Government of Western Australia
Department of Environment Regulation

Licence

Environmental Protection Act 1986, Part V

Licensee: Birla Nifty Pty Ltd

Licence: L6617/1992/15

Registered office: 256 Adelaide Terrace
PERTH WA 6000

ACN: 074 145 636

Premises address: Nifty Copper Operation
Mining Tenement AM7000271
TELFER WA 6762
As depicted in Schedule 1

Issue date: Thursday, 26 March 2015

Commencement date: Thursday, 9 April 2015

Expiry date: Tuesday, 8 April 2025

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
5	Processing or beneficiation of metallic or non-metallic ore	50,000 tonnes or more per year	3,000,000 tonnes per annual period
6	Mine dewatering	50,000 tonnes or more per year	3,285,000 tonnes per annual period
52	Electric power generation	20 megawatts or more in aggregate (using a natural gas)	30 megawatts per annual period
54	Sewage facility	100 cubic metres or more per day	1,952 cubic metres per day
64	Class II putrescible landfill site	20 tonnes or more per year	3,885 tonnes per annual period
73	Bulk storage of chemicals, etc	1,000 cubic metres in aggregate	2,200 cubic metres in aggregate

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

Date signed: 16 June 2016
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Alana Kidd
Manager Licensing – Resource Industries
Officer delegated under section 20
of the *Environmental Protection Act 1986*

Contents

Introduction

This Introduction is not part of the Licence conditions.

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

DER has responsibilities under Part V of the *Environmental Protection Act 1986* (the Act) for the licensing of prescribed premises. Through this process DER regulates to prevent, control and abate pollution and environmental harm to conserve and protect the environment. DER 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 Nifty Copper Operation is located in the Great Sandy Desert region of the East Pilbara in Western Australia, approximately 1,250 kilometres (km) north of Perth and 350 km east of Port Hedland.

The Nifty Copper Operation comprises of a historical open pit oxide mine, that is no longer operational, and an underground copper mine with an associated concentrator. Site infrastructure includes a powerhouse, camp (with wastewater treatment plant (WWTP) and reverse osmosis (RO) plant), airfield and a tailings storage facility (TSF), which supports the copper operations. Copper concentrate produced is trucked to Port Hedland for storage at a concentrate storage facility prior to shipping to Hindalco Copper's Dahej smelting and refining facility in India.

This Licence amendment is the result of an application submitted by the Licensee to increase the height of the TSF embankments. During this amendment administrative changes have also been made and the licence updated to the version 2.9 format.

The licences and works approvals issued for the Premises since April 2000 are:

Instrument log		
Instrument	**Issued**	**Description**
L6617/1992/4	05/04/2000	Licence re-issue
L6617/1992/5	06/04/2001	Licence re-issue
L6617/1992/6	10/04/2002	Licence re-issue
L6617/1992/7	31/03/2003	Licence re-issue
L6617/1992/8	09/04/2004	Licence re-issue
L6617/1992/9	08/04/2005	Licence re-issue
L6617/1992/10	03/04/2006	Licence re-issue
L6617/1992/11	04/04/2007	Licence re-issue
L6617/1992/12	03/04/2008	Licence re-issue
L6617/1992/13	08/04/2009	Licence re-issue
L6617/1992/14	29/03/2013	Licence re-issue
L6617/1992/14	19/02/2015	Licence amendment to convert to new format template
L6617/1992/15	26/03/2015	Licence re-issue
L6617/1992/15	16/06/2016	Licence amendment to increase the height of the TSF embankments, administrative changes and the licence updated to version 2.9.

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 January until 31 December in the same year;

'ARI' means Average Recurrence Interval;

'AS 4323.1' means the Australian Standard AS4323.1 *Stationary Source Emissions Method 1: Selection of sampling positions;*

'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;*

'AS/NZS 5667.11' means the Australian Standard AS/NZS 5667.11 *Water Quality – Sampling – Guidance on sampling of groundwaters;*

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

'CEMS' means continuous emissions monitoring system;

'CEMS Code' means the Department of Environment Regulation, Continuous Emission Monitoring System (CEMS) Code *for Stationary Source Air Emissions*, March 2016;

'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;

'Clean Fill' has the meaning defined in Landfill Definitions;

'cfu/100mL' means colony-forming units per 100 millilitres;

'controlled waste' has the definition in *Environmental Protection (Controlled Waste) Regulations 2004*;

'freeboard' means the distance between the maximum water surface elevations and the top of retaining banks or structures at their lowest point;

'Inert Waste Type 1' has the meaning defined in Landfill Definitions;

'Inert Waste Type 2' has the meaning defined in Landfill Definitions;

'Landfill Definitions' means the document titled "Landfill Waste Classification and Waste Definitions 1996" published by the Chief Executive Officer of the Department of Environment and Conservation as amended from time to time;

'Licence' means this Licence numbered L6617/1992/15 and issued under the Act*;*

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

'm^2' means square metres;

'm^3' means cubic metres;

'm(AHD)' means metres Australian Height Datum;

'mbgl' means metres below ground level;

'm/s' means metres per second;

'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;

'Putrescible' has the meaning defined in Landfill Definitions;

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

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

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

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

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

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

'STP dry' means standard temperature and pressure (0^{o}Celsius and 101.325 kilopascals respectively), dry;

'TSF' means tailings storage facility;

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

'WWTP' means wastewater treatment plant; and

'USEPA' means United States (of America) Environmental Protection Agency.

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 version of that 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.

1.2 General conditions

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

1.3 Premises operation

1.3.1 The Licensee shall record and investigate the exceedance of any descriptive or numerical limit in this section.

1.3.2 The Licensee shall ensure that where wastes produced on the Premises are not taken off-site for lawful use or disposal, they are managed according with the requirements in Table 1.3.1.

Table 1.3.1: Management of waste

Facility	Waste type	Management Strategy	Requirements[1, 2]
Landfill	Inert Waste Type 1	Receipt, handling and disposal of waste by landfilling	<u>All waste types</u> No more than 3,885 tonnes per annual period of all waste types cumulatively shall be disposed of by landfilling. Disposal of waste by landfilling shall only take place within designated landfill trenches or cells. The size of the tipping face is kept to a minimum and not larger than 30 m x 30 m. Waste is levelled and compacted to ensure all faces are stable and capable of retaining rehabilitation material. No waste shall be temporarily stored or landfilled within 35 m from the boundary of the Premises. The separation distance between the base of the landfill and the highest groundwater level shall not be less than 3 m. Implement security measures at the site to prevent as far as is practical unauthorised access to the site. Undertake regular inspections of all security measures and repair damage as soon as practicable. Ensure that wind-blown waste is contained within the boundary of the landfill and that wind-blown waste is returned to the tipping area on at least a monthly basis. Ensure that vermin, birds, flies and other insects do not give rise to nuisance at the Premises or in the immediate area of the Premises. Any method used by the licensee shall not cause environmental pollution.
	Putrescible Waste		
	Clean Fill		

			Ensure that no waste is burnt on the Premises. Ensure fire fighting equipment stored onsite is capable of controlling and extinguishing a tyre fire. Ensure that water and other liquid waste that may result from fire fighting on the Premises is captured and contained within the Premises. Ensure that any fire water in bunded areas is removed from the Premises by a carrier licensed under the *Environmental Protection (Controlled Waste) Regulations 2004*. Ensure that an unauthorised fire on the Premises is extinguished as soon as possible.
Used Tyre facility	Inert Waste Type 2	Storage prior to re-use or disposal by landfilling	Not more than 100 heavy vehicle tyres, 150 light vehicle tyres per year.
WWTPs	Sewage	Biological, physical and chemical treatment	1,952 m^3/day.

Note 1: Requirements for landfilling tyres are set out in Part 6 of the *Environmental Protection Regulations1987*.
Note 2: Additional requirements for the acceptance and landfilling of controlled waste (including asbestos and tyres) are set out in the *Environmental Protection (Controlled Waste) Regulations 2004.*

1.3.3 The Licensee shall ensure that cover is applied and maintained on all accessible waste in accordance with Table 1.3.2 and that sufficient stockpiles of cover are maintained on site at all times.

Table 1.3.2: Cover requirements [1]

Waste Type	Material	Depth	Timescales
Inert Waste Type 1	Inert Waste Type 1 or soil	500 mm	Final soil cover.
Inert Waste Type 2		100 mm	As soon as practical following the achievement of final waste levels in the area(s) in which tyres are deposited.
Putrescible Waste		150 mm	As soon as practicable, but at least weekly, after deposit.
		1,000 mm	Within 3 months of achieving final waste contours.

Note 1: Additional requirements for the covering of tyres are set out in Part 6 of the *Environmental Protection Regulations 1987.*

1.3.4 The Licensee shall manage the irrigation of treated wastewater such that:
(a) no irrigation generated run-off, spray drift or discharge occurs beyond the boundary of the defined irrigation area(s);
(b) treated wastewater is evenly distributed over the irrigation area;
(c) no soil erosion occurs;
(d) irrigation does not occur on land that is waterlogged; and
(e) vegetation cover is maintained over the irrigation area.

1.3.5 The Licensee shall ensure that waste material is only stored and/or treated within vessels or compounds provided with the infrastructure detailed in Table 1.3.3

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Table 1.3.3: Containment infrastructure		
Containment cell or dam number(s)	**Material**	**Infrastructure requirements**
TSF 1	Tailings	Single-cell valley fill style facility, covering an area of approximately 100 hectares. It is enclosed by two natural dunes, a constructed main embankment and a smaller saddle embankment. A minimum top of embankment freeboard of 500 mm is maintained. Methods of operation minimise the likelihood of erosion of the embankments by wave action. The supernatant pond on the TSF is minimised as far as possible.
Concentrator Containment Pond	Stormwater runoff from ore stockpiles and copper concentrator plant area	Lined with 0.5 m of compacted clay material, with a permeability of 2.2×10^{-9} m/s. Able to contain runoff from a 1:100 year, 72 hour ARI event.
Fines Dam	Dewatered water from underground mine	Unlined facility with an estimated permeability of 10^{-5} - 10^{-6} m/s. Water from underground mine dewatering that is stored in the Fines Dam prior to reuse in the copper concentrator plant or discharge to the disposal area.

1.3.6 The Licensee shall:
(a) undertake inspections as detailed in Table 1.3.4; and
(b) maintain a record of all inspections undertaken.

Table 1.3.4: Inspection of infrastructure		
Scope of inspection	**Type of inspection**	**Frequency of inspection**
Tailings pipelines	Visual integrity	Daily
Return water lines	Visual integrity	Daily
Embankment freeboard	Visual to confirm required freeboard capacity is available	Daily

1.3.7 The Licensee shall ensure that all pipelines containing tailings and tailings return water are either:
(a) equipped with automatic cut-outs in the event of a pipe failure; or
(b) provided with secondary containment sufficient to contain any spill for a period equal to the time between routine inspections.

1.3.8 The Licensee shall undertake an annual assessment of vegetation within the zone of influence of any containment structures for tailings and decant water. The assessment shall:
(a) photograph and record the presence and condition of key vegetation features within the zone of influence;
(b) compare the results of the assessment against previous years assessments and identify whether any deterioration in the presence and/or quality of vegetation has taken place;
(c) be undertaken by a person suitably qualified in vegetation identification and sampling; and
(d) be undertaken in early spring.

1.3.9 The Licensee shall undertake an annual water balance for the TSF. The water balance shall as a minimum consider the following:
(a) site rainfall;
(b) evaporation;
(c) decant water recovery volumes;
(d) seepage recovery volumes; and
(e) volumes of tailings deposited.

1.3.10 The Licensee shall construct the TSF lifts in accordance with the documentation detailed in Table 1.3.5.

Table 1.3.5: Construction Requirements[1]

Document	Parts	Date of Document
Nifty Copper Operation Tailings Storage Facility 2015 Operating Strategy and Design Report, prepared by Coffey Mining Pty Ltd for Birla Nifty Pty Ltd	All	17 December 2015

Note 1: Where the details and commitments of the documents listed in condition 1.3.10 are inconsistent with any other condition of this Licence, the conditions of this Licence shall prevail.

1.3.11 The Licensee shall ensure the limits specified in Table 1.3.6 are not exceeded.

Table 1.3.6: Production or design capacity limits

Category[1]	Category description[1]	Premises production or design capacity limit
5	Processing or beneficiation of metallic or non-metallic ore	3,000,000 tonnes per annual period
6	Mine dewatering	3,285,000 tonnes per annual period
52	Power generation	30 megawatts per annual period
73	Bulk storage of chemicals, etc.	2,200 cubic metres in aggregate

Note 1: *Environmental Protection Regulations 1987,* Schedule 1.

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 and source	Emission point height (m)	Source, including any abatement
A1	General Electric TM2500 gas turbine	9	Exhaust from the Power Station
A2	Emergency power gas turbine – Caterpillar	10	Exhaust from the Power Station
A3	Emergency power gas turbine – Caterpillar	10	Exhaust from the Power Station
A4	Emergency power gas turbine – Solar	10	Exhaust from the Power Station
A5	Emergency power gas	10	Exhaust from the Power Station

	turbine – Solar		
A6	Emergency power gas turbine – Detroit	5	Exhaust from the Power Station
A7	Emergency power gas turbine – Detroit	5	Exhaust from the Power Station

2.2.2 The Licensee shall not cause or allow point source emissions to air greater than the limits listed 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	Nitrogen oxides	450 mg/m^3	Spot sample

Note 1: All units are referenced to STP dry.
Note 2: Concentration units for A1 are referenced to 15% O_2.
Note 3: Group 6 for Stationary reciprocating internal combustion engines of the New South Wales *Protection of the Environment Operations (Clean Air) Regulation 2010.*

2.3 Emissions to land

2.3.1 The Licensee shall ensure that where waste is emitted to land from the emission points in Table 2.3.1 and identified on the map of emission points in Schedule 1 it is done so in accordance with the conditions of this Licence.

Table 2.3.1: Emissions to land

Emission point reference and location on Map of emission points	Description	Source including abatement
L1	Pipe to 4 hectare irrigation area	Treated effluent from the Village ABCO WWTP
L2	Pipe to 0.8 hectare irrigation area	Treated effluent from the Concentrator WWTP
L3	Pipe to dewatering discharge disposal area (multiple discharge points)	Dewatered water from underground mine that is stored in the Fines Dam
L4	Pipe to discharge locations	Wastewater from Oily Water Separator Units

3 Monitoring

3.1 General monitoring

3.1.1 The Licensee shall ensure that:
(a) all water samples are collected and preserved in accordance with AS/NZS 5667.1, unless otherwise indicated in the relevant table;
(b) all wastewater sampling is conducted in accordance with AS/NZS 5667.10;
(c) all groundwater sampling is conducted in accordance with AS/NZS 5667.11; and
(d) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured unless indicated otherwise in the relevant table.

3.1.2 The Licensee shall ensure that:
(a) monthly monitoring is undertaken at least 15 days apart;
(b) quarterly monitoring is undertaken at least 45 days apart;
(c) six monthly monitoring is undertaken at least 5 months apart; and
(d) 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 non-continuous or CEMS 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.

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, 3]	Averaging period	Frequency[2]	Method
A1	Volumetric flow rate	m^3/s	30 minutes	Annual	USEPA Method 2
	Temperature	^oC			USEPA Method 1
	Moisture content	%			USEPA Method 4
	Nitrogen oxides	mg/m^3			USEPA Method 7E or 7D
	Carbon monoxide	mg/m^3			USEPA Method 10

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.
Note 3: Concentration units are referenced to 15% O_2.

3.2.2 The Licensee shall ensure that sampling required under Condition 3.2.1 of the Licence is undertaken at sampling locations in accordance with the AS 4323.1 or relevant part of the CEMS Code.

3.2.3 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 Monitoring of emissions to land

3.3.1 The Licensee shall undertake the monitoring in Table 3.3.1 according to the specifications in that table.

Table 3.3.1: Monitoring of emissions to land

Emission point reference	Parameter	Units	Frequency
L1 and L2	Biochemical oxygen demand	mg/L	Quarterly
	Total suspended solids	mg/L	
	pH[1]	pH units	
	Total nitrogen	mg/L	
	Total phosphorus	mg/L	
	E.coli	cfu/100mL	
L3	pH[1]	pH units	Weekly
	Total dissolved solids[1]	mg/L	
	Total suspended solids	mg/L	Quarterly
	Aluminium	mg/L	

	Arsenic	mg/L	
	Cadmium	mg/L	
	Copper	mg/L	
	Iron	mg/L	
	Lead	mg/L	
	Manganese	mg/L	
	Molybdenum	mg/L	
	Nickel	mg/L	
	Zinc	mg/L	
	Calcium	mg/L	
	Magnesium	mg/L	
	Potassium	mg/L	
	Sulfate	mg/L	
	Total recoverable hydrocarbons	mg/L	
L4	Total recoverable hydrocarbons	mg/L	Quarterly

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

3.4 Monitoring of inputs and outputs

3.4.1 The Licensee shall undertake the monitoring in Table 3.4.1 according to the specifications in that table.

Table 3.4.1 Monitoring of inputs and outputs

Input/Output	Parameter	Units	Averaging Period	Frequency
Treated Wastewater	Volume (cumulative) of effluent from WWTPs discharged to irrigation areas	m^3	24 hours	Continuous
Waste Inputs	Inert Waste Type 1, Inert Waste Type 2, Putrescible Waste and Clean Fill	tonnes or (where no weighbridge is present) m^3	N/A	Annual estimation
Mine dewatering water discharge	Volume (cumulative) of mine dewatering water discharged to the disposal area	ML	24 hours	Continuous

3.5 Process monitoring

3.5.1 The Licensee shall undertake the monitoring specified in Table 3.5.1.

Table 3.5.1: Process monitoring

Monitoring point reference	Process description	Parameter	Units	Limit	Frequency	Method
-	Brine from Reverse Osmosis Plant mixed with wash water from the vehicle washdown bay	Total recoverable hydrocarbons	mg/L	15	Quarterly	None specified
-	-	Volumes of tailings deposited into the TSF	m^3	N/A	Continuous	None specified
-	-	Volumes of water recovered from the TSF	m^3	N/A	Continuous	None specified

-	-	Volumes of seepage recovered	m^3	N/A	Continuous	None specified

3.6 Ambient environmental quality monitoring

3.6.1 The Licensee shall undertake the monitoring in Table 3.~~8~~6.1 according to the specifications in that table.

Monitoring point reference and location	Parameter	Units	Averaging period	Frequency
Background THRC1439 THRC1450 NORC21	Standing water level	mbgl m(AHD)	Spot sample	Quarterly
Heap leach facility YNC8d YNC58s YNC58d YNC59s YNC59d YNC60s YNC60d NORC16 NORC17 YNC214s YNC214d MB6 MB7				
Concentrator Containment Pond YNC216s YNC215s YNC215d				
TSF TSF1s TSF1d TSF2s TSF2d TSF3s TSF3d TSF4s TSF4d				
Enclosed Dune Swale THRP152s THRP152d THRP153 THRP154s THRP154d				
Fines Dam FD1s FD1d				

Monitoring point reference and location	Parameter	Units	Averaging period	Frequency
Near Mine MB2 MB13 MB14 MB16 MB17				
MB8 MB9 MB10 MB12 MB15 THRP119s THRP119d THRP120s THRP120d THRP121s THRP121d THRP122s THRP122d THRP162s THRP162d	Standing water level	mbgl m(AHD)	Spot sample	Six monthly
Background - Weathered Shale Aquifer THRC1439 THRC1450	pH[1]	pH units	Spot sample	Six monthly
	Total dissolved solids	mg/L		
	Aluminium	mg/L		
	Sulfate	mg/L		
	Lead	mg/L		
	Copper	mg/L		
	Iron	mg/L		
	Manganese	mg/L		
	Molybdenum	mg/L		
	Zinc	mg/L		
	Arsenic	mg/L		
	Cadmium	mg/L		
	Nickel	mg/L		
	Selenium	mg/L		
Heap leach facility – Alluvium Aquifer YNC58s YNC59s YNC59d YNC60s YNC214s MB6	pH[1]	pH units		
	Total dissolved solids	mg/L		
	Aluminium	mg/L		
	Sulfate	mg/L		
	Lead	mg/L		
	Copper	mg/L		
	Iron	mg/L		
	Manganese	mg/L		
	Molybdenum	mg/L		
	Zinc	mg/L		
	Arsenic	mg/L		
	Cadmium	mg/L		
	Nickel	mg/L		
	Selenium	mg/L		
Heap leach facility – Weathered Shale Aquifer	pH[1]	pH units		
	Total dissolved solids	mg/L		

Monitoring point reference and location	Parameter	Units	Averaging period	Frequency
YNC58d YNC60d NORC16 NORC17 MB7	Aluminium	mg/L		
	Sulfate	mg/L		
	Lead	mg/L		
	Copper	mg/L		
	Iron	mg/L		
	Manganese	mg/L		
	Molybdenum	mg/L		
	Zinc	mg/L		
	Arsenic	mg/L		
	Cadmium	mg/L		
	Nickel	mg/L		
	Selenium	mg/L		
Concentrator Containment Pond – Alluvium Aquifer YNC216s YNC215s	pH[1]	pH units		
	Total dissolved solids	mg/L		
	Aluminium	mg/L		
	Sulfate	mg/L		
	Lead	mg/L		
	Copper	mg/L		
	Iron	mg/L		
	Manganese	mg/L		
	Molybdenum	mg/L		
	Zinc	mg/L		
	Arsenic	mg/L		
	Cadmium	mg/L		
	Nickel	mg/L		
	Selenium	mg/L		
TSF – Alluvium Aquifer TSF2s TSF3s TSF4s	pH[1]	pH units		
	Total dissolved solids	mg/L		
	Aluminium	mg/L		
	Sulfate	mg/L		
	Lead	mg/L		
	Copper	mg/L		
	Iron	mg/L		
	Manganese	mg/L		
	Molybdenum	mg/L		
	Zinc	mg/L		
	Arsenic	mg/L		
	Cadmium	mg/L		
	Nickel	mg/L		
	Selenium	mg/L		
TSF – Weathered Shale Aquifer TSF1s TSF1d TSF2d TSF3d TSF4d	pH[1]	pH units		
	Total dissolved solids	mg/L		
	Aluminium	mg/L		
	Sulfate	mg/L		
	Lead	mg/L		
	Copper	mg/L		
	Iron	mg/L		
	Manganese	mg/L		
	Molybdenum	mg/L		
	Zinc	mg/L		
	Arsenic	mg/L		
	Cadmium	mg/L		

Monitoring point reference and location	Parameter	Units	Averaging period	Frequency
	Nickel	mg/L		
	Selenium	mg/L		
Enclosed Dune Swale – Alluvium Aquifer THRP152s THRP153 THRP154s	pH[1]	pH units		
	Total dissolved solids	mg/L		
	Aluminium	mg/L		
	Sulfate	mg/L		
	Lead	mg/L		
	Copper	mg/L		
	Iron	mg/L		
	Manganese	mg/L		
	Molybdenum	mg/L		
	Zinc	mg/L		
	Arsenic	mg/L		
	Cadmium	mg/L		
	Nickel	mg/L		
	Selenium	mg/L		
Fines Dam FD1s	pH[1]	pH units		
	Total dissolved solids	mg/L		
	Aluminium	mg/L		
	Sulfate	mg/L		
	Lead	mg/L		
	Copper	mg/L		
	Iron	mg/L		
	Manganese	mg/L		
	Molybdenum	mg/L		
	Zinc	mg/L		
	Arsenic	mg/L		
	Cadmium	mg/L		
	Nickel	mg/L		
	Selenium	mg/L		

Note1: In-field non-NATA accredited analyses permitted.

3.6.2 The Licensee shall take the specified management action in the case of an event in Table 3.6.2.

Table 3.6.2: Management actions

Monitoring point reference & location[1]	Event action/ reference	Event	Management action
NORC21 MB8 MB9 MB10 MB12 MB15 THRP119s THRP119d THRP120s THRP120d THRP121s THRP121d THRP122s THRP122d	EA1	The groundwater monitoring data indicates the presence of water in the groundwater monitoring bore.	The Licensee shall sample the groundwater monitoring bore immediately (as opposed to waiting for the next six monthly sample) for the following parameters: • pH[2] • Total dissolved solids • Aluminium • Sulfate • Lead • Copper • Iron • Manganese

THRP162s THRP162d			• Molybdenum • Zinc • Arsenic • Cadmium • Nickel • Selenium Following initial sampling, sampling will continue on a six monthly basis.

Note 1: Where data (Table 3.6.1) indicates the presence of water within the screened interval.
Note2: In-field non-NATA accredited analyses permitted.

4 Improvements

4.1 Improvement program

4.1.1 The Licensee shall complete the improvements in Table 4.1.1 by the date of completion in Table 4.1.1.

Table 4.1.1: Improvement program

Improvement reference	Improvement	Date of completion
IR1	The Licensee shall submit a long term mine water management strategy to the CEO. The long term mine water management strategy shall detail measures to be implemented to manage dewatering water to replace the current interim dune swale discharge method and shall include: • an analysis of long term mine water management options detailing reasons for selecting the preferred management method; • where applicable, water quality triggers and contingency measures should triggers be exceeded; • monitoring and reporting procedures; and • timeframes for implementation.	30 June 2016
IR2	The Licensee shall submit proposed limits for: • emissions to land detailed in Table 2.3.2 for emission point reference L3. The limits proposed are required for parameters pH, TDS and TRH; and • ambient groundwater quality detailed in Table 3.6.1 for monitoring points TSF1s, TSF1d, TSF2s, TSF2d, TSF3s, TSF3d, TSF4s, TSF4d, THRP152s, THRP153, THRP154s and FD1s. The limits proposed are required for parameters pH, TDS and Sulfate. The proposed limits shall be supported with evidence detailing how each limit has been determined, and should take into account: • background levels pre-mining activities; • monitoring data presented in previous Annual Environmental Reports; • the receiving environment; • the Nifty Copper Operations, *Review of Provisional Trigger Values for Groundwater Quality*, prepared for Birla Nifty Pty Ltd, June 2015; and • any relevant Australian Standards or Guidelines.	29 July 2016

5 Information

5.1 Records

5.1.1 All information and records required by the Licence shall:
- (a) be legible;
- (b) if amended, be amended in such a way that the original and subsequent amendments remain legible or are capable of retrieval;
- (c) except for records listed in 5.1.1(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
- (d) for those following records, be retained until the expiry of the Licence and any subsequent licence:
  - (i) off-site environmental effects; or
  - (ii) matters which affect the condition of the land or waters.

5.1.2 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.

5.1.3 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.

5.2 Reporting

5.2.1 The Licensee shall submit to the CEO an Annual Environmental Report by 1 April each year. The report shall contain the information listed in Table 5.2.1 in the format or form specified in that table.

Table 5.2.1: 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
-	Update on the seepage recovery trial being conducted at the TSF, including contaminants in seepage, depth to groundwater, extent of groundwater mound, summary of vegetation health in this area and any other receptors	None specified
1.3.8	Annual assessment of vegetation within the zone of influence of any containment structures for tailings and decant water	None specified
1.3.9	Annual water balance of TSF	None specified
Table 3.2.1	Volumetric flow rate, Temperature, Moisture content, Nitrogen oxides, Carbon monoxide	AR1
Table 3.3.1	Effluent discharges from Mine Camp WWTP (L1) and Copper Concentrator WWTP (L2) Biochemical oxygen demand, Total suspended solids, pH, Total nitrogen, Total phosphorus, *E.coli*	LR1
	Mine dewater discharged to swale area (L3) pH, Total dissolved solids, Total suspended solids, Aluminium, Arsenic, Cadmium, Copper, Iron, Lead, Manganese, Molybdenum, Nickel, Zinc, Calcium, Magnesium, Potassium, Sulfate, Total recoverable hydrocarbons	None specified
	Water discharged from the Oily Water Separators (L4)	LR1

	Total recoverable hydrocarbons	
Table 3.4.1	Volume (cumulative) of effluent from the Village ABCO WWTP and Concentrator WWTP discharged to irrigation areas	None specified
	Inert Waste Type 1, Inert Waste Type 2, Putrescible Waste and Clean Fill	
	Volume (cumulative) of mine dewatering water discharged to the disposal area	
Table 3.5.1	Total recoverable hydrocarbons from the wastewater received via the Reverse Osmosis Plant vehicle washdown bay wash water	None specified
	Volume of tailing deposited into the TSF	
	Volumes of water recovered from the TSF	
	Volumes of seepage recovered	
Table 3.6.1 and 3.6.2	Monitoring of ambient groundwater quality Comparison of sampling results against the trigger levels described in the document *Nifty Copper Operation Provisional Groundwater Trigger Values*, MBS Environmental (June, 2015). Details of investigations into trigger value exceedances, actions implemented and an assessment of environmental impacts.	None specified
5.1.3	Compliance	Annual Audit Compliance Report (AACR)
5.1.4	Complaints summary	None specified

Note 1: Forms are in Schedule 2

5.2.2 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.

5.2.3 The Licensee shall submit the information in Table 5.2.2 to the CEO according to the specifications in that table.

Table 5.2.2: Non-annual reporting requirements

Condition or table (if relevant)	Parameter	Reporting period	Reporting date (after end of the reporting period)	Format or form[1]
-	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

5.3 Notification

5.3.1 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 5.3.1: Notification requirements

Condition or table (if relevant)	Parameter	Notification requirement[1]	Format or form[2]
1.3.1 and	Breach of any limit specified	Part A: As soon as practicable but no	N1

2.1.1	in the Licence	later than 5pm of the next usual working day Part B: As soon as practicable	
Table 1.3.5	Construction of TSF lifts	Notify the CEO in writing following the construction of the TSF lifts as specified in condition 1.3.10. The written notification shall: (a) confirm that the works were constructed in accordance with condition 1.3.10 and Table 1.3.5; and (b) be signed by a person authorised to represent the Licence Holder and contain the printed name and position of that person within the company. Following submission of the written notification, the Licensee shall operate the TSF in accordance with the conditions of this Licence.	None specified
3.1.5	Calibration report	As soon as practicable.	None specified
-	Entering or ceasing care and maintenance	Within 7 days of changing status	None specified

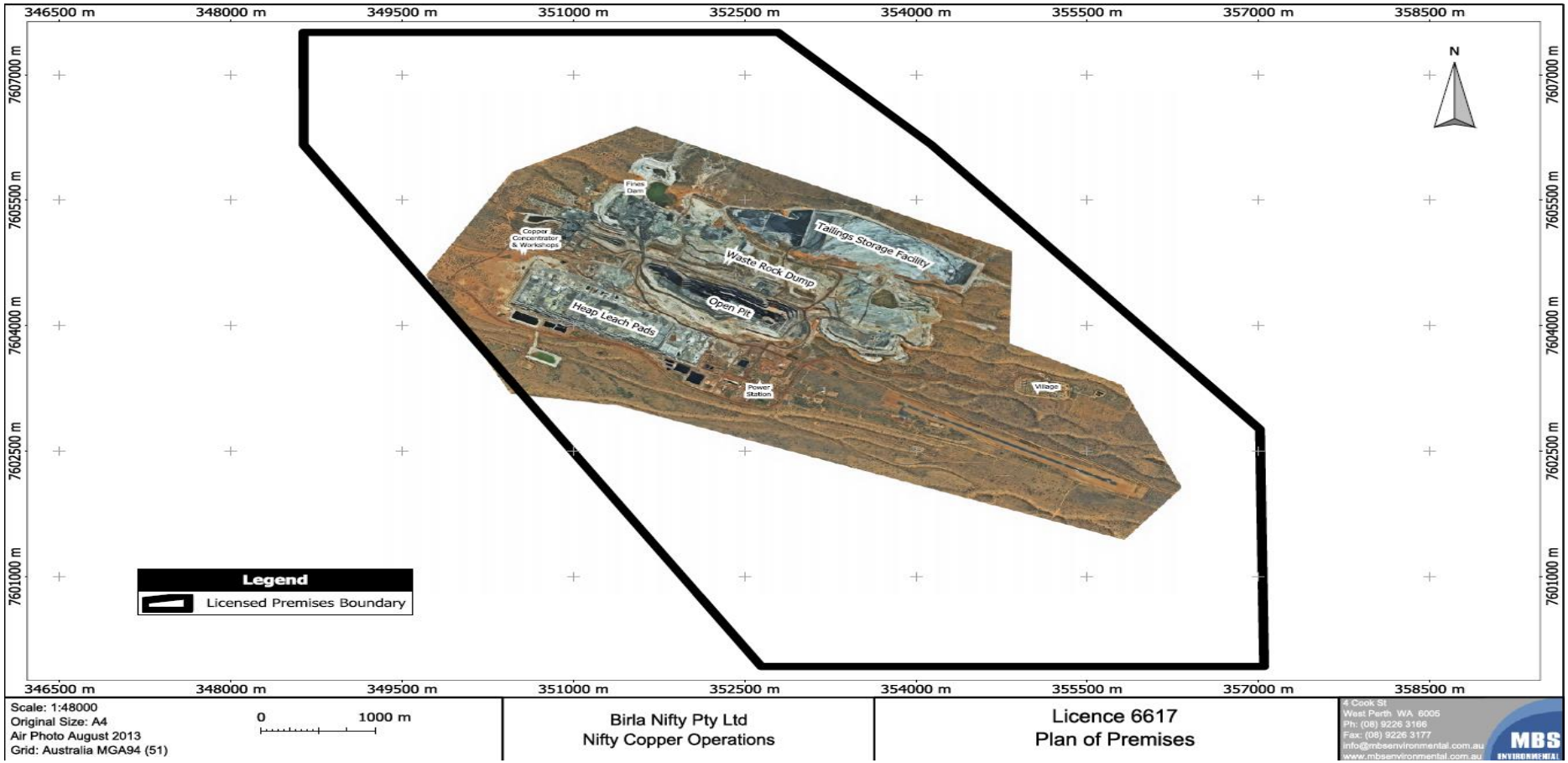
Note 1: Notification requirements in the licence shall not negate the requirement to comply with s72 of the Act

Note 2: Forms are in Schedule 2

Schedule 1: Maps

Premises map

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



Map of emission points

The locations of the emission points defined in Tables 2.2.1 and 2.3.1 are shown below.

Map of monitoring locations

The locations of the monitoring points defined in Tables 3.6.1 and 3.6.2 are shown below.

Schedule 2: Reporting & notification forms

These forms are provided for the proponent to report monitoring and other data required by the Licence. They can be requested in an electronic format.

ANNUAL AUDIT COMPLIANCE REPORT PROFORMA

SECTION A

LICENCE DETAILS

Licence Number:	Licence File Number:
Company Name: Trading as:	ABN:
Reporting period: _____ to _____	

STATEMENT OF COMPLIANCE WITH LICENCE CONDITIONS

1. Were all conditions of the Licence complied with within the reporting period? (please tick the appropriate box)

Yes □ Please proceed to Section C
No □ Please proceed to Section B

Each page must be initialled by the person(s) who signs Section C of this Annual Audit Compliance Report (AACR).

Initial:

SECTION B
DETAILS OF NON-COMPLIANCE WITH LICENCE CONDITION.

Please use a separate page for each Licence condition that was not complied with.

a) Licence condition not complied with:
b) Date(s) when the non compliance occurred, if applicable:
c) Was this non compliance reported to DER?:
☐ Yes ☐ Reported to DER verbally Date _____ ☐ Reported to DER in writing Date _____ ☐ No
d) Has DER taken, or finalised any action in relation to the non compliance?:
e) Summary of particulars of the non compliance, and what was the environmental impact:
f) If relevant, the precise location where the non compliance occurred (attach map or diagram):
g) Cause of non compliance:
h) Action taken, or that will be taken to mitigate any adverse effects of the non compliance:
i) Action taken or that will be taken to prevent recurrence of the non compliance:

Each page must be initialled by the person(s) who signs Section C of this AACR

Initial:

SECTION C

SIGNATURE AND CERTIFICATION

This Annual Audit Compliance Report (AACR) must only be signed by a person(s) with legal authority to sign it. The ways in which the AACR must be signed and certified, and the people who may sign the statement, are set out below.

Please tick the box next to the category that describes how this AACR is being signed. If you are uncertain about who is entitled to sign or which category to tick, please contact the licensing officer for your premises.

If the licence holder is		The Annual Audit Compliance Report must be signed and certified:
An individual	□	by the individual licence holder, or
	□	by a person approved in writing by the Chief Executive Officer of the Department of Environment Regulation to sign on the licensee's behalf.
A firm or other unincorporated company	□	by the principal executive officer of the licensee; or
	□	by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.
A corporation	□	by affixing the common seal of the licensee in accordance with the *Corporations Act 2001*; or
	□	by two directors of the licensee; or
	□	by a director and a company secretary of the licensee, or
	□	if the licensee is a proprietary company that has a sole director who is also the sole company secretary – by that director, or
	□	by the principal executive officer of the licensee; or
	□	by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.
A public authority (other than a local government)	□	by the principal executive officer of the licensee; or
	□	by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.
a local government	□	by the chief executive officer of the licensee; or
	□	by affixing the seal of the local government.

It is an offence under section 112 of the *Environmental Protection Act 1986* for a person to give information on this form that to their knowledge is false or misleading in a material particular. There is a maximum penalty of $50,000 for an individual or body corporate.

I/We declare that the information in this annual audit compliance report is correct and not false or misleading in a material particular.

SIGNATURE: _____

NAME:
(printed) _____

POSITION: _____

DATE: _____/_____/_____

SIGNATURE: _____

NAME:
(printed) _____

POSITION: _____

DATE: _____/_____/_____

SEAL (if signing under seal)

Licence: L6617/1992/15 Licensee: Birla Nifty Pty Ltd
Form: AR1 Period:
Name: Monitoring of point source emissions to air

Form AR1: Monitoring of point source emissions to air

Emission point	Parameter	Limit	Result[1]	Averaging period	Method	Sample date & times
A1	Volumetric flow rate	N/A	m^3/s	30 minutes		
	Temperature	N/A	^oC			
	Moisture content	N/A	%			
	Nitrogen oxides	450	mg/m^3			
	Carbon monoxide	N/A	mg/m^3			

Note 1: All units are referenced to STP dry and relevant Oxygen Correction in Table 2.2.2

Signed on behalf of Birla Nifty Pty Ltd: …….. Date: …….

Licence: L6617/1992/15
Form: LR1
Name: Monitoring of emissions to land

Licensee: Birla Nifty Pty Ltd
Period:

Form LR1: Monitoring of emissions to land							
Emission point	**Parameter**	**Limit**		**Result**	**Averaging period**	**Method**	**Sample date & times**
L1	pH	N/A		pH units	Spot sample		
	Biochemical oxygen demand	N/A		mg/L			
	Total suspended solids	N/A		mg/L			
	Total nitrogen	N/A		mg/L			
	Total phosphorus	N/A		mg/L			
	E.coli	N/A		cfu/100mL			
L2	pH	N/A		pH units	Spot sample		
	Biochemical oxygen demand	N/A		mg/L			
	Total suspended solids	N/A		mg/L			
	Total nitrogen	N/A		mg/L			
	Total phosphorus	N/A		mg/L			
	E.coli	N/A		cfu/100mL			
L4	Total recoverable hydrocarbons	15		mg/L	Spot sample		

Signed on behalf of Birla Nifty Pty Ltd: …….. Date: …….

Licence: L6617/1992/15 Licensee: Birla Nifty Pty Ltd
Form: N1 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 Birla Nifty Pty Ltd	
Date	

Government of Western Australia
Department of Environment Regulation

Decision Document

Environmental Protection Act 1986, Part V

Proponent: Birla Nifty Pty Ltd

Licence: L6617/1992/15

Registered office: 256 Adelaide Terrace
PERTH WA 6000

ACN: 074 145 636

Premises address: Nifty Copper Operation
Mining tenement AM7000271
TELFER WA 6762

Issue date: Thursday, 26 March 2015

Commencement date: Thursday, 9 April 2015

Expiry date: Tuesday, 8 April 2025

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: Sonya Poor/ Paul Anderson
Licensing Officer

Decision Document authorised by: Alana Kidd
Delegated Officer

Contents

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

<table>
<tr><th colspan="3">Administrative details</th></tr>
<tr><td>Application type</td><td colspan="2">Works Approval ☐
New Licence ☐
Licence amendment ☒
Works Approval amendment ☐</td></tr>
<tr><td rowspan="7">Activities that cause the premises to become prescribed premises</td><td>Category number(s)</td><td>Assessed design capacity</td></tr>
<tr><td>5</td><td>3,000,000 tonnes per annual period</td></tr>
<tr><td>6</td><td>3,285,000 tonnes per annual period</td></tr>
<tr><td>52</td><td>30 megawatts per annual period</td></tr>
<tr><td>54</td><td>1,952 cubic metres per day</td></tr>
<tr><td>64</td><td>3,885 tonnes per annual period</td></tr>
<tr><td>73</td><td>2,200 cubic metres in aggregate</td></tr>
<tr><td>Application verified
Application fee paid</td><td colspan="2">Date: N/A
Date: N/A</td></tr>
<tr><td>Works Approval has been complied with
Compliance Certificate received</td><td colspan="2">Yes☐ No☐ N/A☒
Yes☐ No☐ N/A☒</td></tr>
<tr><td>Commercial-in-confidence claim</td><td colspan="2">Yes☐ No☒</td></tr>
<tr><td>Commercial-in-confidence claim outcome</td><td colspan="2">N/A</td></tr>
</table>

Is the proposal a Major Resource Project?	Yes☒ No☐	
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the *Environmental Protection Act 1986*?	Yes☐ No☒	Referral decision No: Managed under Part V ☐ Assessed under Part IV ☐
Is the proposal subject to Ministerial Conditions?	Yes☐ No☒	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 *Environmental Protection Act 1986*)?	Yes☐ No☒ Department of Water consulted Yes ☐ No ☒	
Is the Premises within an Environmental Protection Policy (EPP) Area Yes☐ No☒ If Yes include details of which EPP(s) here.		
Is the Premises subject to any EPP requirements? Yes☐ No☒ If Yes, include details here, eg Site is subject to SO_2 requirements of Kwinana EPP.		

3 Executive summary of proposal and assessment

The Nifty Copper Operation (Nifty) is located in the Great Sandy Desert region of the East Pilbara in Western Australia, approximately 350 kilometres (km) east of Port Hedland, 200 km west-north-west of Marble Bar and approximately 35 km west and 65 km east of the mining operations of Woodie Woodie and Telfer respectively.

Nifty comprises of a historical open pit oxide mine, that is no longer operational, and an underground copper mine with an associated concentrator. Site infrastructure includes a powerhouse, camp (with wastewater treatment plant (WWTP) and reverse osmosis (RO) plant), airfield and a tailings storage facility (TSF) supports the copper operations. Copper concentrate produced is trucked to Port Hedland for storage at a concentrate storage facility prior to shipping to Hindalco Copper's Dahej smelting and refining facility in India.

Birla Nifty Pty Ltd (the Licensee) proposes to raise the existing embankments at the Nifty TSF in two lifts of about 1.5 metres (m) each, to provide storage capacity and maintain freeboard for tailings from the expected remaining life of the mine (5 years).

The Licensee has applied to amend the Licence to approve the construction of two embankment lifts at the TSF.

BNPL proposes to raise the existing embankments at the Nifty TSF, in two lifts of about 1.5 m each, to provide storage capacity and maintain freeboard for tailings from the expected remaining life of mine; discharge spigot locations will be adjusted, and internal embankments formed, to foster the development of even tailings beaches.

The following changes have been made to the Licence during this amendment:

- 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;
- Updated in line with version 2.9 (v2.9) of the licence template;

- Construction requirements for the embankment lifts at the TSF;
- Include the concentrator containment pond and fines dam as containment infrastructure; and
- Include production and design capacity limits for all Licenced categories.

During this amendment, DER has assessed the emissions and discharges associated with the proposed TSF lifts. Where conditions have been added or removed from the existing licence these have also 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	N/A. L1.2.1 - L1.2.5.	**Construction and Operation of the TSF lifts** The existing stormwater management at Nifty will not be affected by the TSF lifts. No conditions are required to be added to the Licence for the TSF lifts relating to stormwater management and the storage of hydrocarbons and chemicals as this can be sufficiently regulated under the *Environmental Protection (Unauthorised Discharges) Regulations 2004.* **Operation (existing licence)** Previous condition L1.2.1 has been removed as it is not valid, enforceable or risk based. This condition was an explanatory statement that provided clarification of the operation of the Licence. Previous condition 1.2.2 has been removed from the Licence because it is not clear or certain in the Licence, what type of pollution control and monitoring equipment is required to be operated and maintained, and what maintenance schedule is to be followed. Previous condition L1.2.3 has been removed. The storage of environmentally hazardous materials is adequately regulated by the *Dangerous Goods Safety Act 2004* and associated Regulations. Previous condition 1.2.5 has been removed from the Licence because more specific stormwater management requirements are regulated through Table 1.3.3 of the	General provisions of the *Environmental Protection Act 1986*. Australian Standard 1940-2004 The Storage and Handling of Flammable and Combustible Liquids. *Environmental Protection (Unauthorised Discharges) Regulations 2004.*

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		Licence and the provisions of the *Environmental Protection (Unauthorised Discharges) Regulations 2004* and the general provisions of the *Environmental Protection Act 1986* apply.	
Premises operation	L1.3.10. N/A. L1.3.1 – 1.3.11.	**Construction of the TSF lifts** Condition 1.3.10 has been added to the licence to ensure that the TSF lifts are constructed in accordance with the documentation listed in Table 1.3.5. **Operation of the TSF lifts** DER's assessment and decision making are detailed in Appendix A. **Operation (existing licence)** Condition L1.3.1 has been included in the Licence as limits have been applied in this section. Category 64 at the front of the Licence has had the reference to Class III waste removed. Table 1.3.3 has been amended by including the concentrator containment pond and fines dam as containment infrastructure. Condition L1.3.11 has been included to establish limits for the production and design capacity for all categories in the Licence.	Nifty Copper Operation Tailings Storage Facility 2015 Operating Strategy and Design Report, prepared by Coffey Mining Pty Ltd for Birla Nifty Pty Ltd, 17 December 2015. Licence amendment supporting documentation.
Emissions general	L2.1.1.	Existing condition is on the Licence relating to investigating the exceedance of any descriptive or numerical limit. No additional conditions are required to be added to the Licence for the construction and operation of the TSF lifts.	N/A.
Point source emissions to air including monitoring	N/A.	**Construction and Operation of the TSF lifts** There will be no point source emissions to air during the construction and operation of the TSF lifts. No conditions relating to point source emission to air or the monitoring of these emissions are required to be added to the licence.	General provisions of the *Environmental Protection Act 1986*.

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	N/A.	**Construction and Operation of the TSF lifts** There will be no point source emissions to surface water during the construction and operation of the TSF lifts. The nearest high-quality groundwater resource and borefield is about 10 km south-east and the nearest watercourses are about 6 km south of the proposed works. No conditions relating to point source emission to surface water or the monitoring of these emissions are required to be added to the licence.	General provisions of the *Environmental Protection Act 1986*.
Point source emissions to groundwater including monitoring	N/A.	**Construction and Operation of the TSF lifts** There will be no point source emissions to groundwater during the construction and operation of the TSF lifts. No conditions relating to point source emission to groundwater or the monitoring of these emissions are required to be added to the Licence.	General provisions of the *Environmental Protection Act 1986*.
Emissions to land including monitoring	L2.3.1and L2.3.2, L3.3.1, L5.2.1	**Construction and Operation of the TSF lift** Refer to Appendix A - Premises Operation for DER's assessment on the operation of the TSF lifts. No conditions relating to emissions to land or the monitoring of these emissions are required to be added to the licence. **Operation (existing licence)** Targets are no long applied to licences as part of DER's licensing reform process and therefore any references to targets in Table 2.3.2 have been removed. **Wastewater Treatment Plant** Limits have not been set for emission points L1 and L2 in Table 2.3.2 of condition 2.3.2. These emission points relate to the irrigation of wastewater to land from the WWTPs. <u>Emission Description</u> *Emission:* Treated wastewater effluent being discharged to the spray field.	General provisions of the *Environmental Protection Act 1986.* *Environmental Protection (Unauthorised Discharges) Regulations 2004.* Nifty Copper Operations, Annual Environmental

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		Impact: Contamination of surrounding land, groundwater, surface water drainage systems and vegetation. *Controls:* The irrigation areas are larger than the minimum area generally required to assimilate the total nitrogen and phosphorus load from treated effluent. Nifty is located in an area which experiences high evaporation rates and low rainfalls. The nearest high-quality groundwater resource and borefield is about 10 km south-east and the nearest watercourses are about 6 km south from Nifty. Native flora species with a low tolerance to phosphorus are not located within the irrigation areas. Risk Assessment *Consequence*: Minor *Likelihood:* Rare *Risk Rating:* Low Regulatory Controls Condition 2.3.1 requires treated wastewater from the village and Concentrator WWTP's is only discharged to the identified emission points. Condition 3.3.1 requires quarterly sampling of the discharged wastewater from the WWTP's. Condition 5.2.1 requires the reporting of quarterly sampling results in the Annual Environmental Report (AER), to be submitted to DER for assessment. Limits have not been applied to the parameters in Table 2.3.2 as the risk to the environment has been considered as low. Residual Risk *Consequence*: Minor *Likelihood:* Rare *Risk Rating:* Low	Report 2015

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		Dewatering discharge to land Targets for emission point L3, which were previous applied to all sampling parameters listed in Table 2.3.2, have been removed. DER is considering applying limits for pH, Total Dissolved Solids (TDS) and Total Recoverable Hydrocarbons (TRH) as below. DER's justification for the proposed limits is provided below. Weekly sampling for pH in the dewatering effluent for previous reporting periods showed a pH range of between 6.87 and 8.47. A limit for pH at equal to but greater than 6 and equal to or less than 9 is proposed. This limit range is commonly applied to similar operations at other premises and has been based upon recommendations made in the Australian and New Zealand Environment and Conservation Council (ANZECC) guidelines for irrigation and general water use, 2000. The limit applied for TDS has been proposed to be set at 5,000 mg/L. This limit is based upon weekly sampling for TDS in the dewatering effluent for the 2015 reporting period. Sampling results for TDS show levels as high as 4,542 mg/L for TDS with a majority of the results under 4,000 mg/L. The limit applied for TRH has been proposed to be set at 15mg/L. This limit is commonly applied to similar operations at other premises. The Licensee was provided, for consideration the proposed limits for pH, TDS and TRH for dewatering discharge to land. The Licensee has advised DER that they would like the proposed limits to be reconsidered, and would like to provide alternative limits with supporting evidence. DER has therefore not applied limits for pH, TDS and TRH in this Licence amendment, however has included new improvement condition 4.1.1 which requires the Licensee to provide their justification for alternative limits by the 29 July 2016. After this date, DER plans to include limits in the Licence through a further Licence amendment. More detail on improvement condition 4.1.1 is provided in the improvement section below.	

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		Limits for metals, metalloids and non-metals have not been applied as historical sampling shows levels to be low or below the level of detection. The sampling, analysis, reporting and proponent review and comparison for these parameters remains a requirement of the Licence. Other minor amendments have been made to conditions 2.3.2 and 2.3.3 due to the removal of targets and the inclusion of limits.	
Fugitive emissions	N/A.	**Construction and Operation of the TSF lifts** Fugitive dust emissions may occur during the construction of the TSF lifts. Water carts will be used to keep material and working surfaces damp. No conditions relating to fugitive dust emissions are required to be added to the licence for the construction and operation of the TSF lifts. **Operation (existing licence)** Previous conditions L2.6.1 and L2.6.2 have been removed. Fugitive emissions of dust are considered a low risk given the location of the premises. There are no receptors considered sensitive within 5 km of the proposed works, as such fugitive emissions can be sufficiently regulated under section 49 of the *Environmental Protection Act 1986*.	General provisions of the *Environmental Protection Act 1986.*
Odour	N/A.	**Construction and Operation of the TSF lift** No odour emissions are expected from the construction and operation of the TSF lifts. No conditions relating to odour emissions are required to be added to the licence.	N/A.
Noise	N/A.	**Construction and Operation of the TSF lift** Noise associated with the construction of the TSF lifts will comply with the *Environmental Protection (Noise) Regulations 1997*. Equipment will be maintained to manufacturer's specification and relevant standards. Noise emissions should not be significant during operation of the TSF.	*Environmental Protection (Noise) Regulations 1997.*

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		No conditions relating to noise are required for the licence.	
Monitoring general	N/A.	No conditions relating to general monitoring of the TSF lifts need to be included on the licence.	N/A.
Monitoring of inputs and outputs	N/A.	Monitoring of inputs or outputs is not required to ensure efficient operation of the TSF lifts and therefore no conditions relating to monitoring of inputs and outputs are required to be added to the licence.	N/A.
Process monitoring	N/A.	No conditions relating to process monitoring for the TSF lifts are required to be added to the licence.	N/A.
Ambient quality monitoring	3.6.1 and 3.6.2	**Operation** Targets for all parameters listed in Table 3.6.1 for the monitoring of ambient groundwater quality have been removed from the Licence. DER is proposing to apply limits for parameters pH, TDS and Sulfate in groundwater monitoring bores YNC215s, THRP154s THRP152s, TSF1 to TSF4s, TSF1d to TSF4d and FD1s. These bores monitor groundwater at the TSF and the Fines Dam. DER's justification for the proposed limits is provided below. Past results from sampling of these groundwater monitoring bores shows seepage has occurred from the TSF and Fines Dam. This seepage at the two locations has caused an increase in the levels of TDS and Sulfates in the groundwater with results exceeding the previous targets in the Licence. The limits proposed in the Licence for pH, TDS and Sulfate has been based upon Table 4 of the Nifty Copper Operation Provisional Groundwater Trigger Values which was submitted to DER as a previous requirement under condition 4.1.1 (IR2). Additionally, past sampling results presented to DER in the 2015 Annual Environmental Report have also been taken into consideration when setting the limits. Any exceedance of these limits would require a notification action as required by condition 5.3.1.	*Nifty Copper Operation Review of Provisional Trigger Values for Groundwater Quality*, MBS Environmental, prepared for Birla Nifty Pty Ltd, June 2015

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		The Licensee was provided for consideration the proposed limits for parameters pH, TDS and Sulfate in ambient groundwater at the above mentioned monitoring bores. The Licensee has advised DER that they would like the proposed limits to be reconsidered, and would like to provide alternative limits with supporting evidence. DER has therefore not applied limits for pH, TDS and Sulfate in this Licence amendment, however has included improvement condition 4.1.1 which requires the Licensee to provide their justification for alternative limits by the 29 July 2016. After this date DER plans to include limits in the Licence through a further Licence amendment. More detail on improvement condition 4.1.1 is provided in the improvement section below. No limits have been proposed for the remaining parameters in Table 3.6.1because past sampling results have shown the levels are below the level of detection or well below the Livestock Drinking water guidelines, 2000 Section 9.3. The sampling and analysis for all parameters in Table 3.6.1 remains a requirement of the Licence. Results will be reported to DER in the AER for assessment.	
Improvements	L4.1.1	Condition 4.1.1 has been amended by removing the previous improvement reference IR1 and IR2 from Table 4.1.1 as these requirements have been completed and are no longer applicable. Exisitng improvement reference IR3 now becomes IR1. A new improvement condition (IR2) has been included in the Licence that requires the Licensee to submit to DER by the 29 July 2016, proposed limits for: • emissions to land detailed in Table 2.3.2 for emission point reference L3. The limits proposed are required for parameters pH, TDS and TRH. • ambient groundwater quality detailed in Table 3.6.1 for monitoring points TSF1s, TSF1d, TSF2s, TSF2d, TSF3s, TSF3d, TSF4s, TSF4d, THRP152s, THRP153, THRP154s and FD1s. The limits proposed are required for parameters pH, TDS and Sulfate.	*Nifty Copper Operation Review of Provisional Trigger Values for Groundwater Quality*, MBS Environmental, prepared for Birla Nifty Pty Ltd, June 2015

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		The proposed limits need to be supported with evidence detailing how each limit has been determined, and need to take into account: • background levels pre-mining activities; • monitoring data presented in previous Annual Environmental Reports; • the receiving environment; • the Nifty Copper Operations, *Review of Provisional Trigger Values for Groundwater Quality*, prepared for Birla Nifty Pty Ltd, June 2015; and • any relevant Australian Standards or Guidelines. Following the submission of the documentation required by IR2, DER will review the Licensee proposed limits before considering including limits into tables 2.3.2 and 3.6.1 through a DER initiated Licence amendment. This direction will also ensure there is no hold up to the proponent for the TSF lifts.	
Information	5.1.1 to 5.1.4, 5.2.1 to 5.2.3, 5.3.1	Condition 5.1.2 has been removed as part of DER's licence reform process. Table 5.2.1 has been amended by updating the additional information that is required to be presented in the Annual Environmental Report (AER). This includes comparison of ambient sampling results required in 3.6.1against the trigger levels described in the document *Nifty Copper Operation Provisional Groundwater Trigger Values*, MBS Environmental (June, 2015). Condition 5.2.3 is a new condition which requires the Licensee to submit reports to the CEO, which have been prepared by third parties, within 14 days of the CEOs request. This condition allows DER access to monitoring data within 14 days if required, instead of waiting for the information once a year in the AER. Table 5.3.1 has been amended by including notification requirements following the construction of the TSF lifts identified in condition 1.3.10, and any calibration reports.	General provisions of the *Environmental Protection Act 1986.*
Licence	N/A	The previous expiry date for the Licence was the 8 April 2020. This has been amended	N/A

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
Duration		to 8 April 2025 as part of the licence expiry date amendment process which is due to take effect 29 April 2016.	

5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
5/05/2016	Proponent sent a copy of draft instrument	BNPL is concerned that the limits on monitoring results introduced in the draft amended licence may not be the most suitable for management of the site, but does not want to delay the amendment (condition 1.3.10) permitting construction of the TSF lifts, while alternative limits are negotiated. BNPL has requested that DER sets aside the limits from this amendment, in order that the condition permitting construction of the TSF raise can take effect as soon as possible. BNPL noted that a dewatering management strategy must be submitted in June under improvement condition IR1 (IR3 in the current licence), and this will lead to further licence amendments in the near future. BNPL is happy to address appropriate limits as part of these future amendments.	DER has agreed to the removal of the proposed limits in the Licence. An improvement condition has been included in the Licence requiring the Licensee to submit by the 29 July 2016 proposed Licence limits with supporting documentation.
5/05/2016	Application referred to Department of Mines and Petroleum	No comments received.	N/A

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

Premises operation

The existing TSF is a valley-type facility located approximately 1.5 km north-east of the processing plant. The facility contains thickened tailings confined in a swale within a sand dune system north of the mining area. The design of the TSF makes use of natural topography sloping downwards towards the east, with tailings beaching from the western end of the facility.

The perimeter embankments have been constructed in stages (Stage 1 was completed in October 2005). The most recent stage was Stage 5 using select mine waste from an adjacent mine waste dump. The Stage 5 TSF crest is at elevation 301.0 metres (m) Reduced Level (RL) at the eastern (main) embankment, while the northern embankment crest varies from elevation 322.5 mRL (west) to 310.0 mRL (east) with a current maximum embankment height of approximately 8 m. Previous raising of the embankments has utilised downstream construction techniques.

The two lifts of about 1.5 m each to raise the existing embankments at the Nifty TSF will provide storage capacity and maintain freeboard for tailings from the expected remaining life of the mine (5 years).

The three existing discharge spigots at the TSF will be elevated as the embankments are raised however are expected to remain in the same location. Modelling undertaken by Coffey Mining Pty Ltd (Coffey) shows the discharge from the existing discharge points only should allow beaching and shedding of water away from the northern perimeter embankment, however this is not currently the case. Groundwater monitoring on the northern side of the TSF has shown seepage is occurring in this area. As a result, Coffey has suggested two additional tailings discharge locations into the TSF to ensure water is kept away from the northern embankment.

Supernatant water liberated from the tailings will continue to be recovered from the TSF via a pump at the decant structure which is adjacent to the eastern embankment. Recovered water is returned to the process plant for reuse.

All existing tailings discharge pipelines and return water pipelines will remain in their current locations.

Risk assessment

Normal Operations

Emission Description

Emission: Discharge of mine tailings into a valley-type tailings storage facility.
Impact: Contamination of groundwater from TSF seepage. Impacts to vegetation by increased groundwater levels.
Controls: Installation of two additional tailings discharge spigots to reduce the likelihood of water ponding against the northern perimeter embankment where seepage has been identified in groundwater monitoring bores. Water recovery from the TSF via a decant pump to reduce the size of the supernatant pond. Allow the tailings to gain optimum density and strength by subjecting each layer to drying and ensure even tailings beach development by varying the discharge locations.

Risk Assessment

Consequence: Moderate
Likelihood: Possible
Risk Rating: Moderate

Regulatory Controls
Condition 1.3.5 requires the Licensee to minimise as far as possible the supernatant pond on the TSF. Minimising the supernatant pond reduces the likelihood of water ponding against perimeter embankments which can result in increased seepage from the TSF.

Condition 1.3.9 requires the Licensee to undertake an annual water balance for the TSF so seepage amounts to groundwater can be determined. The water balance is reported in the AER.

Condition 1.3.10 requires the Licensee to construct the TSF embankment lifts in accordance with the submitted application and design documentation prepared by Coffey 2015. This includes installing 2 additional discharge locations for tailings.

Condition 3.6.1 requires the Licensee to undertake six monthly sampling of the groundwater monitoring bores located at the TSF.

Condition 5.2.1 requires the sampling results from condition 3.6.1 are reported in the AER and a comparison is made against the trigger levels described in the document *Nifty Copper Operation Provisional Groundwater Trigger Values*, MBS Environmental (June, 2015).

Residual Risk
Consequence: Moderate
Likelihood: Possible
Risk Rating: Moderate

Emergency situation
Emission Description
Emission: Discharge of tailings to the environment as a result of overtopping.
Impact: Soil contamination and vegetation harm.
Controls: Installation of two additional tailings discharge spigots and alternating between the spigots to reduce the likelihood of water ponding against perimeter embankment. Water recovery from the TSF via a decant pump to reduce the size of the supernatant pond. Daily inspections of the TSF facility. Raising of the embankments has been designed to provide a freeboard which can retain a 1:100 ARI, 72 hour storm event (295 mm rainfall), plus ensure a freeboard of 1.0 m above the normal operating pond level.

Risk Assessment
Consequence: Moderate.
Likelihood: Unlikely
Risk Rating: Moderate

Regulatory Controls
Condition 1.3.5 requires the Licensee to maintain a minimum freeboard of 500 mm at the TSF, operate the TSF to minimise the likelihood of erosion of the embankments by wave action and minimise the supernatant pond on the TSF as far as possible.

Condition 1.3.6 of the Licence requires daily inspections of the embankment freeboard, recording of those inspections, and where those inspections identify that an appropriate level of environmental protection is not being maintained, the Licensee is to take corrective action.

Condition 1.3.10 requires the Licensee to construct the TSF embankment lifts in accordance with the submitted application and design documentation prepared by Coffey 2015. The design documentation includes freeboard requirements.

Structural intergrity of TSFs is regulated by DMP.

Residual Risk
Consequence: Moderate
Likelihood: Unlikely
Risk Rating: Moderate