



Licence

Environmental Protection Act 1986, Part V

Licensee: FMG Solomon Pty Ltd

Licence: L8858/2014/1

Registered office: Fortescue Metals Group Limited
Level 2, 87 Adelaide Terrace
EAST PERTH, WA 6004

ACN: 128 959 179

Premises address: Solomon Power Station
Part of mining tenement M47/1431 within E 598,617, N 7,550,938; E 599,018, N 7,550,779; E 598,821, N 7,550,271; E 598,418, N 7,550,427
As depicted in Schedule 1

Issue date: Thursday, 26 March 2015

Commencement date: Monday, 30 March 2015

Expiry date: Sunday, 29 March 2020

Prescribed premises category
Schedule 1 of the *Environmental Protection Regulations 1987*

| Category number | Category description | Category production or design capacity | Approved premises production or design capacity |
|-----------------|--|---|---|
| 52 | Electric power generation: premises (other than premises within category 53 or an emergency or standby power generating plant) on which electrical power is generated using a fuel | ≥ 20 MWe in aggregate (using natural gas) or ≥ 10 MWe in aggregate (using a fuel other than natural gas) | 122 MWe (using natural gas) 94.2 MWe (using diesel fuel) |

Conditions

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

Date signed: 14 November 2017

.....
Caron Goodbourn
A/Manager Licensing (Process Industries)
Officer delegated under section 20
of the *Environmental Protection Act 1986*



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Introduction

This Introduction is not part of the Licence conditions.

DWER's industry licensing role

The Department of Water and Environment Regulation (DWER) is a government department for the state of Western Australia in the portfolio of the Minister for Environment. DWER's purpose is to advise on and implement strategies for a healthy environment for the benefit of all current and future Western Australians.

DWER has responsibilities under Part V of the *Environmental Protection Act 1986* (the Act) for the licensing of prescribed premises. Through this process DWER regulates to prevent, control and abate pollution and environmental harm to conserve and protect the environment. DWER also monitors and audits compliance with works approvals and licence conditions, takes enforcement action as appropriate and develops and implements licensing and industry regulation policy.

Licence requirements

This Licence is issued under Part V of the Act. Conditions contained within the Licence relate to the prevention, reduction or control of emissions and discharges to the environment and to the monitoring and reporting of them.

Where other statutory instruments impose obligations on the Premises/Licensee the intention is not to replicate them in the Licence conditions. You should therefore ensure that you are aware of all your statutory obligations under the Act and any other statutory instrument. Legislation can be accessed through the State Law Publisher website using the following link: <http://www.slp.wa.gov.au/legislation/statutes.nsf/default.html>

For your Premises relevant statutory instruments include but are not limited to obligations under the:

- *Environmental Protection (Unauthorised Discharges) Regulations 2004* – these Regulations make it an offence to discharge certain materials such as contaminated stormwater into the environment other than in the circumstances set out in the Regulations.
- *Environmental Protection (Controlled Waste) Regulations 2004* - these Regulations place obligations on you if you produce, accept, transport or dispose of controlled waste.
- *Environmental Protection (Noise) Regulations 1997* – these Regulations require noise emissions from the Premises to comply with the assigned noise levels set out in the Regulations.

You must comply with your Licence. Non-compliance with your Licence is an offence and strict penalties exist for those who do not comply.

Licence holders are also reminded of the requirements of section 53 of the Act which places restrictions on making certain changes to prescribed premises unless the changes are in accordance with a works approval, licence, closure notice or environmental protection notice.



Licence fees

If you have a licence that is issued for more than one year, you are required to pay an annual licence fee prior to the anniversary date of issue of your licence. Non payment of annual licence fees will result in your licence ceasing to have effect meaning that it will no longer be valid and you will need to apply for a new licence for your Premises.

Ministerial conditions

If your Premises has been assessed under Part IV of the Act you may have had conditions imposed by the Minister for Environment. You are required to comply with any conditions imposed by the Minister.

Premises description and Licence summary

The Solomon Power Station is a maximum 134.4MWe power station located within the Fortescue Metal Groups (FMG) Solomon Iron Ore Project. The power station is a dual fuel facility with the primary fuel source being natural gas, whilst diesel is used as a back-up fuel source. The plant consists of four 13MWe Solar Titan units and two 42.2 MWe GE LM6000 turbines.

Each Solar turbine has a single exhaust stack measuring 7.7 metres high and 2.8 metres in diameter. The GE turbines each have a stack that is 18.5 metres high.

The main emissions are the emissions to air of oxides of nitrogen from units firing on gas but also oxides of nitrogen, sulphur dioxide and particulates from units firing on diesel. The nearest sensitive receptors are: Karijini National Park, Hamersley Gorge day use area (12 Kilometres South East), Kangi Accommodation Village (FMG Solomon mine accommodation, 17 kilometres South West) and the Hamersley Station Homestead (30 Kilometres South West).

Transfer of Licence 2017:

The Solomon Power Station was previously operated by TEC Pipe Pty Ltd contracted to supply the FMG Solomon Mines power needs. On 15 September 2017 FMG Solomon submitted an application to transfer this licence to FMG Solomon Pty Ltd a subsidiary of Fortescue Metals Group Limited (FMGL).

There were no changes to the conditions of the licence relating to controlling emissions and discharges from the premises and as such, re-assessment of the licence did not occur at the time the licence was transferred.

The licences and works approvals issued for the Premises are:

| Instrument log | | |
|----------------|------------|---|
| Instrument | Issued | Description |
| W5104/2011/1 | 23/02/2012 | Works approval issued |
| W5104/2011/1 | 07/09/2012 | Works approval amendment |
| W5104/2011/1 | 01/11/2012 | Works approval transfer |
| W5104/2011/1 | 19/12/2013 | Works approval amendment |
| W5104/2011/1 | 26/06/2014 | Works approval amendment |
| L8858/2014/1 | 26/03/2015 | New licence |
| L8858/2014/1 | 08/10/2015 | Licence Amendment to include all power sources on natural gas and diesel. |
| L8858/2014/1 | 14/11/2017 | Licence transferred from TEC Pipe Pty Ltd to FMG Solomon Pty Ltd |

Severance

It is the intent of these Licence conditions that they shall operate so that, if a condition or a part of a condition is beyond the power of this Licence to impose, or is otherwise *ultra vires* or invalid, that condition or part of a condition shall be severed and the remainder of these conditions shall nevertheless be valid to the extent that they are within the power of this Licence to impose and are not otherwise *ultra vires* or invalid.



END OF INTRODUCTION

Licence conditions

1 General

1.1 Interpretation

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

1.1.2 For the purposes of this Licence, unless the contrary intention appears:

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

'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;

'CEMS' means continuous emissions monitoring system;

'CEO' for the purpose of correspondence means;

Director General
Department Administering the Environmental Protection Act 1986
Locked Bag 33
CLOISTERS SQUARE WA 6850
Email: info-der@dwer.wa.gov.au

'Licence' means this Licence numbered L8858/2014/1 and issued under the Act;

'Licensee' means the person or organisation named as Licensee on page 1 of the Licence;

'MWe' means power output (electricity generated) in megawatts;

'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;

'normal operating conditions' means any operation of a particular process (including abatement equipment) excluding start-up, shut-down and upset conditions, in relation to stack sampling or monitoring;

'NOx' means oxides of nitrogen, calculated as the sum of nitric oxide and nitrogen dioxide and expressed as nitrogen dioxide;

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

'Schedule 1' means Schedule 1 of this Licence unless otherwise stated;

'Schedule 2' means Schedule 2 of this Licence unless otherwise stated;

'shut-down' means the period when plant or equipment is brought from normal operating conditions to inactivity;



‘stack test’ means a discrete set of samples taken over a representative period at normal operating conditions;

‘start-up’ means the period when plant or equipment is brought from inactivity to normal operating conditions;

‘STP dry’ means standard temperature and pressure (0°Celsius and 101.325 kilopascals respectively), dry;

‘USEPA’ means United States (of America) Environmental Protection Agency;

‘USEPA Method 7E’ means the USEPA Method 7E Determination of nitrogen oxides emissions from stationary sources (instrumental analyser procedure);

‘USEPA Method 10’ means the USEPA Method 10 Determination of carbon monoxide emissions from stationary sources; and

‘USEPA Method 25A’ means USEPA Method 25A Determination of total gaseous organic concentrations using a flame ionization analyser.

‘usual working day’ means 0800 – 1700 hours, Monday to Friday excluding public holidays in Western Australia;

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

1.1.4 Any reference to a guideline or code of practice in the Licence 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 guideline or code of practice made during the term of this Licence.

1.1.5 Nothing in the Licence shall be taken to authorise any emission that is not mentioned in the Licence, where the emission amounts to:

- (a) pollution;
- (b) unreasonable emission;
- (c) discharge of waste in circumstances likely to cause pollution; or
- (d) being contrary to any written law.

1.2 General conditions

1.2.1 The Licensee shall operate and maintain all pollution control and monitoring equipment to the manufacturer's specification or any relevant and effective internal management system.

1.2.2 The Licensee shall immediately recover, or remove and dispose of spills of environmentally hazardous materials outside an engineered containment system.

1.2.3 The Licensee shall:

- (a) implement all practical measures to prevent stormwater run-off becoming contaminated by the activities on the Premises; and
- (b) treat contaminated or potentially contaminated stormwater as necessary prior to being discharged from the Premises.¹

Note1: The *Environmental Protection (Unauthorised Discharges) Regulations 2004* make it an offence to discharge certain materials into the environment.

2 Emissions



2.1 General

- 2.1.1 The Licensee shall record and investigate the exceedance of any descriptive or numerical limit specified in any part of section 2 of this Licence.

2.2 Point source emissions to air

- 2.2.1 The Licensee shall ensure that where waste is emitted to air from the emission points in Table 2.2.1 and identified on the map of emission points in Schedule 1 it is done so in accordance with the conditions of this Licence.

Table 2.2.1: Emission points to air

| Emission point reference and location on Map of emission points | Emission Point | Emission point height (m) | Source, including any abatement |
|---|---|---------------------------|---------------------------------|
| A1 | Exhaust Stack on Titan Turbine MPU21_TP1 | 7.7 m | Solar Titan Unit 21 |
| A2 | Exhaust Stack on Titan Turbine MPU22_TP1 | 7.7m | Solar Titan Unit 22 |
| A3 | Exhaust Stack on Titan Turbine MPU23_TP1 | 7.7m | Solar Titan Unit 23 |
| A4 | Exhaust Stack on Titan Turbine MPU24_TP1 | 7.7m | Solar Titan Unit 24 |
| A5 | Exhaust Stack on GE LM6000 Turbine GTG1_TP1 | 18.5m | GE LM6000 Unit 1 |
| A6 | Exhaust Stack on GE LM6000 Turbine GTG2_TP1 | 18.5m | GE LM6000 Unit 2 |

- 2.2.2 The Licensee shall not cause or allow point source emissions to air greater than the limits specified in Table 2.2.2.

Table 2.2.2: Point source emission limits to air

| Emission point Reference | Parameter | Limit (including units) ^{1,2} | Averaging period |
|--------------------------|--------------------------|--|--|
| A1-A6 | Oxides of nitrogen (NOx) | 620 mg/m ³ | Stack Test (minimum 30 minute average) |

Note 1: All units are referenced to STP dry

Note 2: Concentration units are referenced to 15% O₂.

3 Monitoring

3.1 General monitoring

- 3.1.1 The licensee shall ensure that all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured.
- 3.1.2 The Licensee shall ensure that annual monitoring is undertaken at least 9 months apart.
- 3.1.3 The Licensee shall record production or throughput data and any other process parameters relevant to any monitoring undertaken.
- 3.1.4 The Licensee shall ensure that all monitoring equipment used on the Premises to comply with the conditions of this Licence is calibrated in accordance with the manufacturer's specifications and the requirements of this licence.



- 3.1.5 The Licensee shall, where the requirements for calibration cannot be practicably met, or a discrepancy exists in the interpretation of the requirements, bring these issues to the attention of the CEO accompanied with a report comprising details of any modifications to the methods.

3.2 Monitoring of point source emissions to air

- 3.2.1 The Licensee shall undertake the monitoring in Table 3.2.1 according to the specifications in that table.

| Table 3.2.1: Monitoring of point source emissions to air | | | | | |
|--|---------------------------------------|--------------------|--|------------------------|------------------|
| Emission point reference | Parameter | Units ¹ | Averaging period | Frequency ² | Method |
| A1-A6 | Carbon monoxide (CO) | mg/m ³ | Stack test (Minimum 30 minute average) | Annually | USEPA Method 10 |
| | Oxides of nitrogen (NO _x) | | | | USEPA Method 7E |
| | Volatile organic compounds (VOCs) | | | | USEPA Method 25A |

Note 1: All units are referenced to STP dry

Note 2: Monitoring shall be undertaken to reflect normal operating conditions and any limits or conditions on inputs or production.

- 3.2.2 The Licensee shall ensure that all non-continuous sampling and analysis undertaken pursuant to condition 3.2.1 is undertaken by a holder of NATA accreditation for the relevant methods of sampling and analysis.

3.3 Process monitoring

- 3.3.1 The Licensee shall monitor and record parameters specified in Table 3.3.1 according to the specifications in that table.

| Table 3.3.1 Process monitoring | | | |
|--------------------------------|-----------------------------------|-------|-----------|
| Monitoring point reference | Parameter | Units | Frequency |
| Solar Titan Unit 21 | Run time | Hours | Monthly |
| Solar Titan Unit 22 | | | |
| Solar Titan Unit 23 | Total electrical energy generated | MWe | |
| Solar Titan Unit 24 | | | |
| GE LM6000 Unit 1 | Operating capacity | % | |
| GE LM6000 Unit 2 | | | |

4 Information

4.1 Records

- 4.1.1 All information and records required by the Licence shall:
- be legible;
 - if amended, be amended in such a way that the original and subsequent amendments remain legible or are capable of retrieval;
 - except for records listed in 4.1.1(d) be retained for at least 6 years from the date the records were made or until the expiry of the Licence or any subsequent licence; and
 - for those following records, be retained until the expiry of the Licence and any subsequent licence:
 - off-site environmental effects; or
 - matters which affect the condition of the land or waters.



- 4.1.2 The Licensee shall ensure that:
- (a) any person left in charge of the Premises is aware of the conditions of the Licence and has access at all times to the Licence or copies thereof; and
 - (b) any person who performs tasks on the Premises is informed of all of the conditions of the Licence that relate to the tasks which that person is performing.
- 4.1.3 The Licensee shall complete an Annual Audit Compliance Report indicating the extent to which the Licensee has complied with the conditions of the Licence, and any previous licence issued under Part V of the Act for the Premises for the previous annual period.
- 4.1.4 The Licensee shall implement a complaints management system that as a minimum records the number and details of complaints received concerning the environmental impact of the activities undertaken at the Premises and any action taken in response to the complaint.

4.2 Reporting

- 4.2.1 The Licensee shall submit to the CEO an Annual Environmental Report within 28 calendar days after the end of the annual period. The report shall contain the information listed in Table 5.2.1 in the format or form specified in that table.

Table 4.2.1: Annual Environmental Report

| Condition or table (if relevant) | Parameter | Format or form ¹ |
|----------------------------------|---|--|
| - | Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the annual period and any action taken | None specified |
| Table 3.2.1 | Air emission monitoring | None specified |
| Table 3.3.1 | Load monitoring | None specified |
| 4.1.3 | Compliance | A copy of the AACR template is accessible via the Department's website |
| 4.1.4 | Complaints summary | None specified |

- 4.2.2 The Licensee shall ensure that the Annual Environmental Report also contains:
- (a) any relevant process, production or operational data recorded under Condition 3.1.3; and
 - (b) an assessment of the information contained within the report against previous monitoring results and Licence limits.
- 4.2.3 The Licensee shall submit the information in Table 4.2.2 to the CEO according to the specifications in that table.

Table 4.2.2: Non-annual reporting requirements

| Condition or table (if relevant) | Parameter | Reporting period | Reporting date (after end of the reporting period) | Format or form |
|----------------------------------|--|------------------|--|--|
| - | Copies of original monitoring reports submitted to the Licensee by third parties | Not Applicable | Within 14 days of the CEOs request | As received by the Licensee from third parties |

4.3 Notification



4.3.1 The Licensee shall ensure that the parameters listed in Table 5.3.1 are notified to the CEO in accordance with the notification requirements of the table.

| Table 4.3.1: Notification requirements | | | |
|--|--|---|-----------------------------|
| Condition or table (if relevant) | Parameter | Notification requirement ¹ | Format or form ² |
| 2.2.2 | Breach of any limit specified in the Licence | Part A: As soon as practicable but no later than 5pm of the next usual working day. Part B: As soon as practicable | N1 |

Note 1: Notification requirements in the Licence shall not negate the requirement to comply with s72 of the Act

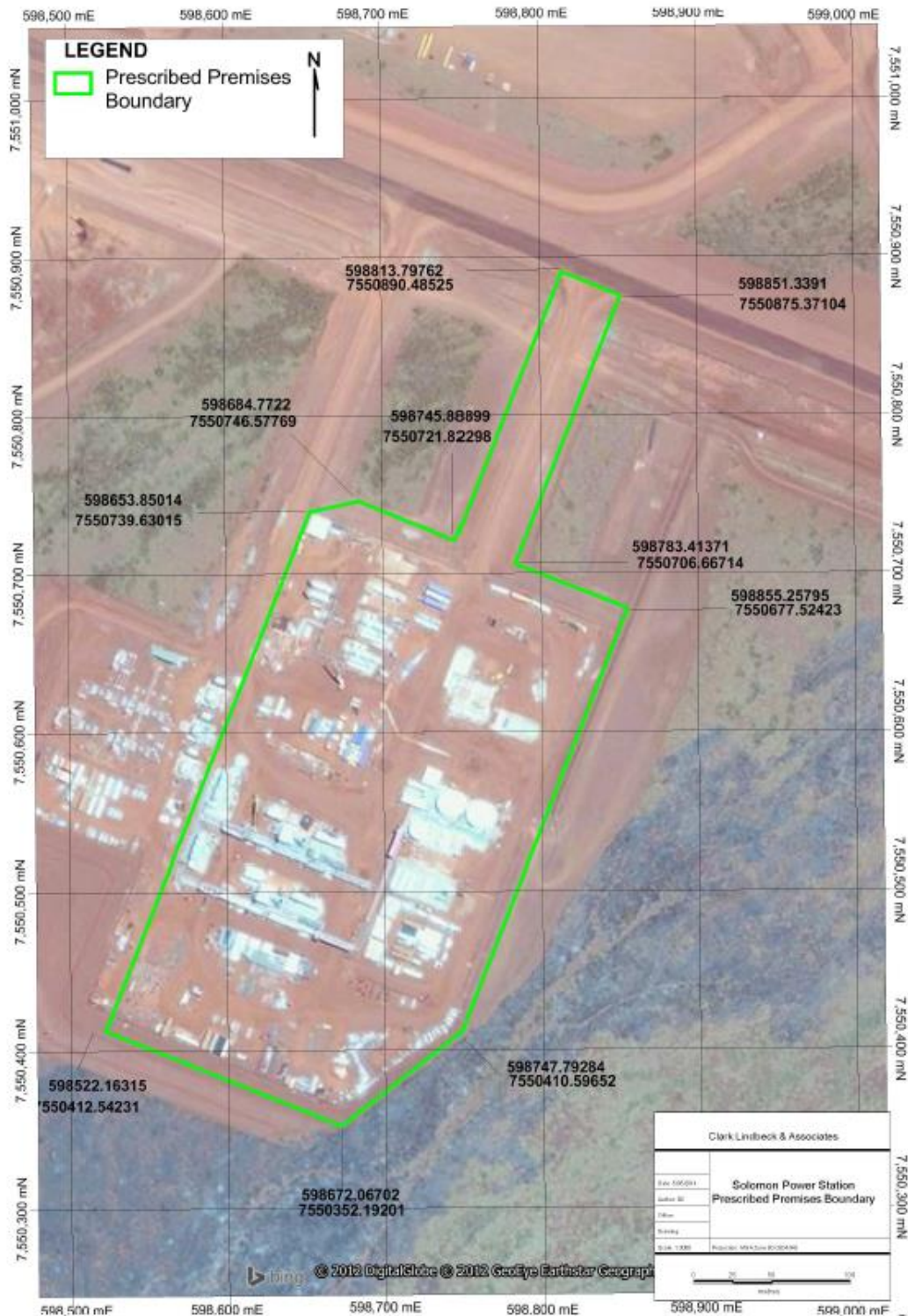
Note 2: Forms are in Schedule 2



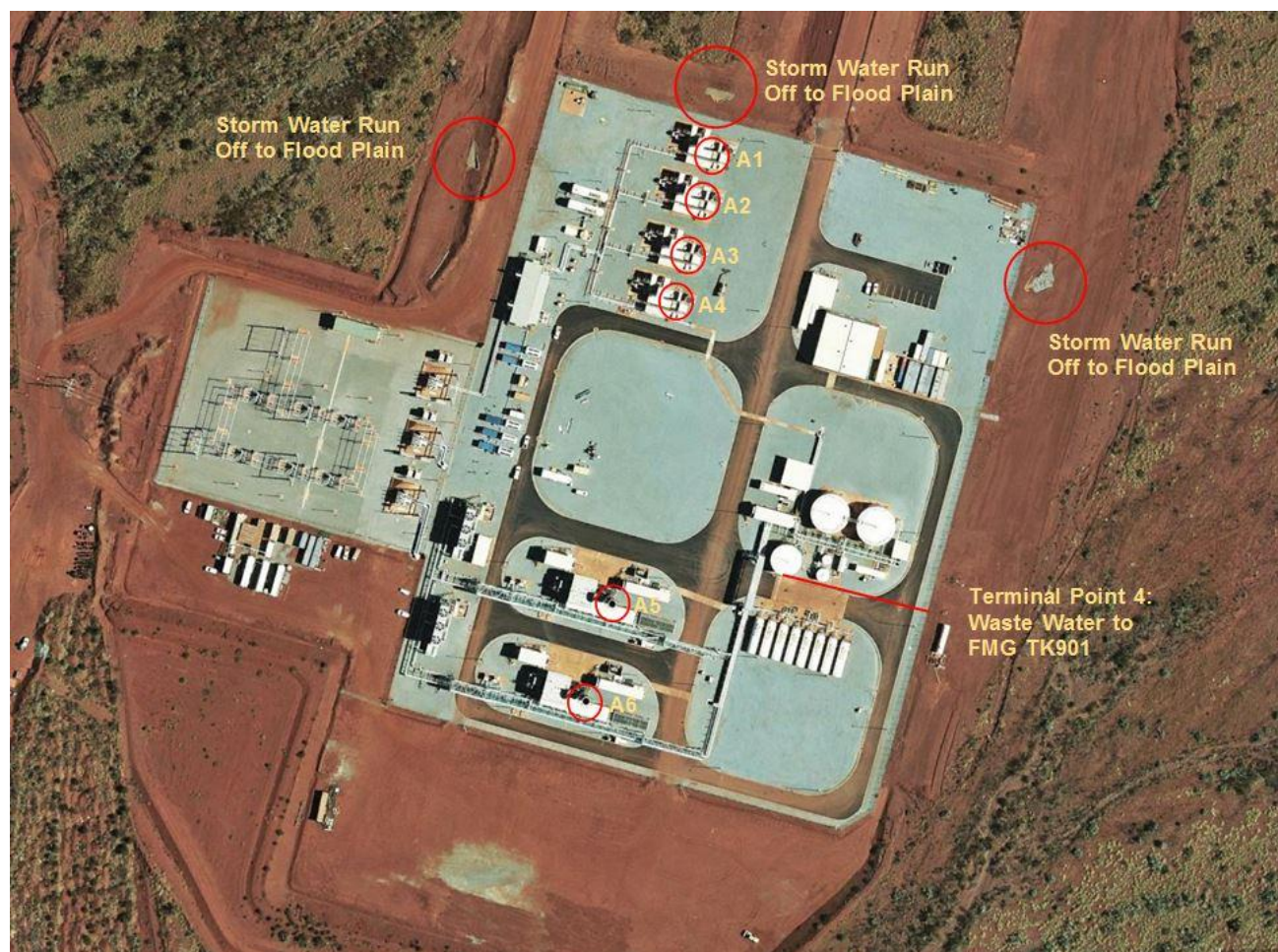
Schedule 1: Maps

Premises map

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



The locations of the emission points defined in Tables 2.2.1 are shown below.





Licence: L8858/2014/1
Form: N1

Licensee: FMG Solomon Pty Ltd
Date of breach:

Notification of detection of the breach of a limit

These pages outline the information that the operator must provide. Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

Part A

| | |
|--------------------------------|--|
| Licence Number | |
| Name of operator | |
| Location of Premises | |
| Time and date of the detection | |

Notification requirements for the breach of a limit

| | |
|---|--|
| Emission point reference/ source | |
| Parameter(s) | |
| Limit | |
| Measured value | |
| Date and time of monitoring | |
| Measures taken, or intended to be taken, to stop the emission | |

Part B

| | |
|---|--|
| Any more accurate information on the matters for notification under Part A. | |
| Measures taken, or intended to be taken, to prevent a recurrence of the incident. | |
| Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission. | |
| The dates of any previous N1 notifications for the Premises in the preceding 24 months. | |

| | |
|--|--|
| Name | |
| Post | |
| Signature on behalf of FMG Solomon Pty Ltd | |
| Date | |