



Works Approval

Environmental Protection Act 1986, Part V

Works Approval Holder: Samsung C & T Corporation

Works Approval Number: W5732/2014/1

Registered office: Level 3
145 Eagle Street
BRISBANE QLD 4000

ACN: 160 079 470

Premises address: Roy Hill Mine Wastewater Treatment Plant
Mining Tenement M46/519
NEWMAN WA 6753
As depicted in Schedule 1

Issue date: Thursday, 27 November 2014

Commencement date: Monday, 1 December 2014

Expiry date: Thursday, 30 November 2017

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	Approved premises production or design capacity
85	Sewage facility premises – (a) on which sewage is treated (excluding septic tanks); or (b) from which treated sewage is discharged onto land or into waters.	More than 20 but less than 100 cubic metres per day	35 cubic metres per day

Conditions

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

Date signed: 21 January 2016

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Alana Kidd
Manager Licensing – Resource Industries
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 5667.10' means the Australian Standard AS/NZS 5667.10 *Water Quality – Sampling – Guidance on sampling of waste waters*;

'annual period' means the inclusive period from 1 April until 31 March in the following year;

'averaging period' means the time over which a limit 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;

'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;

'cfu' means Colony-forming unit;

'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;

'quarterly' means the 4 inclusive periods from 1 April to 30 June, 1 July to 30 September, 1 October to 31 December and in the following year, 1 January to 31 March;

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

'six monthly' means the 2 inclusive periods from 1 April to 30 September and 1 October to 31 March in the following year;

'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 W5732/2014/1 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.
- 1.1.4 Any reference to a guideline or code of practice in the Works Approval means the current version of the guideline or code of practice in force from time to time, and shall include any amendments or replacements to that guidelines or code of practice made 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 Requirements¹		
Document	Parts	Date of Document
Roy Hill Mine Wastewater Treatment Plant – Works Approval Application, RHHP2-SCT-2000-EN-APL-0001, Samsung C & T Corporation	All	18 August 2014
Roy Hill Mine Wastewater Treatment Plant – Works Approval Application W5732/2014/1, email from David Anthony to Michael Christensen	All	11 September 2014
Roy Hill Mine Wastewater Treatment Plant – Works Approval Application W5732/2014/1 – Proponent Comments, email from David Anthony to Michael Christensen	All	6 November 2014
Works Approval W5732_2014_1 Commissioning of Wastewater Treatment Plant, RHHP1-SCT-2000-LET-1003, Samsung C & T Corporation	All	7 December 2015

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 commission the Roy Hill Mine Wastewater Treatment Plant until 31 May 2016.

2 Emissions

2.1.1 The Works Approval Holder shall ensure that where waste is emitted to land from the emission point in Table 2.1.1 and identified on the map in Schedule 1 it is done so in accordance with the conditions of this Works Approval.

Table 2.1.1: Emissions to land		
Emission point reference	Description	Source including abatement
Spray Field	Treated effluent is disposed of to a 4,500 m ² irrigation area	Treated effluent from sewage treatment



3 Monitoring

- 3.1.1 The Works Approval Holder shall ensure that:
- (a) all wastewater sampling is conducted in accordance with AS/NZS 5667.10; and
 - (b) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured unless indicated otherwise in relevant table.

3.1.2 The Works Approval Holder shall undertake the monitoring specified in Table 3.1.1 during the commissioning period.

Table 3.1.1: Monitoring of effluent quality				
Monitoring point reference as depicted in Schedule 1	Parameter	Units	Averaging period	Frequency
WQ1 – final effluent outfall	pH ¹	pH units	Spot sample	Weekly
	<i>E.coli</i>	cfu/100mL		
	Total Nitrogen	mg/L		
	Total Phosphorus	mg/L		
	Total Suspended Solids	mg/L		
	Biochemical Oxygen Demand	mg/L		
	Effluent flow rate	kL/day	24 hours	Continuous

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

4 Information

4.1 Reporting

4.1.1 The Works Approval Holder shall submit a compliance document to the CEO, 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; and
 - (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 Roy Hill Mine Wastewater Treatment Plant, to the CEO one month prior to the completion of commissioning.

- 4.1.4 The Works Approval Holder shall ensure the report includes:
- (a) a summary of the monitoring results recorded under condition 3.1.2;
 - (b) a list of any original monitoring reports submitted to the Works Approval Holder from third parties for the commissioning period;
 - (c) a summary of the environmental performance of the Roy Hill Mine Wastewater Treatment Plant as installed, against the design specification set out in the Works Approval application;
 - (d) a review of performance against the Works Approval conditions; and
 - (e) 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.



Decision Document

Environmental Protection Act 1986, Part V

Proponent: Samsung C & T Corporation

Works Approval: W5732/2014/1

Registered office: Level 3
145 Eagle Street
BRISBANE QLD 4000

ACN: 160 079 470

Premises address: Roy Hill Mine Wastewater Treatment Plant
Mining Tenement M46/519
NEWMAN WA 6753

Issue date: Thursday, 27 November 2014

Commencement date: Monday, 1 December 2014

Expiry date: Thursday, 30 November 2017

Decision

Based on the assessment detailed in this document the Department of Environment Regulation (DER), has decided to issue an amended works approval. DER considers that in reaching this decision, it has taken into account all relevant considerations.

Decision Document prepared by: Sonya Poor
Licensing Officer

Decision Document authorised by: Alana Kidd
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"/>	
	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)	Assessed design capacity
	85	35 cubic metres per 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	N/A	
Is the proposal a Major Resource Project?	Yes <input checked="" type="checkbox"/>	No <input 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 checked="" type="checkbox"/>	No <input type="checkbox"/>
		Referral decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input checked="" type="checkbox"/>
Is the proposal subject to Ministerial Conditions?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
		Ministerial statement No: 824, 829, 902, 979 and 980 EPA Report No: 1342, 1345,



	1439, 1519 and 1520
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

Samsung C & T Corporation (Samsung) has been engaged by Roy Hill Iron Ore Pty Ltd (RHI) to construct a Wastewater Treatment Plant (WWTP) at the Roy Hill mine process plant, within mining tenement M46/519. The proposed WWTP will be located at the Roy Hill Iron Ore Mine site in the Pilbara region of Western Australia approximately 340 kilometres (km) south-east of Port Hedland.

The WWTP will service ablutions, cribs, office buildings, laboratory and treated water from an oily water separator during the operational phase of the Roy Hill Iron Ore Mine. The WWTP has a design capacity for the daily treatment and disposal of 35 cubic metres (m³) per day (m³/day) of effluent. The WWTP includes a:

- 32 kilolitre (kL) balance tank;
- Preassembled Submerged Air Filtration (SAF) sewage treatment plant;
- 32 kL treated effluent holding tank;
- Standpipe with pump set (for filling dust suppression truck);
- Irrigation pump sized to deliver 35 m³ over a 10 hour period; and
- 4,500 square metre (m²) spray field.

Under the works approval Samsung were allowed to commission the WWTP for a period not exceeding four months. Commissioning of the WWTP commenced on 8 September 2015 with commissioning required to be completed by the 8 January 2016. In accordance with previous condition 5.1.3 Samsung was required to submit to DER a commissioning report for the WWTP one month prior to the completion of commissioning. DER did not receive the commissioning report for the WWTP on 8 December 2015. This non-compliance has been entered into DER's Incident and Complaints Management System (ICMS No. 38988).

Samsung has applied to amend the works approval to extend the commissioning period until 31 May 2016 with the commissioning report due on 30 April 2016.

During this amendment the following changes have been made to the works approval:

- Updated to reflect Departmental reform as published on DER's website under "*Administrative changes implemented within the Department of Environment Regulation*" www.der.wa.gov.au;
- Definitions have been updated;
- Inclusion of amendment application in Table 1.2.1;
- Change to the commissioning period for condition 1.2.2;
- Inclusion of the spray field emission point in condition 2.1.1;
- Removal of targets in Table 3.1.1; and
- Removal of previous condition 5.2.1 for notification requirements.

RHI currently holds an existing licence (L8621/2011/1) for the Roy Hill Iron Ore Mine under the *Environmental Protection Act 1986* for category 12, 54, 58 and 64 activities. Following construction of the WWTP an amendment to the existing licence will need to be sought by RHI to increase the design



capacity of category 54. Where conditions have been added or removed from the works approval these have been justified in Section 4.



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	W1.2.1 – W1.2.2. L1.2.1 – L1.2.4.	<p>Construction Previous condition W1.2.2 has been removed as the storage of chemicals will not occur during construction of the WWTP.</p> <p>Samsung has experienced some malfunctions with the WWTP that have resulted in delays to the facility being fully commissioned. Further repairs to the WWTP are required to ensure that the WWTP can operate as designed. The repairs are expected to be completed by mid to late February 2016. The WWTP is expected to be commissioned for approximately 8 -12 weeks in order to reach optimum performance. Condition W1.2.2 has been updated from a commissioning period not exceeding four months to the date of 31 May 2016.</p> <p>Operation Some chemicals will be required for the operation of the WWTP. The proponent has detailed that environmentally hazardous materials will be stored in accordance with the Hazardous Material and Hydrocarbon Management Procedure (100RH-H315-0000-ENPRO-0009).</p> <p>No general conditions are required to be added to the existing licence.</p>	<p>Works Approval application supporting documentation.</p> <p>Works Approval W5732_2014_1 Commissioning of Wastewater Treatment Plant, RHHP1-SCT-2000-LET-1003, Samsung C & T Corporation, 7 December 2015.</p>
Emissions to land including monitoring	W2 and W3.	<p>Construction During commissioning of the WWTP treated effluent will be disposed of to a 4,500 m² spray field. Condition W2.1.1 has been added to the works approval for the spray field emission point to land.</p>	Works Approval 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
	L2.1.1 and L3.2.1.	<p>The targets in Table 3.1.1 have been removed. The WWTP treatment performance will be reviewed in the commissioning report to be submitted in accordance with condition W4.1.3.</p> <p>Operation Licence conditions L2.1.1 and L3.2.1 will need to be amended to include the WWTP.</p>	General provisions of the <i>Environmental Protection Act 1986</i> .
Information	W4.1.1 – W4.1.4. L4.1.1 – L4.1.5, L4.2.1 – L4.2.3 and L4.3.1.	<p>Construction Previous condition W5.2.1 has been removed. A compliance document with the notification to commence commissioning was received by DER on 28 July 2015.</p> <p>The commissioning report is due for submission one month prior to the completion of commissioning in accordance with condition W4.1.3. A notification requirement for this condition is not required.</p> <p>Operation The existing licence has conditions relating to records, reporting and notification requirements. No conditions are required to be added to the licence.</p>	N/A.



5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
14/01/2016	Proponent sent a copy of draft instrument	<p>A signed waiver form was received on 20/01/2016.</p> <p>Samsung stated that further repairs to the WWTP are required to ensure that the WWTP can operate as designed. The repairs are expected to be completed by mid to late February 2016. This is due to the requirement to order in parts from the manufacturer.</p> <p>The WWTP is expected to be commissioned for approximately 8 -12 weeks. To allow for any unforeseen delays Samsung requests and extension to Commissioning until 31 May 2016.</p> <p>Samsung also stated that to ensure no future impacts they have ceased discharging to the irrigation spray field and are removing the treated effluent via a licenced controlled waste contractor for disposal at a licenced facility. Samsung intends to continue to remove treated waste offsite until the WWTP water quality parameters are within acceptable water quality targets.</p>	<p>Works approval and decision document updated with the commissioning completion date of 31 May 2016.</p> <p>DER notes this.</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