is considered that the provisions of Section 49 of the <i>Environmental Protection Act 1986</i> are sufficient to regulate odour emissions during construction and operation. Condition 2.7.1 has been deleted.</p> <p><u>Residual Risk:</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Moderate</p>	General provisions of the <i>Environmental Protection Act 1986</i>
Monitoring general	2.1.2	<p><b>Construction and Commissioning</b></p> <p>Administrative updates were made with regards to the following:</p> <ul style="list-style-type: none"><li>• All numbering was updated in chronological order; and</li><li>• The in-field non-NATA accredited analysis of samples for pH and effluent flow rate were specified to ensure the conditions are clear and valid.</li></ul>	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
Improvements	3.1.1	<b>Construction and Commissioning</b> The new WWTP will be commissioned in a staged manner. Water Corporation were required to submit a final Commissioning Plan by the 30 January 2015 once commissioning details were finalised (under the previous Works Approval version issued 29 August 2013).  A Commissioning Plan was not completed by the 30 January 2015. While an expired condition cannot be extended, the requirement for the condition is still valid. Subsequently the condition has been re-instated with the submission date proposed by Water Corporation.	General provisions of the <i>Environmental Protection Act 1986</i>
Licence Duration	N/A	The expiry date (30 August 2018) of the Works Approval has not been amended. None of the amendments undertaken require the expiry date of the Works Approval to be reconsidered.	General provisions of the <i>Environmental Protection Act 1986</i>

## 5 Advertisement and consultation table

Date	Event	Comments received	How comments were taken into consideration
04/12/2015	Proponent sent a copy of draft instrument	<ul style="list-style-type: none"><li>Request for extended commissioning period reiterated.</li></ul>	<ul style="list-style-type: none"><li>Original position stated within Decision Document maintained, extension not granted.</li></ul>
14/12/2015	Granting of amended instrument was advertised in West Australian		



## 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