Government of Western Australia
Department of Water and Environmental Regulation

Licence

Licence number	L8653/2012/2
Licence holder	BHP Nickel West Pty Ltd
ACN	004 184 598
Registered business address	125 St Georges Terrace PERTH WA 6000
DWER file number	2012/003930-4~7
Duration	11/06/2015 to 10/06/2034
Date of Amendment	18/09/2025
Premises details	Kalgoorlie Nickel Smelter Smelterman Road FEYSVILLE, WA, 6431 Part of Lot 100 on Deposited Plan 212288 As defined by the Premises maps in Schedule 1

Prescribed premises category description (Schedule 1, *Environmental Protection Regulations 1987*)	Assessed production capacity
Category 31: Chemical manufacturing - premises (other than premises within category 32) on which chemical products are manufactured by a chemical process.	950 000 tonnes per annual period
Category 39: Chemical or oil recycling - premises on which waste liquid hydrocarbons or chemicals are refined, purified, reformed, separated or processed.	20,000 tonnes per annual period
Category 44: Metal smelting and refining - premises on which metal ore, metal ore concentrate or metal waste is smelted, fused, roasted, refined or processed.	780 000 tonnes per annual period
Category 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.	22 MWe
Category 87: Fuel burning - premises on which gaseous, liquid or solid fuel with a sulphur content of less than 0.25% is burnt in a boiler for the supply of steam or in power generation equipment.	930kg natural gas per hour

This licence is granted to the licence holder, subject to the attached conditions, on 18 September 2025, by:

Caron Goodbourn

Digitally signed by Caron Goodbourn
Date: 2025.09.18 13:38:34 +08'00'

MANAGER, PROCESS INDUSTRIES

an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

Licence history

Date	Reference number	Summary of changes
11/06/2012	L8653/2012/1	New Licence issued due to lapse of fee payment period (L6598/1973/14).
24/01/2013	L8653/2012/1	Licence amended to include changes to air emissions monitoring, reporting, bunding and gypsum management conditions.
12/06/2014	L8653/2012/1	Licence amended as the Licence number contained a typographical error.
11/06/2015	L8653/2012/2	Licence reissued and amended to allow for changes to management of gypsum in accordance with completed under W5740/2014/1, allowing direct disposal into ferro-arsenate pond. Administrative amendments also made.
29/4/2016	L8653/2012/2	Licence amended to extend duration
14/08/2017	L8653/2012/2	Amendment Notice 1 - to allow the receipt and processing of up to 20,000t/pa of waste oil to produce DFO for the smelter furnace.
13/04/2023	L8653/2012/2	Licence amended to incorporate conditions relating to the operation of Oxygen VPSA Plant 1, constructed under W6588/2021 and for the inclusions of a second Oxygen VPSA Plant. The amendment also includes the consolidation of part of Amendment Notice 1 with the licence and in doing so the licence has been updated in format and appearance.
16/01/2024	L8653/2012/2	Licence holder-initiated amendment to incorporate the ongoing operation of SRD3 into the Licence, constructed under W6659/2022/1.
03/10/2024	L8653/2012/2	Licence holder-initiated amendment to include the use of an existing storage shed for the receipt, storage and transfer of dry nickel concentrate.
18/09/2025	L8653/2012/2	Licence holder-initiated amendment to: • change to the use of carbon reduction source within furnace to include up to 30% tyre derived fuel as a source of carbon, and • approval to allow the storage of up to 270 m3 of shredded tyre product

Interpretation

In this licence:

(a) the words ‘including’, ‘includes’ and ‘include’ in conditions mean “including but not limited to”, and similar, as appropriate;

(b) where any word or phrase is given a defined meaning, any other part of speech or other grammatical form of that word or phrase has a corresponding meaning;

(c) where tables are used in a condition, each row in a table constitutes a separate condition;

(d) any reference to an Australian or other standard, guideline, or code of practice in this licence:

  (i) if dated, refers to that particular version; and

  (ii) if not dated, refers to the latest version and therefore may be subject to change over time;

(e) unless specified otherwise, any reference to a section of an Act refers to that section of the EP Act; and

(f) unless specified otherwise, all definitions are in accordance with the EP Act.

NOTE: This licence requires specific conditions to be met but does not provide any implied authorisation for other emissions, discharges, or activities not specified in this licence.

Licence conditions

The licence holder must ensure that the following conditions are complied with:

Infrastructure and equipment

1. The licence holder must ensure that the site infrastructure and equipment listed in Table 1 is maintained and operated in accordance with the corresponding operational requirement set out in Table 1.

Table 1: Infrastructure and equipment requirements

Item	Site infrastructure and equipment	Operational requirement	Infrastructure location
1	Flash furnace and converters (including main stack and converter stack)	During operational periods: a) the main stack and the converter stack must be operated with an OPSIS AR 600 SO_2 analyser to ensure continuous monitoring of the concentration SO_2 in, and at the rate of emission of all gas emitted from the stacks. b) monitoring equipment must be maintained and operated so as to provide reliable data for greater than 90 percent of the time in every calendar month, and for greater than 95 percent of the time in any period of twelve calendar months. c) emission sampling ports must be maintained and accessible for the purposes of monitoring air emissions in compliance with the appropriate USEPA Methods. d) the flash furnace may use coke as a reductant in the flash furnace. e) shredded tyre product/tyre derived fuel (TDF) may be used in the flash furnace during the substitution trial as regulated by Conditions 3, 4, 5, 6, 7, 8 and 9.	Shown as 'Flash Furnace', 'Converters', 'Acid Plant', 'Waste Heat Boiler', 'Electrostatic Precipitators', 'Powerhouse', 'Processing Plant Effluent Treatment Plant', 'Wastewater Treatment Plant', 'Gypsum Pond', 'Brine Pond', 'Residue Dam', 'Stabilised Residue Dam 1 (SRD1)', 'Stabilised Residue Dam 2 (SRD2)', 'Stabilised Residue Dam 3 (SRD3)', 'Slag Landform', 'Matte Drier and Packing Shed', 'Materials Handling Area', 'Flux Drier', 'Vehicle Wash Down Bay', 'Mechanical Workshop', and 'Holding Tanks' on Figures 2 and 3 in Schedule 1
2	Acid plant (including acid plant stack)	During operational periods: a) the acid plant stack must be operated with a URAS26 analyser or an OPSIS AR 600 SO_2 analyser to ensure continuous monitoring of the monitoring of the concentration SO_2 in, and at the rate of emission of all gas emitted from the stack. b) monitoring equipment must be maintained and operated so as to provide reliable data for greater than 90 percent of the time in every calendar month, and for greater than	

Item	Site infrastructure and equipment	Operational requirement	Infrastructure location
		95 percent of the time in any period of twelve calendar months. c) emission sampling ports must be maintained and accessible for the purposes of monitoring air emissions in compliance with the appropriate USEPA Methods.	
3	Waste heat boiler and electrostatic precipitators	None specified	
4	Powerhouse	None specified	
5	Processing plant effluent treatment plant	None specified	
6	Wastewater treatment plant	None specified	
7	Residue storage facility: • Gypsum and Brine Ponds • Residue Dam • Stabilised Residue Dam 1 (SRD1) • Stabilised Residue Dam 2 (SRD2)	a) Must maintain a minimum operational freeboard of 400 mm, such that it can maintain a minimum top of embankment freeboard of 300mm.	
8	Residue storage facility: • Stabilised Residue Dam 3 (SRD3)	a) An operational freeboard of at least 500mm must be maintained at all times. During operational periods: b) Supernatant water must be recovered and pumped back to the Process Water Pond for reuse at the premises. c) Deposition of slurry into SRD3 will occur from a single spigot situated along the northern embankment. d) The volume of slurry deposited into SRD3 must be recorded e) The volume of supernatant water recovered from SRD3 must be recorded.	
9	Slag landform	None specified	
10	Matte drier and packing shed (including matte drier stack)	None specified	
11	Materials handling area/s	None specified	

Item	Site infrastructure and equipment	Operational requirement	Infrastructure location
12	Air quality control system	a) Must maintain all installed dust collection and dust control systems. During operational periods: b) Must operate all installed dust collection and dust control systems utilised to prevent, so far as practicable, the generation of dust from the Premises.	
13	Flux drier (including flux drier stack)	None specified	
14	Stormwater management system	a) Must maintain systems for the management and control of oily and solvent wastewater such that: (i) uncontaminated stormwater run-off shall not enter process areas or equipment where oily or solvent wastes are present; and (ii) the “first flush” of stormwater run-off from wash down pads or other areas of likely hydrocarbon and/or solvent contamination is diverted to facilities to allow subsequent treatment and disposal/reuse.	
15	Vehicle wash down bay	a) Must be sited on a hardstand area to allow the containment of wastewater; b) Wastewater must be directed to an oil/water separator prior to disposal to a collection sump; and c) Must be equipped with fuel/oil traps and provisions to ensure detergent or solvent contaminated waters are not discharged into the environment.	
16	Chemical bulk storage area	a) Must ensure that all environmentally hazardous chemicals stored on the Premises in volumes exceeding 250L are kept within low permeability (1 x 10^{-9} m/s or less) compounds; b) Must be designed to contain not less than 110% of the volume of the largest storage vessel or inter-connected system, and at least 25% of the total volume of substances stored in the compound; and c) Must immediately remove and dispose of any liquid resulting from spills or leaks of chemicals including fuel, oil or other hydrocarbons, whether inside or outside the low permeability	

Item	Site infrastructure and equipment	Operational requirement	Infrastructure location
		compounds.	
17	Mechanical workshop	None specified	
18	Holding tanks	Must collect waste oils, lubricants and coolants from machinery servicing for recycling or export offsite to an approved disposal facility	
19	Pipelines	a) Must ensure that all pipelines containing saline, acid or arsenate constituents are sited within appropriate bunded facilities; and b) Slurry delivery lines, elevated pipelines within the plant area and return water lines are not required to be within bunded facilities, provided they are maintained and managed so as to prevent spillages from pipeline breaks, operational error or other mishaps from entering the environment.	
20	Shredded tyre material stockpile storage area (TDF Storage Area – consisting of a fully bunded concrete hardstand 20m x 12m including concrete storage bunkers)	During storage of TDF: a) The bunded concrete hardstand must be maintained b) Not more than 270 m3 of shredded tyre product must be stored in the TDF Storage area. c) Shredded tyre product must only be stored or stockpiled in the TDF Storage Area. d) Handling of TDF and mixing of TDF with coke restricted to within the existing bunded concrete hardstand storage bunkers of the Materials Handling Area. e) Stockpiled TDF must be free of fragments of wood, wood chips and other fibrous organic matter. f) TDF material stored in accordance with DFES Guidance Note: GN02 Bulk Storage of Rubber Tyres, which requires: (i) maximum length of stockpiled TDF material to be 20m with 5m gaps at the ends; (ii) maximum height of stockpiled TDF material to be 3m; (iii) maximum width of base of stockpiled TDF material to be 5m; (iv) minimum 6m between individual stockpiles;	Shown as ‘TDF Storage Area’, ‘Materials Handling Area’ and ‘Vacuum truck extraction point’ on Figures 6 and 7 in Schedule 1

Item	Site infrastructure and equipment	Operational requirement	Infrastructure location
		(v) stockpiles to be a minimum of 10m from nearby structures; and (vi) maintenance and operation of a minimum of three fire hydrants in accordance with AS 2419.1; and AS 1851-2012 that are capable of simultaneously discharging 10L per second for a minimum of four hours. g) Fitted with a dust suppression system such as misters surrounding the TDF storage area h) The concrete water drains and sumps of the TDF storage area are visually clear of debris and available capacity managed to contain stormwater runoff and firefighting liquids. i) The storage capacity of the TDF sump and the southern-most sump have a combined capacity equal to or exceeding 432kl j) The southernmost sump vacuum truck extraction point is maintained and accessible at all times.	
DFO plant			
21	5,000kL waste oil tank	a) Storage and transfer of sludge waste must be undertaken on hardstand areas, using pipelines, tanks and bunds compliant with AS1940. b) DFO sludge waste must be removed from site by a controlled waste contractor and disposed of to an approved facility.	Shown as 'DFO Plant' on Figure 2 in Schedule 1
22	DFO treatment plant		
23	800kL ISOtainer sludge tank		
24	Pipelines and pumps		
Oxygen VPSA Plant 1 and 2			
25	VPSA Oxygen Plants with a capacity of not more than 67,525 tonnes (each) per year	a) Wastewater generated to be directed to the existing wastewater system; b) Exhaust gases to be directed to vent A1 and A2 to the atmosphere; c) During operational periods, the cooling tower water must be continually monitored with automated treatment, as required, to maintain the pH of the closed loop recycled water system; and d) During planned maintenance or emergency events, water may be discharged from the cooling towers onto the existing hardstand and directed to nearby drainage/discharge	Shown as 'A1' and 'A2' on Figure 2 and Figure 4 in Schedule 1

Item	Site infrastructure and equipment	Operational requirement	Infrastructure location
		points connected to the existing stormwater system.	
26	Concentrate storage shed	a) Fogging system is functional to maintain moisture content of concentrate. b) The shed is to maintain the capacity to contain approximately 950m^3 of concentrate, water and/or slurry. c) Installation and maintenance of an operational firefighting system. d) A vacuum truck is to be used to pump out excess water in the event of a malfunction of the fogging system, or when the firefighting system is activated. e) A raised platform is maintained in the shed to avoid trucks being in contact with the nickel concentrate and minimise trafficable dust.	Shown as 'Existing Concentrate Storage Shed' on Figure 5 in Schedule 1

Waste Acceptance

2. The licence holder must only accept onto the premises waste of a waste type, and which meets the corresponding acceptance specification and quantity limit set out in Table 2 and 3.

Table 2: Liquid wastes permitted to be received at the premises

Liquid wastes			
1	Waste mineral oils unfit for their intended purpose	Controlled waste type J100	Combined total of no more than 20,000 tonnes per Annual Period
2	Waste oil and water mixtures or emulsions, and hydrocarbons and water mixtures or emulsions	Controlled waste type J120	

Table 3: Solid wastes permitted to be received at the premises

Description	Waste type	Composition	Quantity	Storage location
Tyre derived fuel (TDF)	Inert waste type 2	TDF is free from steel components of the used tyre	Maximum of 270 m3 of shredded tyre product to be stockpiled in a storage area within the	As depicted in Schedule 1, Figure 6 and labelled as TDF Storage Area and Materials Handling Area

			materials handling area at any particular period during the TDF substitution trial period.	

TDF Substitution Trial

3. The licence holder may progressively substitute a portion of coke with TDF in a staged approach as a reductant in the flash furnace, for the specified percentage and operating duration as set out in Table 4.

Table 4: Change of TDF composition for each stage of the trial

Trial Stage	Percentage of total reductant volume		Maximum duration
	TDF	Coke	
1	5	95	Each stage may only be conducted for a maximum of 48 hours.
2	10	90	
3	20	80	
4	30	70	

4. The licence holder must monitor the concentration of nickel in the slag of each stage of the TDF trial based on the parameters set out in Table 5:

Table 5: Monitoring the concentration of nickel in slag

Trial Stage	Parameter	Sampling frequency
1	Concentration of Nickel compounds in slag	Every two hours during each stage of the trial
2		
3		
4		

5. The up to four-staged trial referred to in Condition 3 must conclude within 3 months from the commencement of Stage 1 of the trial.

6. The licence holder must prepare and submit to the CEO a report within 28 calendar days of the receipt of monitoring results analysed in Table 5 The report must include the most recent and historic concentrations of nickel identified in the slag during each staged TDF/coke substitution trial.

7. The licence holder must stop using TDF at the end of each trail stage to allow for analysis results, as referred to in Condition 4, to be reviewed by the licence holder prior to moving to the next trial.

8. The licence holder must the provide the monitoring results of all executed stages of

the TDF substitution trial as described in Condition 4 and the atmospheric monitoring for chromium, manganese, zinc, and Total dioxins and furans as required by Condition 20 to the CEO for review once a satisfactory TDF percentage has been determined by the Licence Holder.

9. The licence holder must cease the TDF substitution trial once a satisfactory TDF percentage has been determined by the licence holder and must apply and wait for potential approval of an amendment to the licence before continuing the use of TDF as a partial substitution for coke in the flash furnace.

Emissions and discharges

10. The licence holder must ensure that emissions from the discharge point listed in Table 6 for the corresponding parameter do not exceed the corresponding limit.

Table 6: Spillway emission and discharge limits

Discharge point	Parameter	Limit	Discharge point location
North and south dam spillways	pH	Between 6 and 9	Shown as 'North Dam' and 'South Dam' on Figure 3 in Schedule 1.
	TDS	< 3000mg/L	
	Arsenic	< 2ppm	
	Nickel	<2ppm	

11. The licence holder must ensure that the emissions specified in Table 7, are emitted only from the corresponding emission points and only at the corresponding emission point locations.

Table 7: Authorised discharge points

Emission point	Emission	Emission point location
A1: VPSA Oxygen plant 1 exhaust gas vent	Exhaust gases from O_2 process consisting of mainly N_2 and O_2 and minor concentrations of other gases	Shown as 'A1' and 'A2' on Figure 4 in Schedule 1.
A2: VPSA Oxygen plant 2 exhaust gas vent		

Gypsum Disposal

12. The licence holder must ensure that prior to disposal of gypsum at the onsite slag landform, a representative batch is sampled and analysed for total arsenic at the Kalgoorlie Nickel Smelter laboratory. The number of samples taken is to be consistent with Figures 2 or 3 of the *Landfill Waste Classification and Waste Definitions*.

13. The licence holder may discharge gypsum directly to the hot slag landform as shown on in Figure 2 of Schedule 1, if the total concentration of arsenic in gypsum is not greater than 14 mg/kg.

14. The licence holder must ensure any gypsum sample from any batch containing total arsenic more than 14 mg/kg but less than 500 mg/kg in it is tested for arsenic concentration by ASLP and total arsenic concentration by a NATA accredited laboratory for these specific tests.

15. The licence holder may discharge gypsum containing total arsenic more than 14 mg/kg but less than 500 mg/kg to the hot slag landform if the arsenic concentration

by ASLP is not greater than 0.5 mg/L.

16. The licence holder must discharge all gypsum not discharged in accordance with Conditions 12, 13, 14, and 15 to the ferro-arsenate pond shown as 'SRD2' on Figure 3 in Schedule 1.

Monitoring

Calibration

17. The licence holder must ensure that the details of every calibration of monitoring equipment used in a monitoring programme under these Conditions are recorded as part of that monitoring programme.

Air Emissions Monitoring

Stack Emission Monitoring - Sulfur Dioxide

18. During operational periods, the licence holder must monitor emissions for the parameters listed in Table 8:

(a) at the corresponding monitoring location;

(b) in the corresponding unit;

(c) at no less than the corresponding frequency; and

(d) using the corresponding method,

as set out in Table 8.

Table 8: Sulfur dioxide emission monitoring

Monitoring location	Parameter	Unit	Frequency	Method
Main stack and Acid plant stack as shown in Figure 2 of Schedule 1	All gas emission rate	g/sec	Continuous[1]	USEPA Method 6[2]
	SO_2 concentration	mg/dscm		
	SO_2 mass emission rate	g/sec		
	Waste gases total volume emission rate	Nm^3/sec		
	Waste gases density	kg/m^3		

Note 1: Where continuous monitoring is not possible, emissions are to be estimated using the average monthly results applied to the period where data is absent.

Note 2: This testing shall incorporate measurement of the total volume emission rate of gas emitted from main stack and acid plant stack, to enable verification of the rating of the stack fans.

19. The licence holder must record the results of all monitoring activity required by condition 18.

Atmospheric Monitoring, Emission Limits and Targets

20. During operational periods, the licence holder must undertake, during each relevant period throughout the period of this licence for equipment under operation, sampling

at the specified locations, for the corresponding parameters and in accordance with the corresponding methods in Table 9, for the purpose of measuring concentrations of emissions.

21. During operational periods, the licence holder must ensure that operation emissions from the main stack, converter stack, flux drier stack, and matte drier stack do not exceed the limits specified in Table 9 and are managed such that they are at or below the targets specified Table 9

Table 9: Atmospheric monitoring

Monitoring Location[1]	**Emission parameter[2]**	**Emission limit[2]**	**Emission Target**	**Frequency**	**Method[3]**
Main stack and Converter stack sampling port	Particulates	250 mg/m^3	None	Quarterly	USEPA Method 5
	Individual concentration of: a) antimony, b) arsenic, c) vanadium, d) lead, e) cadmium;	10 mg/m^3 10 mg/m^3 10 mg/m^3 10 mg/m^3 3 mg/m^3	None	Continuous	USEPA Method 29
	f) chromium g) manganese h) zinc	None	None	Continuous during the use of TDF within the flash furnace.	
	Total concentration of antimony, arsenic, vanadium, lead, and cadmium	None	10 mg/m^3	Quarterly	
	Nickel and nickel-based compounds	20 mg/m^3 expressed as Ni	None	Quarterly	
	Total dioxins and furans[4]	0.1 ng/m3	None	Continuous during the use of TDF within the flash furnace.	USEPA Method 23

Monitoring Location[1]	Emission parameter[2]	Emission limit[2]	Emission Target	Frequency	Method[3]
Flux drier stack	Particulates	250 mg/m^3	None	Quarterly	USEPA Method 5
Matte drier stack	Particulates	250 mg/m^3	None	Quarterly	USEPA Method 5

Note 1: Testing in any relevant period must be conducted at least 6 weeks before and after the testing in any other relevant period.
Note 2: All results expressed dry at 25 degrees Celsius and 101.325 kilopascals.
Note 3: Source testing to be conducted in accordance with USEPA Methods 5, 23 and 29.
Note 4: Directive 2000/76/EC of the European Parliament and of the Council of 4 December 2000 on the incineration of waste

Ambient Environmental Monitoring

Ambient Sulfur Dioxide Monitoring

22. During operational periods, the licence holder must ensure that the concentration of sulfur dioxide in the relevant portion of the environment is continuously monitored and recorded throughout the period of this licence.

23. The licence holder must ensure that the monitoring referred to in Condition 22 provides reliable data for greater than 90 percent of the time in every calendar month, and for greater than 92 percent of the time in any period of twelve calendar months.

24. The information recorded in the monitoring programme under Condition 22 must be supplied to the CEO in both the form and manner specified in each of paragraphs (i) and (ii) of this Condition:

(a) The sulfur dioxide data must be summarised in the form of one calendar month tables, one for each sulfur dioxide monitor, and shall contain for each day in the one-month period the following parameters for the monitored and recorded concentration of sulfur dioxide:

(i) the daily average;
(ii) the maximum 1-clock hour average, which may span midnight;
(iii) the maximum 5-minute average;
(iv) the percentage data recovery for the day; and
(v) the total duration in the month when the concentration of sulfur dioxide anywhere within the Relevant Portion of the Environment was monitored or recorded as exceeding 0.25 ppm.

(b) The data shall include the percentage data recovery for the 1-month period; and

(c) The sulfur dioxide data from each sulfur dioxide monitor must also be provided as a 5-minute averaged time-series listing of the recorded sulfur dioxide data in parts per hundred million on a suitable computer-readable medium in the format set out in Schedule 5.

25. In addition to the requirements of Conditions 47(c) and 24, the information recorded in the monitoring programme under Condition 22 must be supplied to the CEO when requested by the CEO in written form as soon as practicable but no later than 5pm of the next usual working day after the request as a time-series listing of the data covering the period requested by the CEO in the format set out in Schedule 5.

Ambient Maximum Sulfur Dioxide Concentration Permitted

26. The licence holder must ensure that the operations on the Premises are conducted in such a way as neither to cause, nor to contribute to causing, the maximum sulfur dioxide concentration permitted in the ambient air of a Protected Area under clause 6 of The Policy to be exceeded at any place within the Area.

27. The licence holder must report to the CEO if monitoring reveals ambient sulfur dioxide in the ambient air in any one place of a Protected Area exceeds 0.20ppm.

Meteorological Monitoring

28. During operational periods, the licence holder must ensure that the meteorological parameters at the monitoring points referred to Table 10 and Schedule 6 are continuously monitored and recorded throughout the period of this licence.

Table 10: Meteorological monitoring locations, equipment and parameters

Monitoring point and locations	Parameters
NKS SODAR as shown in Figure 2 in Schedule 1.	• wind direction; and • wind speed.
NKS Weather Station as shown in Figure 2 in Schedule 1.	• wind direction and standard deviation; • wind speed; • air temperature; • relative humidity or a related parameter; • solar radiation; and • rainfall.

29. The licence holder must ensure that the monitoring equipment referred to in Condition 28, Table 10 is maintained and operated so as to provide reliable data for greater than 90 percent of the time in every calendar month, and for greater than 95 percent of the time in any period of twelve calendar months.

30. The licence holder must ensure that, in addition to the requirements of Condition 47(c), the information recorded under Condition 28 shall be supplied to the CEO when requested by the CEO in written form and as a time series listing on a suitable computer-readable medium in the format set out in Schedule 5 as soon as practicable but no later than 5pm of the next usual working day after the request. The meteorological data shall be provided as a time-series listing of the data in the format set out in Schedule 5 and shall cover the period requested by the CEO.

Monitoring Flash Furnace and Acid Plant Operation Data

31. The licence holder must ensure that, throughout the period of this licence, the licence holder monitors and records the times at which the acid plant at the Premises is shut down with furnace feed occurring and furnace gases are emitted to the atmosphere. In the case of unplanned shut downs the reason for the shutdown is to be recorded.

32. The licence holder must ensure that, throughout the period of this licence, each time the acid plant malfunctions, is off-line from the smelter, or is shut down while feed to the flash furnace is occurring, the following parameters of the operation of the flash furnace and associated gas handling system at the Premises are monitored and recorded:

(a) flash furnace shut down and start-up times when shut downs are related to the control of sulphur dioxide;

(b) the hourly tonnage rate of dry concentrates fed to the flash furnace if emissions are directed to atmosphere via the main stack at that time; and

(c) the percentage sulfur in each day's feed of dry concentrates if emissions are directed to atmosphere via the main stack at that time.

33. The licence holder must ensure that, throughout the period of this licence, each time a flash furnace or converter shut down is related to the control of sulfur dioxide concentrations, the following parameters are monitored and recorded:

(a) the flash furnace or converter shut down and start up times;

(b) the identity of the sulfur dioxide monitor that indicated the need for the flash furnace or converter shut down;

(c) the wind speed and wind direction at time of flash furnace or converter shut down; and

(d) the maximum 1-Clock Hour averaged sulfur dioxide concentration recorded at the sulfur dioxide monitor in the hours surrounding the flash furnace shut down.

34. The information recorded in the monitoring programme under Condition 32 and 33 must be supplied to the CEO in the form and manner of a time series listing on a suitable computer-readable medium in the format set out in Schedule 5.

35. The licence holder must ensure the information recorded in the monitoring programme under Condition 31 shall be supplied to the CEO in writing:

(a) in the case of unplanned shut downs, as soon as practicable but no later than 5pm of the next usual working day after the acid plant is shut down; and

(b) in the case of planned shut downs, at least 24 hours prior to the acid plant being shut down.

Ambient Exceedance - Flash Furnace or Convertor Shutdowns

36. Subject to Condition 37 of this Condition, the licence holder must ensure that flash furnace and converter operations are ceased when any of the monitoring referred to in Condition 22 indicates that the ambient sulfur dioxide concentration has exceeded the maximum permitted sulfur dioxide concentration (0.25 ppm) in Clause 6 of The Policy and:

(a) the meteorological monitoring referred to in Condition 28 indicates that the wind direction is within the arc specified for that monitoring station in Schedule 2 of these licence Conditions; or

(b) the meteorological monitoring equipment referred to in Condition 28 is unable to provide reliable data on wind direction.

37. Notwithstanding Condition 35, the flash furnace and converters at the Premises may continue operation if the waste gases from the flash furnace and converters are being directed to the acid plant at the premises at the time of the maximum permitted sulfur dioxide concentration being exceeded and the acid plant is operating properly at that time.

38. The licence holder must ensure that flash furnace operations and converter are ceased whenever any of the monitoring referred to in Condition 22 is not providing reliable data and has failed to provide reliable data for a period of 24 hours or more, unless:

(a) flash furnace and converters waste gases are being directed to the acid plant and the acid plant is operating properly at that time;

(b) the monitoring equipment referred to in Condition 28 indicates that the wind direction is outside the arc specified for a monitoring station in Schedule 2 of these Conditions, or there is within that arc another monitoring station, approved by the CEO as a representative substitute, that is providing reliable data;

(c) the CEO has approved an emergency wind speed and wind direction recording procedure, and the maximum period specified in that approval has not expired; or

(d) the monitoring equipment is repaired and provides reliable data.

39. The licence holder must ensure that flash furnace and converter operations are ceased whenever any of the monitoring equipment referred to in Condition 28 is not providing reliable data for wind direction and speed and has failed to provide reliable data for a period of 24 hours or more, unless:

(a) flash furnace and converters waste gases are being directed to the acid plant and the acid plant is operating properly at that time;

(b) the CEO has approved an emergency wind speed and wind direction recording procedure, and the maximum period specified in that approval has not expired; or

(c) the monitoring equipment is repaired and provides reliable data.

Vegetation Monitoring Programme

40. The licence holder must undertake every third year from the year 2014 a vegetation monitoring programme for the purpose of identifying and establishing the extent and severity of damage to vegetation caused by gaseous waste emissions from the Premises. The vegetation monitoring programme shall include:

(a) lower field data collection and analysis of longer-term trends including selected sub-setting of non-vascular plant species vegetation plots;

(b) a minimum of 6 vascular plant species vegetation plots;

(c) a minimum of 6 lichen transects; and

(d) data collection, data analysis and report preparation.

Water Pollution Control Conditions

Monitoring of Effluent Streams

41. The licence holder must monitor the groundwater for concentrations of the parameter listed in Table 11:

(a) at the corresponding monitoring location;

(b) in the corresponding unit;

(c) at no less than the corresponding frequency;

(d) for the corresponding averaging period; and

(e) using the corresponding method,

as set out in Table 11.

Table 11: Monitoring of groundwater concentrations

Monitoring location	Parameter	Unit	Frequency	Averaging period	Method
KNSMB09, KNSMB12, KNSMB26, KNSMB42, KNSMB43, KNSMB60 and KNSMB61 As shown in Figure 3 in Schedule 1	pH[1]	-	Quarterly	Spot sample	AS/NZS 5667.1:1998
	Standing water level (SWL)[2]	mbgl			
	TDS[1]	mg/L			
	chloride				
	sulphate				
	Total and soluble forms of As, Cd, Cr, Pb, Ni & Sb				

Note 1: These parameters should be measured and recorded in the field to ensure representativeness. An exemption from National Association of Testing Authorities (NATA) laboratory analysis is allowed given geographical remoteness of the sample site and the short holding time of the parameter.

Note 2: SWL shall be determined prior to collection of other water samples

42. The licence holder must ensure all water samples are submitted to a laboratory with current NATA accreditation for the analysis specified.

43. The licence holder must ensure that the results of the sampling and analysis referred to in Condition 41 are recorded as part of the monitoring programme.

Records and reporting

44. The licence holder must record the following information in relation to complaints received by the licence holder (whether received directly from a complainant or forwarded to them by the Department or another party) about any alleged emissions from the premises:

(a) the name and contact details of the complainant, (if provided);

(b) the time and date of the complaint;

(c) the complete details of the complaint and any other concerns or other issues raised; and

(d) the complete details and dates of any action taken by the licence holder to investigate or respond to any complaint.

45. The licence holder must:

(a) undertake an audit of their compliance with the conditions of this licence during the preceding annual period; and

(b) prepare and submit to the CEO by 30 September in each year an Annual Audit Compliance Report in the approved form in.

46. The licence holder must provide to the CEO, by 30 September in each year, an Annual Environmental Report containing data collected during the 12-month period beginning 1 July the previous year and ending on 30 June in that year. The report shall contain, but not limited to, the following:

(a) product throughput (tonnage) of the smelter during the reporting period;

(b) an overview of the monthly and quarterly monitoring data as required by this licence;

(c) a comparison of all collected data required by this licence against previous years' monitoring data and against the corresponding targets and limits specified by this licence;

(d) a separate time series graph of data collected for each emitted contaminant required to be monitored by this licence with the corresponding limit and target as specified in this licence depicted as horizontal lines on each graph;

(e) a summary of key findings and proposed remedial actions as required for identified target exceedances.

This report shall exclude information previously provided for monthly meteorological or quarterly emissions monitoring data required in Conditions 18, 20, 22, 28 and 31.

47. The licence holder must maintain accurate and auditable books including the following records, information, reports, and data required by this licence:

(a) the calculation of fees payable in respect of this licence;

(b) any maintenance of infrastructure that is performed in the course of complying with condition 1 of this licence;

(c) monitoring programmes specified in Schedule 4 at the intervals of time specified in Schedule 4, undertaken in accordance with conditions of this licence; and

(d) complaints received under condition 44 of this licence.

48. The books specified under condition 47 must:

(a) be legible;

(b) if amended, be amended in such a way that the original version(s) and any subsequent amendments remain legible and are capable of retrieval;

(c) be retained by the licence holder for the duration of the licence; and

(d) be available to be produced to an inspector or the CEO as required.

49. Where Schedule 4 of these Conditions specifies that information shall be supplied to the CEO on a monthly or quarterly basis, that information shall be supplied by the 29th day of the month for quarterly monitoring reports and by the 14th day of the month for monthly monitoring reports following the end of the period to which the information relates.

50. The licence holder must ensure that, in addition to other requirements provided for in the Conditions, information recorded in Condition 19 under these Conditions shall be supplied to the CEO in a form and manner that complies with the standard AS ISO/IEC 17025-2005 and with Schedule 3 to these Conditions.

51. The licence holder must ensure that, in addition to other requirements provided for in the Conditions, where any monitoring equipment used in a monitoring programme specified by these Conditions records that a maximum sulfur dioxide concentration provided for by Condition 26 is being exceeded, that information shall be supplied in writing to the CEO as soon as practicable but no later than 5pm of the next usual working day after the recording of that maximum sulfur dioxide concentration being exceeded.

Limit and Target Exceedance Reporting

52. The licence holder must, upon becoming aware of any exceedance of the limits or targets in Condition 21 notify the CEO within two usual working days of the

exceedance.

53. The licence holder must submit a Notification Report to the CEO within 14 days of becoming aware of an exceedance of the limit in Condition 21 or air emissions greater than the targets listed in Condition 21.

54. The Notification Report required by Condition 53 shall include:

(a) the date, time and reason for the exceedance of the limit or target;

(b) the period over which the exceedance of the limit or target occurred;

(c) the extent of the emission over that period and potential or known environmental consequences;

(d) corrective action planned or taken to mitigate adverse environmental consequences; and

(e) corrective action planned or taken to prevent a recurrence of the exceedance; and predicted timeframes to reduce emissions below the limit or target.

Definitions

In this licence, the terms in Table 12 have the meanings defined.

Table 12: Definitions

Term	Definition
ACN	Australian Company Number
ambient air	of a Protected Area has the meaning given in clause 5 of the *Environmental Protection (Goldfields Residential Areas) (Sulfur Dioxide) Policy 2003.*
Annual Audit Compliance Report (AACR)	means a report submitted in a format approved by the CEO (relevant guidelines and templates may be available on the Department's website).
annual period	a 12 month period commencing from 1 July until 30 June of the immediately following year.
approved	means approved in writing from time to time.
As	means arsenic.
AS1692	means the most recent version and relevant part of AS1692-2006: Steel tanks for flammable and combustible liquids.
AS 1851-2012	means the most recent version and relevant part of Australian Standard AS 1851-2012 Routine service of fire protection systems and equipment
AS1940	means the most recent version and relevant part of AS1940-2004: The storage and handling of flammable and combustible liquids.
AS2419.1:2021	means the most recent version and relevant part of Australian Standard AS 2419.1:23021 Fire Hydrants Installations

Term	Definition
AS4482.1	means the most recent version and relevant part of Australian Standard AS 4482.1-2005: guide to the investigation and sampling of sites with potentially contaminated soil.
AS ISO/IEC17025-2005	means the most recent version and relevant part of Australian standard AS ISO/IEC 17025-2005: general requirements for the competence of testing and calibration laboratories.
ASLP	means Australian Standard Leaching Procedures which is an analysis undertaken in accordance with the AS4439.3.
AS/NZS5667 or Australian Standard 5667	means the most recent version and the relevant parts of the Australian and New Zealand series of guidance standards on Water Quality Sampling.
books	has the same meaning given to that term under the EP Act.
Cd	means cadmium.
CEMS Code	means the current version of the Continuous Emission Monitoring System (CEMS) Code for Stationary Source Air Emissions, Department Water and Environmental Regulation, Government of Western Australia;
CEO	means Chief Executive Officer of the Department water and Environmental Regulation. "submit to / notify the CEO" (or similar), means either: Director General Department administering the *Environmental Protection Act 1986* Locked Bag 10 Joondalup DC WA 6919 or: info@dwer.wa.gov.au
clock hour	means a sixty minute period commencing on the hour.
Cr	means chromium.
Controlled waste type J100	means waste mineral oils unfit for their intended purpose as defined in Schedule 1 of the Environmental Protection (Controlled Waste) Regulations 2004.
Department	means the department established under section 35 of the *Public Sector Management Act 1994* (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
Dioxins and furans	means all polychlorinated dibenzo-p-dioxins and dibenzofurans as listed in Annex I of the Directive 2000/76/EC of the European Parliament and of the Council of 4 December 2000 on the Incineration of Waste
discharge	has the same meaning given to that term under the EP Act.
during operation	Any period of time the Premises is undertaking processing operations in

Term	Definition
	accordance with its EP Act operating licence.
dust collection and dust control systems	includes coverings on conveyors, transfer points and discharge points; flexible connections between granular materials-handling systems; skirtings; and dust filters.
environmentally hazardous chemicals	includes chemicals, fuel, oil and other hydrocarbons that are a risk to the environment.
emission	has the same meaning given to that term under the EP Act.
EP Act	*Environmental Protection Act 1986* (WA)
EP Regulations	*Environmental Protection Regulations 1987* (WA)
g/sec	means grams per second.
kg/m^3	means kilograms per cubic metre.
Landfill Waste Classification and Waste Definitions 1996	(as amended December 2019); means the DWER document of that name published by the CEO, Department of Water and Environmental Regulation, December 2019, pursuant to items 63, 64 65 and 66 in Schedule 1, Part 1 of the Environmental Protection Regulations 1987.
licence	refers to this document, which evidences the grant of a licence by the CEO under section 57 of the EP Act, subject to the specified conditions contained within.
licence holder	refers to the occupier of the premises, being the person specified on the front of the licence as the person to whom this licence has been granted.
maximum sulfur dioxide concentration permitted	means 0.25ppm sulfur dioxide concentration averaged over one clock hour in the ambient air at any place within a protected area during a calendar year.
mbgl	means metres below ground level.
mg/dscm	means milligrams per dry standard cubic meter.
mg/kg	means milligrams per kilogram.
mg/L	means milligrams per litre.
mg/m^3	means milligrams per cubic metre, expressed dry at 0 degrees Celsius and 1.0 atmosphere pressure (101.325 kilopascals).
m/s	means metres per second.
N_2	means nitrogen gas.
NATA	means the National Association of Testing Authorities which is the recognised national accreditation authority for analytical laboratories and

Term	Definition
	testing service providers in Australia.
Ni	means nickel
Nm^3/sec	Normal cubic metre per second.
Normal cubic metre (Nm^3)	means (when used in relation to waste gases discharged to atmosphere) the volume of dry gaseous effluent (i.e. corrected to dry gas by eliminating any volume contribution from water vapour or droplets) which occupies 1 cubic metre at standard temperature and pressure (STP) which is 0°C and an absolute pressure of 101.325kPa.
O_2	means oxygen gas.
Pb	means lead.
ppm	means parts per million.
premises	refers to the premises to which this licence applies, as specified at the front of this licence and as shown on the premises map Figure 1 in Schedule 1 to this licence.
prescribed premises	has the same meaning given to that term under the EP Act.
Protected Area	has the meaning given in clause 4 of the *Environmental Protection (Goldfields Residential Areas) (Sulfur Dioxide) Policy 2003.*
quarterly	in relation to a reporting requirement means once in relation to each of the following periods in a year: January - March; April - June; July - September; October – December.
reference method	Any method of sampling and analysing for a substance
relevant period	means each of the 3-calendar month periods commencing on 1 January, 1 April, 1 July and 1 October in each year.
relevant portion of the environment	means that portion of the environment comprising a layer of air 5 metres thick - (a) immediately above, and immediately surrounding, the external surfaces of any residential premises situated in; and (b) immediately above the surface of the remainder of a Protected Area
sampling location	The cross-sectional plane within a stack or duct at which the CEMS or Reference Method sampling occurs
Sb	means antimony.
slag	A waste component of the initial smelting process. It is less dense than the nickel matte and floats on the nickel matte surface. The slag may contain nickel compounds.

Term	Definition
SO_2	means sulfur dioxide.
SRD1-3	means stabilised residue dam 1, 2 or 3 which are part of the residue storage facility:
sulfur dioxide concentration	means the sulfur dioxide concentration averaged over one clock hour.
Tyre-derived fuel (TDF)	a product where the steel component of used tyres is first removed, and the remaining rubber material shredded into smaller fragments with size dependent on end use.
TDS	means total dissolved solids.
The Policy	means *Environmental Protection (Goldfields Residential Areas) (Sulfur Dioxide) Policy 2003*.
USEPA Method 2	means the most recent version and relevant part of the United States Environmental Protection Agency USEPA Method 2 – Determination of stack velocity and volumetric flow rate (Type S pitot tube).
USEPA Method 3	means the most recent version and relevant part of the United States Environmental Protection Agency USEPA Method 3 – Gas analysis for the determination of dry molecular weight.
USEPA Method 4	means the most recent version and relevant part of the United States Environmental Protection Agency USEPA Method 4 – Determination of moisture content in stack gases.
USEPA Method 5	means the most recent version and relevant part of the United States Environmental Protection Agency USEPA Method 5 – Determination of particulate matter emissions from stationary sources.
USEPA Method 6	means the most recent version and relevant part of the United States Environmental Protection Agency USEPA Method 6 – Determination of Sulfur Dioxide Emissions from stationary sources.
USEPA Method 23	means the most recent version and relevant part of the United States Environmental Protection Agency Method 23: Determination of Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans From Stationary Sources
USEPA Method 29	means the most recent version and relevant part of the United States Environmental Protection Agency USEPA Method 29 – Determination of metals emissions from stationary sources.
usual working day	means 0800- 1700 hours, Monday to Friday excluding public holidays in Western Australia.
%v/v	means the volume concentration of a solution.
waste	has the same meaning given to that term under the EP Act.

END OF CONDITIONS

Schedule 1: Maps

Premises map

The boundary of the prescribed premises is shown in the map below (Figure 1).

Figure 1: Map of the boundary of the prescribed premises

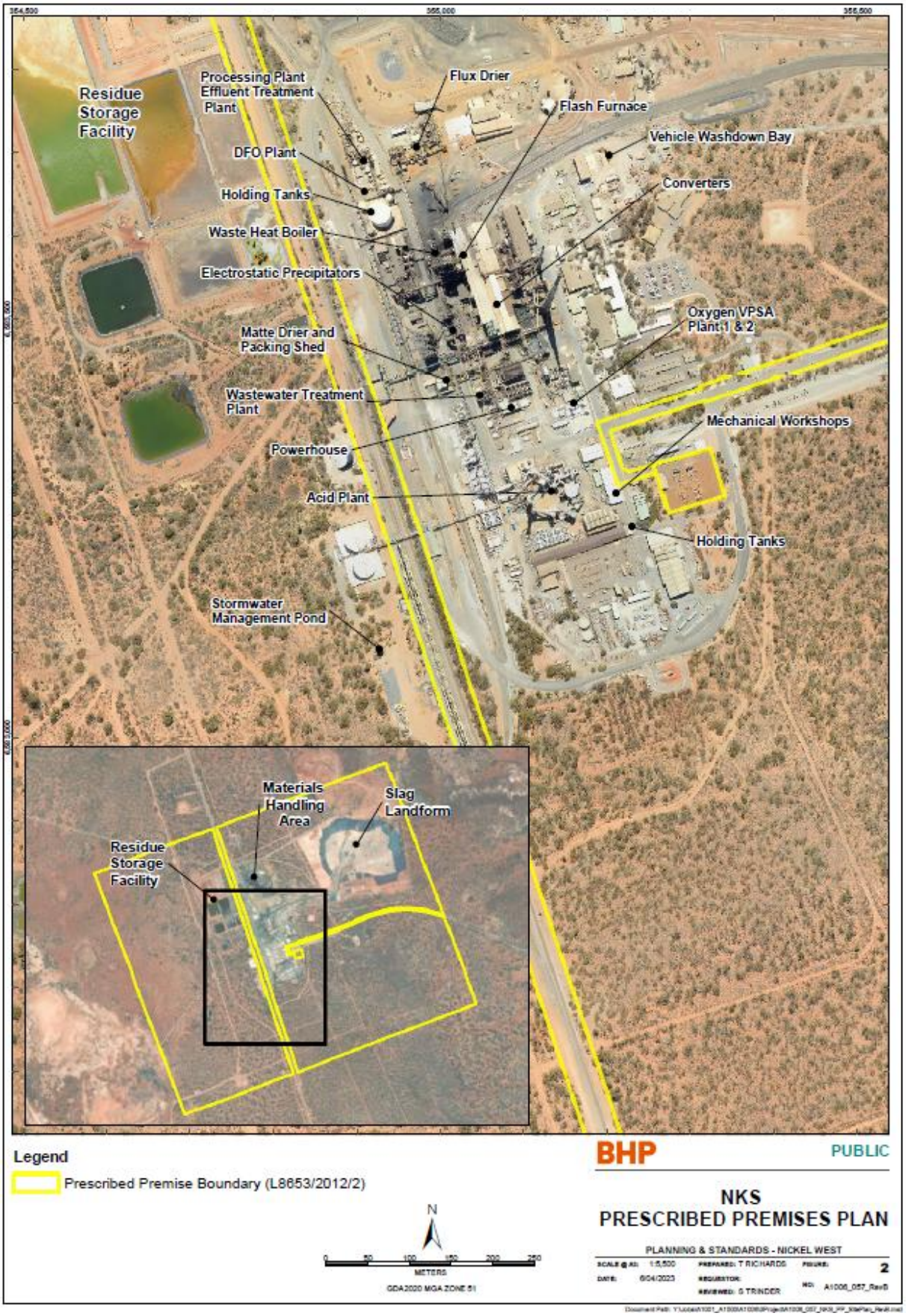

Figure 2: Premises plan

L8653/2012/2

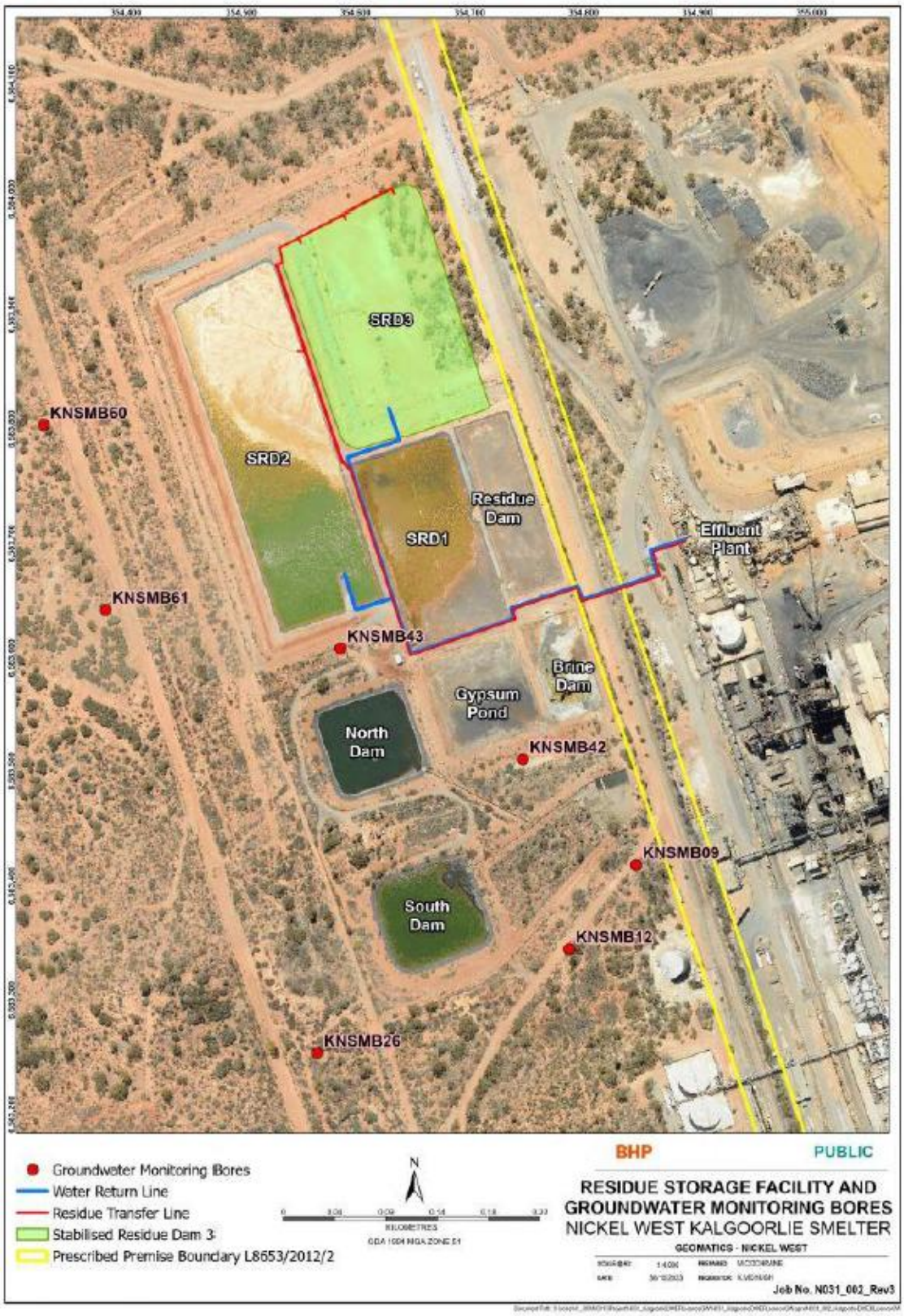

Figure 3: Residue Storage Facility and Groundwater monitoring bore locations

Source: Figure 2 from (bhp, 2023) Licence Amendment Application Supplementary Information: Stabilised Residue Dam 3 (BHP, 2023)

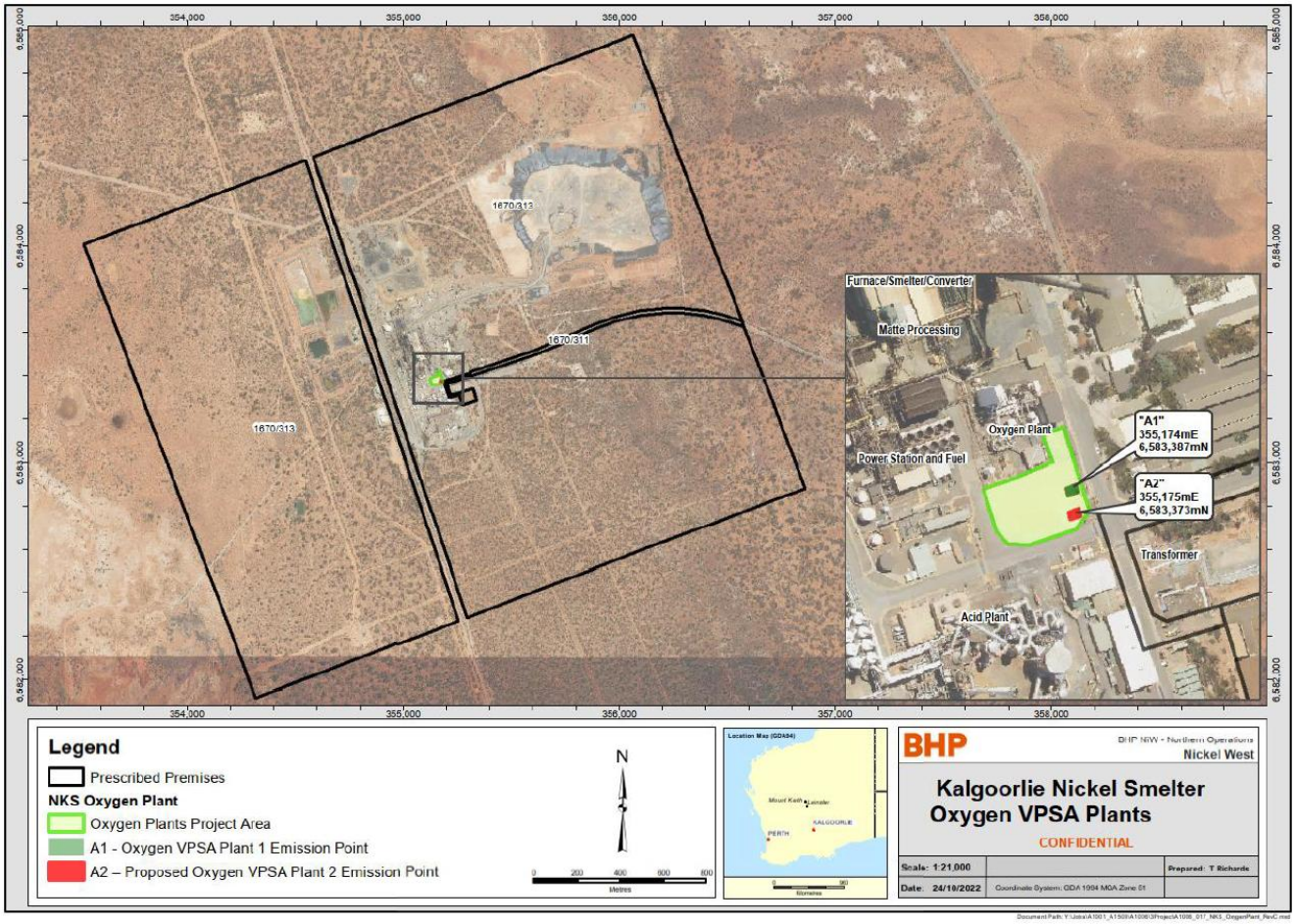

Figure 4: Oxygen VPSA Plant (Project Area) and discharge vents within the Premises Boundary

Figure 5: Dry nickel concentrate storage shed

Figure 6: Tyre derived fuel (shredded tyres) storage area

Figure 7: Tyre derived fuel storage area waterflow and extraction point

Schedule 2: Wind direction arcs

Table 13: Direction arcs from the sulfur dioxide monitoring stations to the Kalgoorlie Nickel Smelter

Sulfur Dioxide monitoring station	Wind direction arc (degrees) from the smelter to the monitoring station
Kalgoorlie Regional Hospital	162 to 186
Metals Exploration Office	168 to 192
Boulder Shire Depot	172 to 202
Kalgoorlie Airport	153 to 177
Westrail Freight Yard	142 to 162
Kalgoorlie Council Yard	156 to 180
Hannan's Golf Club	156 to 180
Kurrawang	95 to 135
Coolgardie	50 to 85
Kambalda	310 to 360

Schedule 3: Emissions monitoring data reporting format

Monitoring data should be delivered to the Department of Water and Environmental Regulation each month in an electronic format as approved by the CEO containing monthly data in an ASCII file. Below is an example of the required data format showing a five-line header, followed by the data, one time record per line for each 30-minute sampling period. Each line contains the date (DDMMYY) and Western Standard Time (HHMM), followed by the relevant parameters for each point source in floating point format. The parameters are emission rate (grams/sec), volume rate (m^3/sec) and density (kg/m^3). Note that the time indicates the end of the averaging period, so one day's data will run from 0030 to 2400. Western Standard Time ignores daylight saving if it is in operation. Five significant figures are usually the most required.

Each data file should be complete with no time gaps. Periods of no data or invalid data should be included in the unbroken sequence flagged as in error by "-999".

Each month's data should be accompanied on disk by a comment file (READ.ME, or COMMENT.TXT) containing any information relevant to the month's data. This might include notice of equipment calibrations and maintenance, or short explanations of loss of data. The comment file is not intended to supplement the data, not replace other formal reporting mechanisms.

Example

Station : Western Power Kwinana Power Station

Date	Time	StageA			StageB			Stage C		
		SO_2	VolF	Dens	SO_2	VolF	Dens	SO_2	VolF	Dens
010193	0030	11.0	37.0	0.86	11.0	37.0	0.86	11.0	37.0	0.86
010193	0100	12.0	37.0	0.85	12.0	37.0	0.85	12.0	37.0	0.85
010193	0130	13.1	37.0	0.86	13.1	37.0	0.86	13.1	37.0	0.86
010193	0200	14.2	37.0	0.85	14.2	37.0	0.85	14.2	37.0	0.85
010193	0230	9.0	38.0	0.85	9.0	38.0	0.85	9.0	38.0	0.85
010193	0300	10.0	38.0	0.86	10.0	38.0	0.86	10.0	38.0	0.86

etc. to last record for the day -

020193	0030	11.0	37.0	0.86	11.0	37.0	0.86	11.0	37.0	0.86
020193	0100	12.0	37.0	0.85	12.0	37.0	0.85	12.0	37.0	0.85

Schedule 4: Reporting requirements

Table 14: Reporting requirements

Description of Parameter	Subject	Condition	Frequency of reporting
Clean Gypsum Disposal	As required: batch monitoring of clean gypsum stream onsite prior to disposal, with composite samples sent to NATA laboratory for further analysis.	12	Quarterly during operational periods
Stack Emissions - Sulfur Dioxide	Continuous SO_2 monitoring or mass-balance calculations at the plant	18	Quarterly during operational periods
Stack Emissions - Particulate material and Particulate Emission Limits	Quarterly monitoring of particulate emissions from the stacks and comparison against limits	20	Quarterly during operational periods
Stack Emissions – Metals, dioxins and furans	Continuous monitoring of the concentration of metals, dioxins and furans from the stacks and comparison against limits	20	Within 7 days of completion of the TDF/coke trial as described in the Amendment Report dated **TBA**, then Quarterly during ongoing operational periods
Ambient Sulfur Dioxide	Continuous monitoring of the concentration of sulfur dioxide in the Relevant Portion of the Environment at the locations of the sulfur dioxide monitoring equipment	22	Monthly during operational periods
Meteorological Monitoring (1)	Continuous monitoring of the wind speed and wind direction at the locations of the meteorological monitoring equipment.	28	Monthly during operational periods
Meteorological Monitoring (2)	Continuous monitoring of various parameters at least one of the locations of the meteorological monitoring equipment	28	Monthly during operational periods
Acid Plant Operations	Acid Plant Shutdown	31	As required during operational periods
Flash Furnace Operation Data	flash furnace data during normal operations and also during shutdowns.	31	Quarterly during operational periods

Water monitoring and reporting	Quarterly monitoring of the monitoring bores	41	Quarterly

Schedule 5: Data format for monitoring data files

Line 1:	SITE NAME:
Line 2:	---*blank line*-------
Line 3:	column description
Line 4:	column description
Line 5:	---*blank line*-------
Line 6:	ddmmyyyy HHMM xxxx.xx xxxx.xx xxxx.xx . . . . .
Line 7:	ddmmyyyy HHMM xxxx.xx xxxx.xx xxxx.xx . . . . .
|	
|	
V	
Line n:	

where: dd is the two digit day of the month i.e. 01, 02,…….31.

mm is the two digit month code i.e. 01, 02,…….12.

yyyy is the four digit year i.e. 1999, 2000……..

HH is the two digit hour code i.e. 01, 02,……24.

MM is the two digit minute code i.e. 10, 20,……50.

xxxx.xx is the format of the data represented in FORTRAN notation as F7.2

The time period shall represent the end of the data period. Hence the first data period for any day shall be 0000 hours and the data associated with this period shall be the data for the five minutes up to this time. The last time for the same day shall be 2355 and the data associated with this period shall be the data for the five minutes up to this time.

Schedule 6: SODAR and weather station positions

(i) NKS SODAR (Sounding Doppler Acoustic Radar System)

(coordinates: Zone 51, 355519mE, 6584759mN, [GDA 94 coordinate system])

Wind Speed (at heights of 80m, 140m, 230m, 320m & 440m)

Wind Direction (at heights of 80m, 140m, 230m, 320m & 440m)

(ii) NKS Weather Station

(coordinates: Zone 51, 355770mE, 6583657mN, [GDA 94 coordinate system])

Air Temperature at 10 m

Wind Speed at 30 m

Wind Speed at 60 m

Wind Direction 60 m