Government of Western Australia
Department of Water and Environmental Regulation

Amendment Notice 1

Licence Number	L6168/1991/11
Licence Holder	BHP Billiton Iron Ore Pty Ltd
ACN	008 700 981
File Number:	DER2013/001190
Premises	Yandi (Marillana Creek) Iron Ore Mine Mining Tenements M270SA, M47/292, G47/12, G47/13, G47/14, G47/15, G47/16, G47/17, G47/18, G47/19, M47/69, M47/70 and M47/71 NEWMAN WA 6753
Date of Amendment	**05 December 2018**

Amendment

The Chief Executive Officer (CEO) of the Department of Water and Environmental Regulation (DWER) has amended the above Licence in accordance with section 59 of the *Environmental Protection Act 1986* (EP Act) as set out in this Amendment Notice. This Amendment Notice constitutes written notice of the amendment in accordance with section 59B(9) of the EP Act.

Alana Kidd

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Date: 2018.12.05 16:03:09 +08'00'

Alana Kidd

MANAGER, RESOURCE INDUSTRIES

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

Definitions and interpretation

Definitions

In this Amendment Notice, the terms in Table 1 have the meanings defined.

Table 1: Definitions

Term	Definition
AACR	Annual Audit Compliance Report
ACN	Australian Company Number
AER	Annual Environment Report
Amendment Notice	refers to this document
Category/ Categories/ Cat.	categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department Administering the *Environmental Protection Act 1986* Locked Bag 33 Cloisters Square PERTH WA 6850 info@dwer.wa.gov.au
CS Act	*Contaminated Sites Act 2003* (WA)
Delegated Officer	an officer under section 20 of the EP Act
Department	means the department established under section 35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Part V, Division 3 of the EP Act.
DWER	Department of Water and Environmental Regulation
EPA	Environmental Protection Authority
EP Act	*Environmental Protection Act 1986* (WA)
EP Regulations	*Environmental Protection Regulations 1987* (WA)
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Cth)
Existing Licence	The Licence issued under Part V, Division 3 of the EP Act and in force prior to the commencement of and during this Review
Licence Holder Licensee	BHP Billiton Iron Ore Pty Ltd
m^3	cubic metres

Minister	the Minister responsible for the EP Act and associated regulations
MS	Ministerial Statement
mtpa	million tonnes per annum
MW	mega watt
NEPM	National Environmental Protection Measure
Noise Regulations	*Environmental Protection (Noise) Regulations 1997* (WA)
Occupier	has the same meaning given to that term under the EP Act.
Prescribed Premises	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Decision Report applies, as specified at the front of this Decision Report.
Risk Event	as described in *Guidance Statement: Risk Assessment*
UDR	*Environmental Protection (Unauthorised Discharges) Regulations 2004* (WA)

Amendment Notice

This amendment is made pursuant to section 59 of the *Environmental Protection Act 1986* (EP Act) to amend the Licence issued under the EP Act for a prescribed premises as set out below. This notice of amendment is given under section 59B(9) of the EP Act.

This notice is limited only to an amendment for Category 52, 64 and 73.

The following guidance statements have informed the decision made on this amendment*:*

- *Guidance Statement: Regulatory Principles (July 2015)*
- *Guidance Statement: Setting Conditions (October 2015)*
- *Guidance Statement: Decision Making (February 2017)*
- *Guidance Statement: Risk Assessment (February 2017)*
- *Guidance Statement: Environmental Siting (November 2016)*

Amendment description

On 16 August 2018, BHP Billiton Iron Ore Pty Ltd (BHP) submitted an amendment application under Part V of the EP Act, requesting the following amendments to the Yandi (Marillana Creek) Iron Ore Mine (Yandi) Licence L6168/1991/11:

Category 52 - Temporary power station

BHP currently sources power for the Yandi Operations from Yarnima Power Station via a 132 kV transmission line. BHP is commencing an upgrade to the transmission line between Yarnima Power Station and the Mining Area C Project; which are both managed and operated by BHP.

BHP is seeking approval under this amendment to construct and operate a temporary, 45 MW power station (diesel fuel) at Yandi to provide a contingency power source during upgrades to the transmission line between Yarmina Power Station and Mining Area C Project. The temporary power station will comprise of a series of 1.6 MW diesel generators, installed adjacent to the existing Yandi substation and operated for a period of up to six (6) months.

Category 64 – new inert landfill location and throughput increase

BHP is proposing to use an old borrow pit at the Yandi mine site as a Class I inert landfill to receive up to 11,000 tonnes of waste per annum, generated from the decommissioning of both the Marillana and Yandi Camps. The majority of waste will consist of building materials from the dongas, including glass, plasterboard, floor sheeting, steel, insulation, piping, concrete, electrical and communication cables, doors, beds, fixtures, and associated inert infrastructure materials.

Putrescible waste will be collected and either disposed of at the existing Yandi putrescible landfill or taken off site to be disposed of at an approved landfill location. All hazardous waste (excluding asbestos) will be removed from site by a licensed controlled waste contractor.

Asbestos material identified within the waste infrastructure will be disposed of in a separate area of the landfill by a competent person in accordance with the Code of Practice for the Management and Control of Asbestos in Workplaces, Australian Standard 2601 – the Demolition of Structures and the *Environmental Protection (Controlled Waste) Regulations 2004*.

All hazardous wastes (excluding asbestos) will be removed from site by a licenced waste removal contractor as defined by the *Environmental Protection (Controlled Wastes) Regulations 2004*.

Category 73 – bulk fuel storage increase

BHP is seeking approval to increase the Premises Category 73 storage capacity from 3,000 m^3

in aggregate to 4,000 m^3 in aggregate to allow for the increase in storage required to supply diesel for the temporary power station, and to provide maximum flexibility for fuel storage on the premises.

Schedule 1, Premises map update

As part of this amendment, BHP has requested the Premises map in Schedule 1 of Licence L6168/1991/11 be revised to remove the tree health and air quality monitoring points, as these are not associated with any Licence conditions.

Category 12 – stemming production for blasting

On 11 October 2018, BHP submitted to DWER a separate amendment application, seeking to include Category 12 on the Licence to allow for the intermittent production of stemming material required for use in blasting. BHP has advised that either a mobile crushing facility or one of the existing fixed plant crushing facilities will be used for the production of stemming material. BHP have advised that approximately 100,000 tonnes of stemming material is required on an annual basis, however has requested that the Category 12 production capacity be limited to 200,000 tonnes per annual period to ensure that the licensed limits are not breached in the event that more material is required in a financial year.

Table 2 below outlines the proposed changes to the design/throughput capacities on the Licence.

Table 2: Proposed design or throughput capacity changes

Category	Current design/ throughput capacity	Proposed design capacity	Description of proposed amendment
Category 12 – Screening, etc. of material: premises (other than premises within category 5 or 8) on which material extracted from the ground is screening, washed, crushed, ground, milled, sized or separated.	-	200,000 tonnes per annual period	Approval to use crushing and screening infrastructure for the production of stemming material for blasting.
Category 52 – Electric power generation: premises (other than premises within category 53 or an emergency or stadby power generating plant) on which electrical power is generated using a fuel	-	45 MW	Approval to construct and operate a temporary diesel fuel power station (six months operation).
Category 64 – Class II putrescible landfill site: premises on which waste (as determined by reference to the waste type set out in the document entitled "Landfill Waste Classification and Waste Definitions 1996" published by the Chief Executive Officer and as amended from time to time) is accepted for burial.	4,800 tonnes per annual period	15,800 tonnes per annual period	Increase in disposal volume and approval to construct and operate a new inert landfill facility to accept waste generated from the demolition of the Marillana and Yandi Camp facilities.
Category 73 – Bulk storage of chemicals, etc: premises on which acids, alkalis or chemicals that – (a) contain at least on carbon to carbon bond; and (b) are liquid at STP (standard temperature and pressure), are stored.	3,000 m^3 in aggregate	4,000 m^3 in aggregate	Allow for the increase in storage required for the temporary power station and to provide flexibility for fuel storage onsite.

Other approvals

The Licensee has provided the following information relating to other approvals as outlined in Table 3.

Table 3: Relevant approvals

Legislation	Number	Approval
Iron Ore (Marillana Creek) Agreement Act 1991 *Iron Ore (Mount Goldsworthy) Agreement Act 1964*	State Agreement Integration Proposals for power infrastructure	A Proposal under the *Iron Ore (Marillana Creek) Agreement Act 1991* for the location of the power station on Mining Lease 270SA and a Proposal under the *Iron Ore (Mount Goldsworthy) Agreement Act 1964* to provide the connection point which will be located on Miscellaneous Licence L47/92 (owned by the Goldsworthy Joint Venture).
Part IV of the EP Act	Statement that a proposal may be implemented, Ministerial Statement (MS) 679 published 6 July 2005	Approval for life-of-mine proposal to mine iron ore within Mining Leases 270A and 47/292, including clearing of native vegetation, and subsequent rehabilitation and decommissioning of the site.
	Statement that a proposal may be implemented, MS 1039 published 4 October 2016	Approval for implementation conditions 5 (Rehabilitation and Decommissioning), 7 (Marillana Creek Diversion) and 13 (Offsets) to be changed.

Amendment history

Table 4 provides the amendment history for Licence L6168/1991/11 and previous versions.

Table 4: Licence amendments

Instrument	Issued	Amendment
L6168/1991/3	15/11/2000	Licence renewal
L6168/1991/4	13/11/2001	Licence renewal
L6168/1991/5	15/11/2002	Licence renewal
L6168/1991/6	17/11/2003	Licence renewal
L6168/1991/7	15/11/2004	Licence renewal
L6168/1991/8	15/112005	Licence renewal
L6168/1991/9	12/11/2009	Licence renewal
L6168/1991/10	15/11/2012	Licence renewal
L6168/1991/11	12/11/2015	Licence renewal
L6168/1991/11	22/09/2016	Licence amendment to update premises address, include inert waste disposal location and other minor amendments, including removal of conditions that are not valid, enforceable and/or risk based
L6168/1991/11	5/12/2018	Licence amendment to include Category 12 and 52, increase the Category 64 and 73 design capacities and update the prescribed premises map to remove irrelevant emission points

Location and receptors

Yandi is located approximately 100 km north-west of the town of Newman in the Pilbara region of Western Australia. The Premises is situated on Mining Lease M270SA, held by the Yandi Joint Venture pursuant to the *Iron Ore (Marillana Creek) Agreement Act 1991*.

Yandi is managed and operated by BHP on behalf of the Yandi Joint Venture, which is split between BHP Billiton Minerals Pty Ltd (85%), Mitsui-Itochu Iron Pty Ltd (7%) and Itochu Minerals & Energy of Australia Pty Ltd (8%).

Table 5 below lists the relevant sensitive land uses in the vicinity of the Prescribed Premises which may be receptors relevant to the proposed amendment.

Table 5: Receptors and distance from activity boundary

Residential and sensitive premises	Distance from Prescribed Premises
Rio Tinto Hope Downs 4 Accommodation Camp	25 km south of Premises
Marillana and Juna Downs Homesteads	Approximately 35 km from Premises
Newman	100 km south-east of Premises

Table 6 below lists the relevant environmental receptors in the vicinity of the Prescribed Premises which may be receptors relevant to the proposed amendment.

Table 6: Environmental receptors and distance from activity boundary

Environmental receptors	Distance from Prescribed Premises
Pilbara Groundwater Area, proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act)	The Premises is located within the Pilbara Groundwater Area. Main aquifer is the Hamersley – Fractured Rock Aquifer – groundwater levels may be deep below the surface, and water is generally fresh. Main use of aquifer is for mining and mine dewatering from iron ore mines. Bores also drilled for road and railway construction.
Pilbara Surface Water Area, proclaimed under the RIWI Act	The Premises is located within the Pilbara Groundwater Area, within the Fortescue River Upper surface water catchment.
Marillana Creek, being a tributary of Weeli Wolli Creek which is itself a tributary of the Fortescue River.	Marillana Creek intersects the Premises. Proposed inert landfill approximately 0.5 km south of creek, proposed power station 1.6 km north of creek.
Fortescue Marsh, Priority 1 Priority Ecological Community (PEC) – extensive, episodically inundated samphire marsh at the upper terminus of the Fortescue River. Largest ephemeral wetland in the Pilbara. Highly diverse ecosystem with fringing mulga woodland, samphire shrub land and groundwater dependent riparian ecosystems. An arid wetland utilized by water birds and supports a rich diversity of restricted aquatic and terrestrial invertebrates (DBCA, 2017)	Approximately 20 km north north-east of Premises boundary
Weeli Wolli Spring Community, Priority 1 PEC – riparian woodland and forest associations are unusual as a consequence of the composition of the	Approximately 7.5 km south east of Premises boundary

understorey. The sedge and herbfield communities that fringe many of the pools and associated water bodies along the main channels of Weeli Wolli Creek have not been recorded from any other wetland site in the Pilbara. Relatively high diversity of stygofauna, probably attributed to the large-scale calcrete and alluvial aquifer system associated with the creek. Valley supports a rich microbat assemblage including a threatened species.	
Pseudomys chapmani (Western Pebble-mound Mouse), Priority 4 on the Department of Biodiversity, Conservation and Attractions Priority Fauna List	Individual located approximately 300 m from the proposed temporary power station site.
Dasyurus hallucatus (Northern quoll), Division 1 (Endangered Mammals) Schedule 2, *Wildlife Conservation Act 1950*.	Identified within the Yandi mine Premises, 7 km from the proposed inert landfill location.
Karijini National Park	Approximately 40 km to the west of Premises

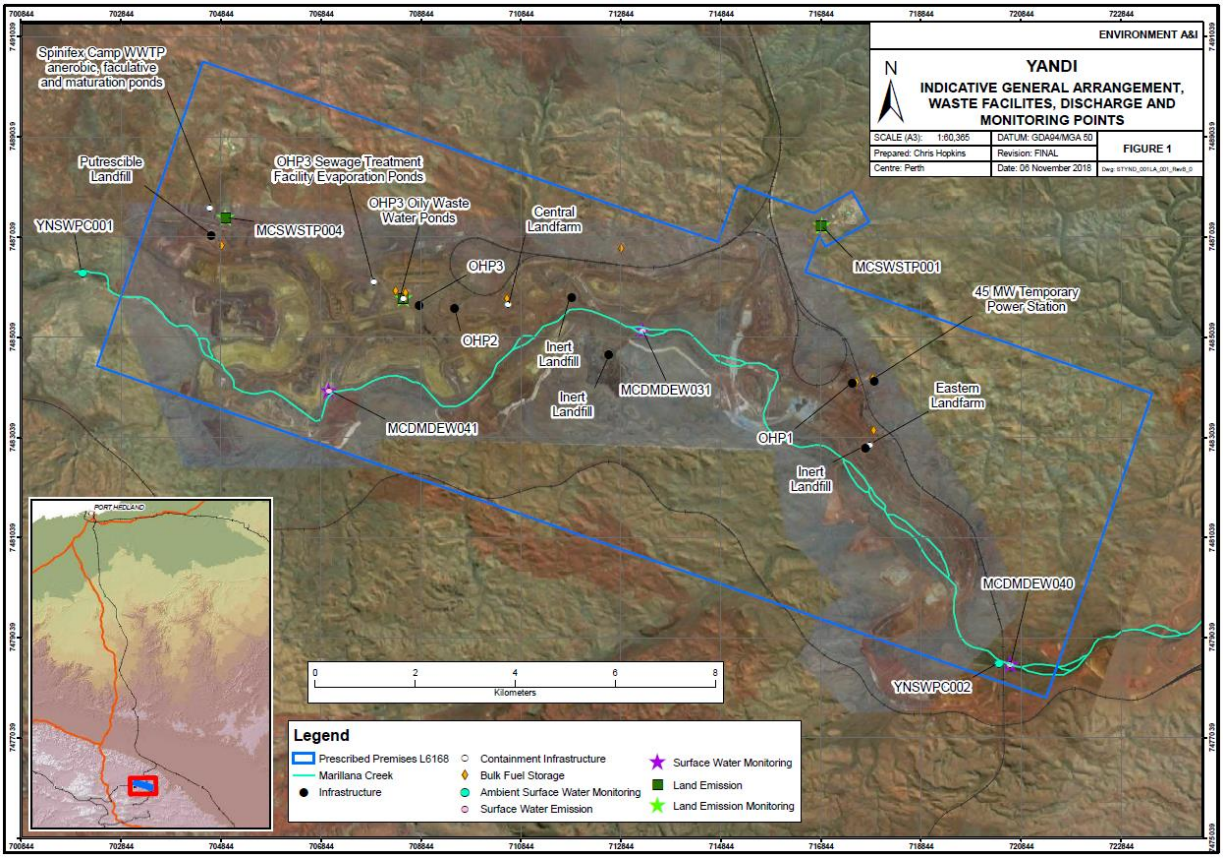


Figure 1: Premises indicative general arrangement, including location of inert landfill and temporary power station

Risk assessment

Tables 7 and 8 below describe the Risk Events associated with the amendment consistent with the *Guidance Statement: Risk Assessments*. Both tables identify whether the emissions present a material risk to public health or the environment, requiring regulatory controls

Table 7: Risk assessment for proposed amendments during construction

Risk Event						Consequence rating	Likelihood rating	Risk	Reasoning
Source/Activities		**Potential emissions**	**Potential receptors**	**Potential pathway**	**Potential adverse impacts**				
Category 52 Electric power generation	Construction, mobilisation and positioning of power station infrastructure	Dust associated with construction activities, including earthworks and vehicle movements	No residences or other sensitive receptors in proximity	Air/wind dispersion	Health and amenity impacts	N/A	N/A	N/A	No receptor present. The nearest potential residential receptor is the Rio Tinto Hope Downs 4 Accommodation Camp, 25 km from the premises. The separation distance between the source and potential receptor is sufficient to prevent dust impacts from occurring during construction.
		Noise associated with construction activities, including earthworks and vehicle movements	No residences or other sensitive receptors in proximity	Air/wind dispersion	Health and amenity impacts	N/A	N/A	N/A	The Delegated Officer has considered the location of the proposed power station within an existing Premises, where noise emissions from extensive mining and ore handling activities occur on an ongoing basis. Noise emissions during construction of the temporary power station will be temporary and localized, and unlikely to contribute significantly to noise levels in the area. The separation distance between the source and potential receptor is sufficient to prevent dust impacts from occurring during construction.

Table 8: Risk assessment for proposed amendments during operation

Risk Event						Consequence rating	Likelihood rating	Risk	Reasoning
Source/Activities		**Potential emissions**	**Potential receptors**	**Potential pathway**	**Potential adverse impacts**				
Category 12	Processing of up to 200,000 tpa of material through a mobile crushing facility or existing fixed ore handling facility	Dust, predominantly particulates PM_{10} and TSP associated with crushing and screening of stemming material	No residences or other sensitive receptors in proximity	Air/wind dispersion	None (sufficient separation distance)	N/A	N/A	N/A	No receptor present. The nearest potential residential receptor is the Rio Tinto Hope Downs 4 Accommodation Camp, 25 km from the premises. The separation distance between the source and potential receptor is sufficient to prevent dust impacts from occurring during operation.
Category 52 Electric power generation	Operation of the temporary, diesel fuel power station	Emissions of Nitrogen oxides, sulfur oxides, carbon monoxide and volatile organic compounds	No residences or other sensitive receptors in proximity	Air/wind dispersion	None (sufficient separation distance)	N/A	N/A	N/A	No receptor present. The nearest potential residential receptor is the Rio Tinto Hope Downs 4 Accommodation Camp, 25 km from the premises. The Delegated Officer considers that the separation distance between the source and potential receptor is sufficient to prevent air emissions and noise impacts on the only potential residential sensitive receptor.
		Noise, associated with operation of the power station	No residences or other sensitive receptors in proximity	Air/wind dispersion	None (sufficient separation distance)				
			Threatened and Priority listed fauna species, *Pseudomys chapmani* (Western Pebble-mound Mouse) and *Dasyurus hallucatus* (Northern quoll)	Air/wind dispersion	Movement of species from permanent denning habitats	Slight	Unlikely	Low	The Delegated Officer has considered the location of the proposed power station within an existing Premises, where noise emissions from extensive mining and ore handling activities occur on an ongoing basis. Noise emissions during operation of the temporary power station will be localised, and unlikely to contribute significantly to noise levels experienced by potential fauna receptors. Exposure to noise emissions will be limited by the temporary operation of the power station, which is only required for a six month period. <u>Consequence:</u> The Delegated Officer considers that the temporary operation of the power station will

									produce localised noise emissions that will not significantly contribute to the cumulative noise emissions from the premises. Minimal onsite impacts may occur to fauna species, if located in close proximity to the plant. The risk has been determined to be slight. Likelihood: The power station will be located in close proximity to existing processing, and other mine infrastructure from which noise emissions occur on an ongoing basis. The likelihood of fauna species being impacted by noise emissions from the temporary power station will probably not occur in most circumstances, and is therefore unlikely. Overall Risk Rating: Comparison of the consequence and likelihood ratings described above with the Risk Rating Matrix (*Guidance Statement, Risk Assessments 2017*) determines the overall rating of risk of fauna impacts to be **low**.
		Storm water from the power station and bulk fuel storage areas contaminated with hydrocarbons and/or sediment	Drainage lines and riparian vegetation	Storm water runoff and gravity flow overland	Contamination of drainage lines Loss of riparian vegetation	Slight	Unlikely	Low	The Licensee has advised that the power station pad will be located on top of a crest, hence all storm water flows either north or south of the temporary power station pad. In addition, the pad itself has been graded appropriately to ensure water flows from the pad in a controlled manner. The power station generators possess belly tanks which will be internally bunded, and oils at the power site will also be stored on bunds. The power station site will be manned 24 hours a day, seven day a week, reducing the likelihood of hydrocarbons spills going unattended and presenting a contamination risk to storm water. Consequence: In the event that contaminated storm water discharges from the power station and bulk fuel storage area, minimal onsite impacts could occur. The Delegated Officer has therefore determined the risk of storm water impacting on sensitive receptors to be slight.

									Likelihood: The Delegated Officer notes that the site will be manned 24 hours, 7 sevens a week, reducing the likelihood of spills of hydrocarbons which could potentially contaminate storm water. The power station will also be located on a graded concrete pad, ensuring storm water flows are controlled from operational areas. The Delegated Officer considers that contaminated storm water impacting on drainage lines and riparian vegetation will probably not occur in most circumstances; the likelihood of the risk occurring has been determined to be unlikely. Overall Risk Rating: Comparison of the consequence and likelihood ratings described above with the Risk Rating Matrix (*Guidance Statement, Risk Assessments 2017*) determines the overall rating of risk of storm water contamination impacting sensitive receptors to be **low**.
Category 64 Landfill site	Landfilling to new inert landfill within existing borrow pit	Dust and noise associated with vehicle and machinery movements	No residences or other sensitive receptors in proximity	Air/wind dispersion	None (sufficient separation distance)	N/A	N/A	N/A	No receptor present. The nearest potential residential receptor is the Rio Tinto Hope Downs 4 Accommodation Camp, 25 km from the premises. The Delegated Officer considers that the separation distance between the source and potential receptor is sufficient to prevent dust impacts from occurring during operation.
		Leachate, if waste is incorrectly segregated and putrescible and/or hazardous wastes are accepted for burial	Soils and groundwater	Infiltration of leachate through soil profile and into groundwater	Contamination of soils and groundwater from elevated nutrients and other contaminants.	Slight	Rare	Low	The new landfill will only receive inert waste, no putrescible waste will be disposed of at this location. All putrescible waste will be disposed of at the existing Yandi putrescible landfill or taken offsite to be disposed of to an approved landfill location. All hazardous waste (excluding asbestos) will be removed from site by a licensed controlled waste contractor. Licence L6168/1991/11 includes existing conditions which specifies the waste types to be disposed of at the landfills, consistent with the *Landfill Waste Classification and Waste*

									Definitions 1996. <u>Consequence:</u> If incorrect waste (putrescible and/or hazardous wastes) is deposited into the landfill, low level onsite impacts and minimal off-site impacts at a local scale could occur. The risk has therefore been determined to be minor. <u>Likelihood:</u> The Licensee has existing putrescible landfill facilities at the premises for the disposal of putrescible waste. Hazardous waste is remove from site for off-site disposal. The Delegated Officer therefore considers the likelihood of sensitive receptors being impacted by leachate from the landfill as rare, as it would only occur in exceptional circumstance. <u>Overall Risk Rating:</u> Comparison of the consequence and likelihood ratings described above with the Risk Rating Matrix (*Guidance Statement, Risk Assessments 2017*) determines the overall rating of risk from landfill leachate to be **low**.
		Windblown waste	Terrestrial environment, including fauna habitat	Direct discharge to land	Impacts to flora and fauna	Slight	Rare	Low	The Delegated Officer notes that the Licence has existing conditions relating to the management of windblown waste, including the requirement under Condition 1.2.4 to cover plastic waste with the potential to become windblown as soon as practicable after deposit, and Condition 1.2.5 which requires windblown waste to be contained within the boundary of the Premises and returned to the tipping area on at least a monthly basis. The management requirements specified under these conditions are deemed appropriate to manage the risks associated with windblown waste.
		Disposal of inert waste	Inert waste, if left uncovered, could create potential artificial denning habitat for *Dasyurus hallucatus* (Northern	Deposition of inert waste into borrow pit	Death of *Dasyurus hallucatus* (Northern quoll) individuals if trapped and	Moderate	Possible	Medium	Management of the Northern Quoll is undertaken at the Premises in accordance with the *Northern Quoll Management Plan* (BHP Billiton Iron Ore 2016). The Delegated Officer notes that Licence

			quoll) which has been identified within the Premises boundary, 7 km away from the proposed landfill area		waste is covered				L6168/1991/11 has existing condition 1.2.4 which requires Inert Waste Type 2 to be covered as soon as practicable after deposit with 100 mm of Type 1 Inert Waste or soil. <u>Consequence:</u> The Northern Quoll is listed under Division 1 (Endangered Mammals) Schedule 2 of the *Wildlife Conservation Act 1950*. This species is considered of high conservation value. Therefore, the consequence of a death of this species has been determined as major. <u>Likelihood:</u> The Delegated Officer notes that the Licensee has a management plan in place to manage the Northern Quoll at the Premises, and has committed to covering waste as soon as practicable to prevent the creation of artificial denning habitat. While it is unlikely that Northern Quoll will enter the landfill, it is possible and could occur at some time. The Delegated Officer has determined the likelihood to be possible. <u>Overall Risk Rating:</u> Comparison of the consequence and likelihood ratings described above with the Risk Rating Matrix (*Guidance Statement, Risk Assessments 2017*) determines the overall rating of risk to Northern Quoll from the operation of the landfill to be **medium**. The Delegated Officer considers the existing Licence conditions, requiring the regular covering of waste, will adequately manage the risk associated with the disposal of inert waste creating artificial denning habitat and the threat this poses to the survival of individuals of the Northern Quoll species.
Category 73 Bulk storage of chemicals, etc	New bulk diesel fuel storage located at the temporary power station, increase fuel storage to provide some	Potential spills and leaks of hydrocarbons	Soil Surface water Groundwater	Direct discharge to ground Discharge along	Localised contamination of soil and drainage lines with hydrocarbons Impact to vegetation health and fauna reliant				Depth to groundwater under the proposed hydrocarbon storage area is approximately 40 mbgl. Bulk fuel storage facilities will be double skinned to reduce the risk of the tank rupturing and discharging to the environment. Fuel piping from the tanks will also be double-

	flexibility with respect to fuel storage onsite			drainage lines Infiltration through soil profile into groundwater, depending on volume discharged	on vegetation Groundwater contamination				skinned. In addition, piping will be installed along a culvert system that will drain to one or more underground level alarmed catchment tanks so that there is minimal risk of spillage to the surrounding ground. Unloading pump skids and fuel forwarding pump skids will be bunded. The fuel supply from the day tanks will be by gravity. This means that the network of piping will not be under pressure further reducing the likelihood of uncontrolled discharges from the pipelines. Fuel unloading will be controlled manually at all times. Fuel truck containers will be stationed over spill traps that will be designed to contain any spills and prevent egress to the surrounding environment. The power station, including the fuel storage area will be manned 24 hours a day, seven days a week, which means that spills and leaks can be attended to immediately. Hydrocarbon spills will be reported and cleaned up to ensure they do not result in an impact to groundwater. Site hydrocarbon management will continue to be in accordance with the relevant Dangerous Goods Licence. There are no major or minor watercourses within the power station and fuel storage area – the closest drainage line is more than 800 m away. <u>Consequence:</u> The closest drainage line is more than 800 m from the power station bulk fuel area and depth to groundwater is approximately 40 mbgl. Given the distance to these sensitive receptors, the Delegated Officer considers that minimal onsite impacts would occur as a result of loss of containment or a spill of hydrocarbons. The consequence of the risk event has been determined as slight. <u>Likelihood:</u> The Delegated Officer notes that the bulk fuel storage facilities will be double skinned,

									minimizing the likelihood of a loss of containment. The facility will be constantly manned, allowing for any leaks and spills to be immediately attended to. The likelihood of the risk occurring has therefore been determined to be unlikely. <u>Overall Risk Rating:</u> Comparison of the consequence and likelihood ratings described above with the Risk Rating Matrix (*Guidance Statement, Risk Assessments 2017*) determines the overall rating of risk of hydrocarbons spills and leaks impacting on sensitive receptors to be **low**.

Decision

The Delegated Officer has determined to grant the amended Licence to approve:

- the processing of up to 200,000 tpa of stemming material under Category 12;
- the construction of a new 45 MW temporary power station, and subsequent operation under Category 52 once constructed;
- construction and operation of a new inert landfill, and an increase to the Category 64 disposal limit from 4,800 m^3 per annum to 15,800 m^3 per annum;
- an increase to the Category 73 storage volume from 3,000 m^3 to 4,000 m^3, in aggregate; and
- the inclusion of an updated Premises map in Schedule 1 of the Licence.

The Licence has been amended, as detailed below.

The prescribed premises category, Schedule 1 of the *Environmental Protection Regulations 1987* table on Page 1 of Licence L6168/1991/11 has been amended to include Category 12 and 52, and to increase the approved throughput of Category 64 and 73.

The instrument log table in the introduction of the Licence has been updated to include details of this Amendment Notice 1.

Condition 1.2.1 has been amended to increase the quantity limit for waste disposed of to the onsite landfills.

Condition 1.2.7 has been amended to include Category 12 and 52 production limits in the conditions of the licence.

Conditions 1.2.8, 1.2.9, 1.2.10, 1.2.11 and 1.2.12 have been included in the Licence to approve construction of the temporary power station, specify construction and reporting requirements and allow for a six month operating timeframe from the date of completion of construction.

Condition 2.3.1 has been included in the Licence to specify the diesel powered generators at the temporary power station as point source emission points to air.

The premises map in Schedule 1: Maps of Licence L6168/1991/11 has been revised to include the location of the temporary power station, the new inert landfill and to remove the tree health monitoring locations and dust monitoring sites, as these locations are not related to any conditions currently specified in Licence L6168/1991/11.

Licensee's comments

The Licensee was provided with the draft Amendment Notice on 22 November 2018. Comments received from the Licensee have been considered by the Delegated Officer as shown in Appendix 2.

Amendment

1. Prescribe premises category, Schedule 1 of the *Environmental Protection Regulations 1987* is amended by the deletion of the text shown in strikethrough and the insertion of the bold text shown in underline below:

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	87,000,000 tonnes per annual period
6	Mine dewatering	50,000 tonnes or more per year	15,000,000 tonnes per annual period
12	**Screening, etc. of material**	**50,000 tonnes or more per year**	**200,000 tonnes per annual period**
52	**Electric power generation**	**10 megawatts or more in aggregate (using a fuel other than natural gas)**	**45 megawatts**
54	Sewage facility	100 cubic metres or more per day	773 cubic metres per day
64	Class II putrescible landfill site	20 tonnes or more per year	~~4,800~~ **15,800** tonnes per annual period
73	Bulk storage of chemicals, etc	1,000 cubic metres in aggregate	~~3,000~~ **4,000** cubic metres in aggregate

2. The Instrument log is amended by the insertion of the bold text shown in underline below:

Instrument log		
Instrument	**Issued**	**Description**
L6168/1991/3	15/11/2000	Licence renewal
L6168/1991/4	13/11/2001	Licence renewal
W3691/2002/1	28/10/2002	Works approval
L6168/1991/5	15/11/2002	Licence renewal
L6168/1991/6	17/11/2003	Licence renewal
L6168/1991/7	15/11/2004	Licence renewal
L6168/1991/8	15/112005	Licence renewal
W4475/2008/1	11/12/2008	Works approval
L6168/1991/9	12/11/2009	Licence renewal
W477/2010/1	16/12/2010	Works approval
W4859/2011/1	17/02/2011	Works approval
W5018/2011/1	6/10/2011	Works approval
L6168/1991/10	15/11/2012	Licence renewal
L6168/1991/11	12/11/2015	Licence renewal
L6168/1991/11	22/09/2016	Licence amendment to update premises address, include inert waste disposal location and other minor amendments, including removal of conditions that are not valid, enforceable and/or risk based
L6168/1991/11	**05/12/2018**	**Licence amendment to include Category 12 and 52, construct a new inert landfill, increase the Category 64 disposal limit, increase the Category 73 storage volume and update the Premises map in Schedule 1**

3. Condition 1.2.1 of the Licence is amended by the deletion of the text shown in strikethrough below and the insertion of the bold text shown in underline below:

The Licensee shall only accept waste on to the landfill and WWTPs if:
(a) it is of a type listed in Table 1.2.1;
(b) the quantity accepted is below any quantity limit listed in Table 1.2.1; and
(c) it meets any specification listed in Table 1.2.1.

Table 1.2.1: Waste acceptance		
Waste type	**Quantity limit**	**Specification** [1]
Inert Waste Type 1	~~4,800~~ **15,800** tonnes	None specified
Inert Waste Type 2		Tyres, conveyor belts and plastic only
Putrescible Waste		None specified
Clean Fill		None specified
Sewage	1,028 m^3/day[2]	Accepted through sewer inflow(s) only

Note 1: Additional requirements for the acceptance of controlled waste (including asbestos and tyres) are set out in the *Environmental Protection (Controlled Waste) Regulations 2004.*
Note 2: Quantity limit measured as volume of treated wastewater discharged to designated irrigation areas.

4. Condition 1.2.7 of the Licence is amended by the deletion of the text shown in strikethrough below and the insertion of the bold text shown in underline below:

The Licensee shall ensure the limits specified in Table 1.2.5 are not exceeded.

Table 1.2.5 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	87,000,000 tonnes of ore per annual period
6	Mine dewatering	15,000,000 gigalitres per annual period
12	**Screening, etc. of material**	**200,000 tonnes per annual period**
52	**Electric power generation**	**45 megawatts**
73	Bulk storage of chemical, etc	~~3,000~~ **4,000** cubic metres in aggregate

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

5. The Licence is amended by the insertion of the following Condition 1.2.8:

1.2.8 The Licensee must install and undertake the Works for the infrastructure and equipment:
(a) specified in Column 1;
(b) to the requirements specified in Column 2; and
(c) at the location specified in Column 3 of Table 1.2.6.

6. The Licence is amended by the insertion of the following Condition 1.2.9:

1.2.9 The Licensee must not depart from the requirements in Column 2 of Table 1.2.6 except:
(a) Where such departure does not increase risks to public health, public amenity or the environment; and
(b) All other conditions in this Licence are still satisfied.

7. The Licence is amended by the insertion of the following Condition 1.2.10:

1.2.10 The Licensee must provide, subject to Condition 1.2.11 and within seven days of the completion of the Works specified in Column 1 of Table 1.2.6, a report to the CEO confirming each item of infrastructure or component of infrastructure specified in Column 1 of Table 1.2.6 below has been constructed and commissioned with no material defects and to the requirements specified in Column 2.

8. The Licence is amended by the insertion of the following Condition 1.2.11:

1.2.11 The Licensee must provide to the CEO a description of, and explanation for, and departures along with the report required by Condition 1.2.10.

Table 1.2.6 Works specifications

Column 1 **Infrastructure /Equipment**	Column 2 **Requirements (design and construction)**	Column 3 **Site plan reference**
Thirty-two (32), 1.6 MW Cat 3516B Diesel Generator Sets or similar	• Design and construction specifications of temporary power station pad in accordance with the Power generation facilities – Yandi, Temporary Power Station Pad – General Arrangement, Drawing No. 644. • Generators equipped with belly tanks and internally bunded • Bunded areas for oil storage	Schedule 1, Maps: • Premises map and temporary power station general arrangement design drawing and typical layout
Power station bulk fuel storage facility	• Four (4), 110,00 kL Double-skinned storage tanks • Fuel unloading spill traps • Double-skinned pipework, installed along a culvert system draining to underground level alarmed catchment tanks • Fuel unloading spill traps	Schedule 1, Maps: Premises
Category 64 inert landfill	Located within existing borrow pit	Schedule 1, Maps: Premises

9. The Licence is amended by the insertion of the following Condition 1.2.12:

1.2.12 The Licensee must:

a) notify the DWER one week prior to the power station commencing operation; and

b) must operate the power station for a period of twelve (12) months only unless authorized by the CEO.

10. The Licence is amended by the insertion of the following Condition 2.2.1:

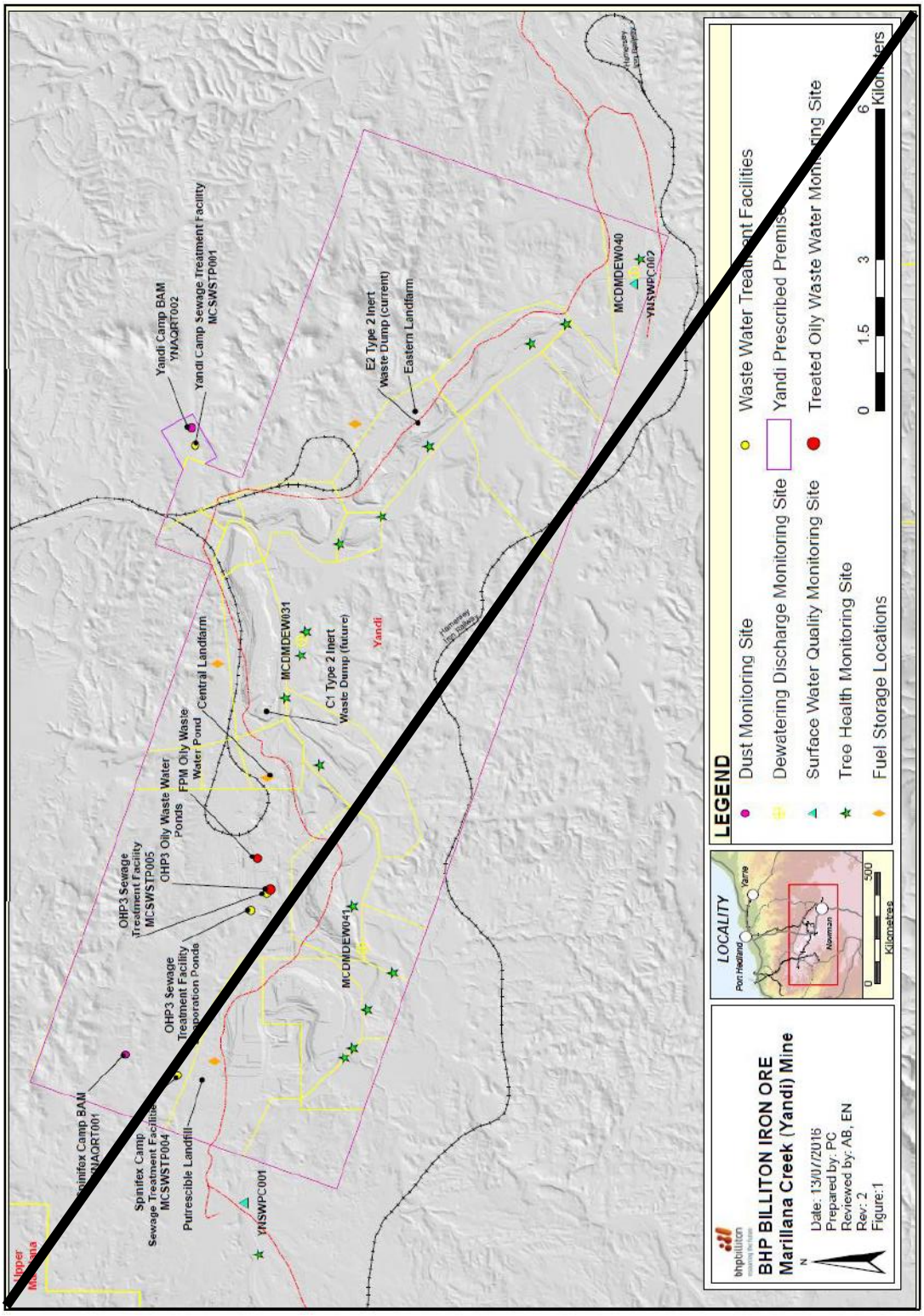
Point source emissions to air

2.2.1 The Licensee shall ensure that where waste is emitted to land 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.

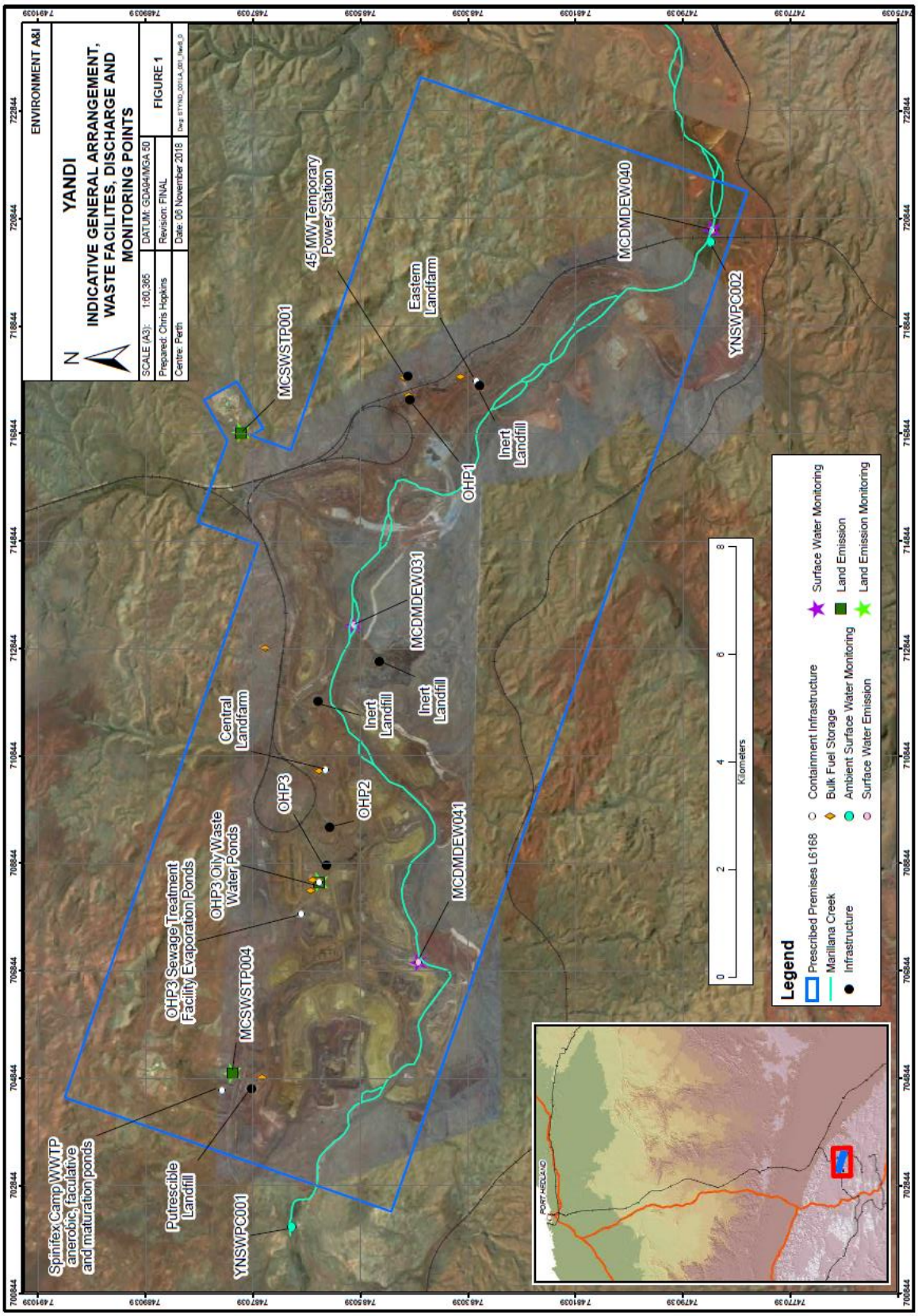
Table 2.2.1: Point source emissions to air	
Emission point reference and location on Map of emission points	**Source including abatement**
45 MW temporary power station	**Thirty-two (32) Cat 3516B diesel generators, or similar**

11. Schedule 1: Maps is amended by the deletion of the Map shown in strikethrough below and by the insertion of the revised Map below:

Pre

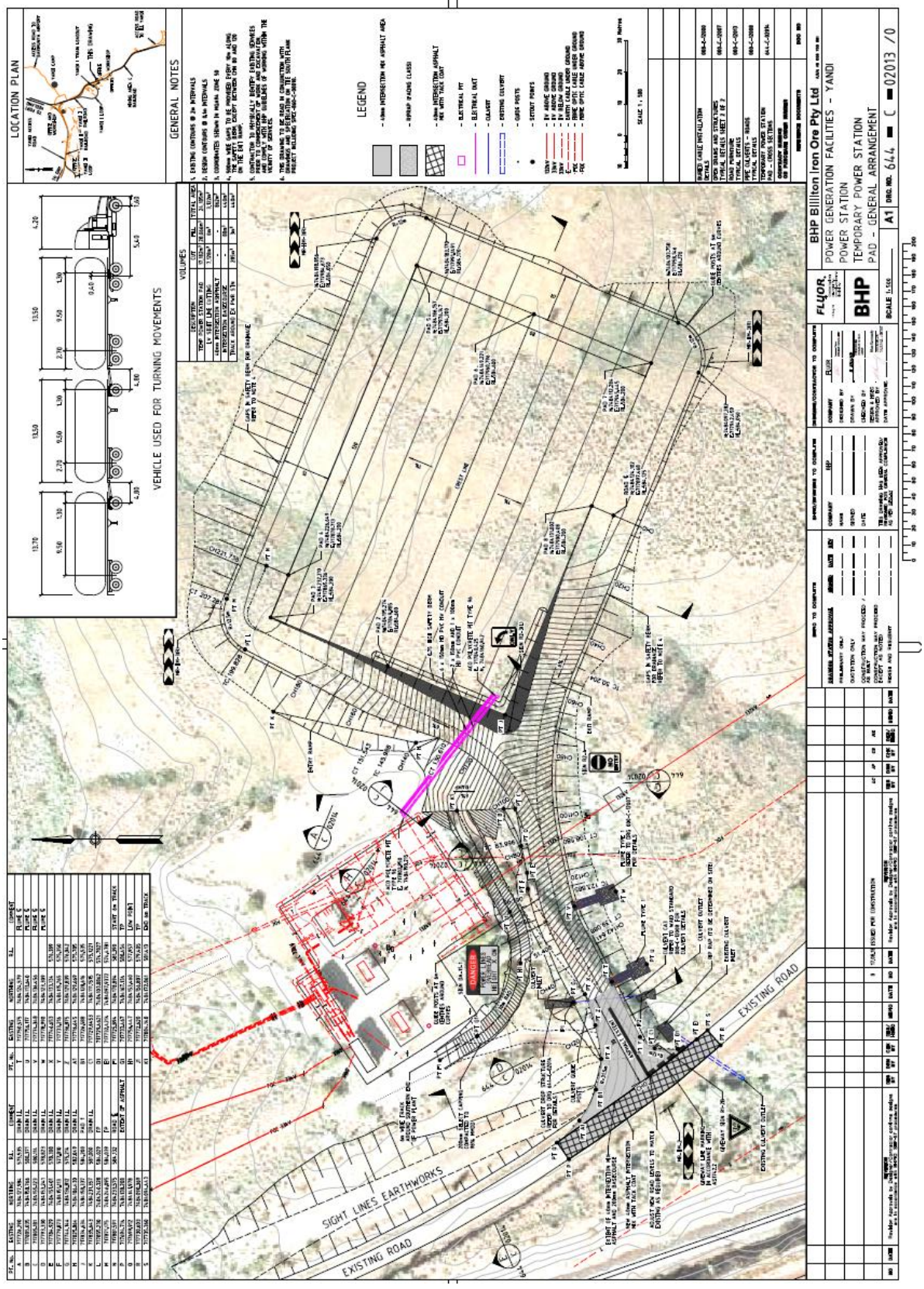


Prescribed premises boundary map

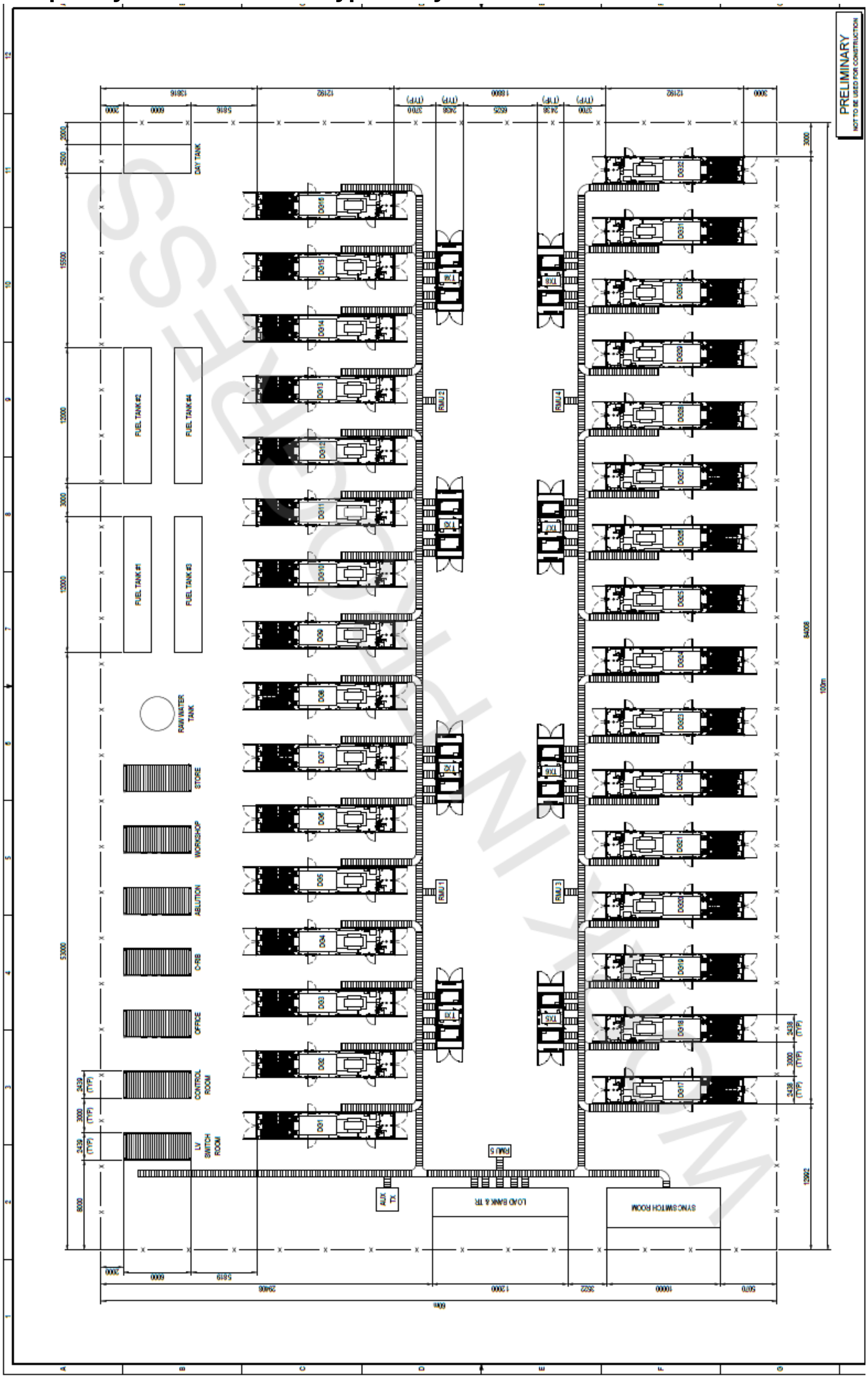


12. Schedule 1: Maps is amended by the inclusion of the design drawings for the temporary power station, as shown below.

General (Pad) arrangement of the temporary power station



Temporary Power Station – typical layout



Appendix 1: Key documents

	Document title	In text ref	Availability
	DER, July 2015. *Guidance Statement: Regulatory principles.* Department of Environment Regulation, Perth.	DER 2015a	accessed at www.dwer.wa.gov.au
	DER, October 2015. *Guidance Statement: Setting conditions.* Department of Environment Regulation, Perth.	DER 2015b	
	DER, August 2016. *Guidance Statement: Licence duration.* Department of Environment Regulation, Perth.	DER 2016a	
	DER, November 2016. *Guidance Statement: Risk Assessments*. Department of Environment Regulation, Perth.	DER 2016b	
	DER, November 2016. *Guidance Statement: Decision Making*. Department of Environment Regulation, Perth.	DER 2016c	
	Email correspondence: "RE: APPLICANT NOTIFICATION – L6168/1991/11 – NOTICE OF PROPOSED AMENDMENT TO LICENCE, Chris Hopkins, BHP Billiton, received 29 November 2018, 12:48pm	BHP Billiton, 29 November 2018	DWER record A1743890
	Licence L6168/1991/11, Yandi (Marillana Creek) Iron Ore Mine	L6168	accessed at www.dwer.wa.gov.au
	Priority Ecological Communities for Western Australia Version 27, Species and Communities Branch, Department of Biodiversity, Conservation and Attractions, 30 June 2017	DBCA, 2017	https://www.dpaw.wa.gov.au/plants-and-animals/threatened-species-and-communities/threatened-animals?view=categories&id=109

Appendix 2: Summary of Licence Holder comments

The Licensee was provided with the draft Amendment Notice on 22 November 2018 for review and comment. BHP was also requested to address a number of small outstanding matters at the time the draft Amendment Notice was provided for comment. The Licensee responded on 29 November 2018. The following comments were received on the draft Amendment Notice.

Condition	Summary of Licence Holder comment	DWER response
1.2.12	Proposed Condition 1.2.12 states: *"The Licensee must operate the power station for a period of six months only from the date of completion of construction."* The Licensee commented that: *"The current wording of this condition is likely to impose potential constraints on the approval and make it likely that an amendment will be required (creates too much of a business risk if it was only completed the day before power is required)."* The Licensee requested that the condition be reworded to something like: *"Condition 1.2.12 – The Licensee must:* *c) notify the DWER one week prior to the facility commencing operation; and* *d) must operate the power station for a period of nine months only unless authorized by the CEO."*	The Delegated Officer considers the Licensee's request reasonable. No residential receptors were identified during the risk assessment (refer Table 8). The Delegated Officer has considered the change in relation to the risks of impacts to fauna species, and determined the risk unchanged. Due to the low risk, the Delegated Officer has determined to specify a twelve (12) month operating timeframe.
Table 2.2.1	The Licensee confirmed there will be 32 gensets, and therefore 32 individual emission points. The Licensee commented that: *"Based on the proposed conditions there does not seem to be any value in listing each individual genset on the Licence. It would seem more logical to consider the facility as a single emission point as shown on Figure 1 of the Draft Licence Amendment Notice."*	The Delegated Officer considers this request reasonable, and has revised Table 2.2.1 to refer to the 45 MW temporary power station as opposed to 32 individual emission points.

Condition	Summary of Licence Holder comment	DWER response
	<u>Outstanding matters addressed by the Licensee:</u> • Total number of generators confirmed (32); • Figure provided showing location of generators, including emission points; • Confirmation that four (4) double-skinned diesel storage tanks will be installed	Amendment Notice updated as required.