Government of Western Australia
Department of Water and Environmental Regulation

Amendment Report

Application for Licence Amendment

Part V Division 3 of the *Environmental Protection Act 1986*

Licence Number	L9430/2024/1
Licence Holder	Onslow Iron Pty Ltd
ACN	649 012 395
File Number	APP-0028221
Premises	West Pilbara Iron Ore Project M08/480, M08/484, G08/88, L08/67, L08/68, L08/69 and L08/181 CANE WA 6710 As defined by the Premises maps attached to the Revised Licence
Date of Report	25 July 2025
Decision	Revised licence granted

Lauren Edmands

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SENIOR MANAGER, RESOURCE INDUSTRIES
Officer delegated under section 20 of the *Environmental Protection Act 1986*

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1. Decision summary

Licence L9430/2024/1 is held by Onslow Iron Pty Ltd (Licence Holder) for the West Pilbara Iron Ore Project (the Premises), located approximately 45 km south-west of Pannawonica.

This Amendment Report documents the assessment of potential risks to the environment and public health from proposed changes to the emissions and discharges during the operation of the Premises. As a result of this assessment, Revised Licence L9430/2024/1 has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this Amendment Report, the department has considered and given due regard to its Regulatory Framework and relevant policy documents which are available at https://dwer.wa.gov.au/regulatory-documents.

2.2 Amendment summary

On 26 March 2025, the Licence Holder submitted an application (MinRes 2025a) to the department to amend Licence L9430/2024/1 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The following amendments are being sought:

- increase in Category 54 design capacity (including treated effluent and reverse osmosis (RO) brine). This increase is due to the inclusion of the Central Processing Facility (CPF) wastewater treatment plant (WWTP) (15 m^3/day) constructed under W6769/2023/1 and RO plant constructed under W6840/2023/1 – refer to section 2.2.1;
- increase in Category 64 design capacity. This increase is due to the inclusion of the Mt Stuart Rd (MSR) putrescible landfill constructed under W5172/2021/1 – refer to section 2.2.2;
- inclusion of category 73 and infrastructure constructed under W6769/2023/1 and W6840/2023/1 – refer to section 2.2.3.

This amendment is limited only to changes to Category 54, 64 and 73 activities from the existing Licence. No changes to Category 5 and 77 have been requested by the Licence Holder.

Table 1 below outlines the proposed changes to the existing Licence.

Table 1: Design capacity changes

Category	Current design capacity	Proposed design capacity	Description of proposed amendment
5	7,000,000 tonnes per annual period	No change	N/A
54	250 m^3/day of treated effluent, plus 164 m^3/day of RO brine	265 m^3/day of treated effluent, plus 178 m^3/day of RO brine	Increase of 15 m^3/day of treated effluent – CPF WWTP constructed under W6769/2023/1 Increase of 14 m^3/day of RO brine (RO plant constructed under W6840/2023/1)
64	9,000 tonnes per annual period	12,675 tonnes per annual period	Increase of 3,675 tonnes per year for the MSR putrescible landfill constructed under W5172/2012/1

Category	Current design capacity	Proposed design capacity	Description of proposed amendment
73	N/A	1,552 m^3 in aggregate	Inclusion of Category 73 infrastructure constructed under W6769/2023/1 and W6840/2023/1 and other additional storage tanks within the premises – refer to section 2.2.3
77	630,720 tonnes per annual period	No change	N/A

2.2.1 CPF WWTP and RO plant

The Licence Holder has requested to increase the design capacity of category 54 from 250 m^3/day of treated effluent to 265 m^3/day of treated effluent with the inclusion of the 15 m^3/day sequence batch reactor (SBR) WWTP (referred to as the CPF WWTP) constructed under W6769/2023/1.

The Environmental Compliance Report (ECR) for the CPF WWTP was received by the department on 16 December 2024 (MinRes 2024a).

The Licence Holder has requested to increase the RO brine volume via irrigation from 164 m^3/day to 178 m^3/day, with the inclusion of the RO plant constructed under W6840/2023/1. The RO plant has the capacity to produce up to 14 m^3/day of RO reject. The RO permeate water is stored in the treated water/permeate tank for disinfection and distributed to the CPF and associated non process areas. RO reject water is transferred to the irrigation tank of the CPF WWTP prior to irrigation to the 2.16 hectare (ha) irrigation spray field.

An ECR which included the RO plant was received by the department on 16 December 2024 (MinRes 2024b).

The Licence Holder provided Environmental Commissioning Reports (MinRes 2025d and MinRes 2025e) to the department on 11 April 2025 for the CPF WWTP and RO plant.

Table 2 shows the effluent results from the WWTP during the commissioning period (January – March 2025).

The RO reject Total Dissolved Solids (TDS) is anticipated to be below 2,000 mg/L. The average TDS concentration when combined with treated effluent has indicated concentrations ranging between 570 mg/L to 620 mg/L.

Water quality parameters expected from the RO reject as determined during RO simulations of the RO Plant at the CPF WWTP are provided in Table 3.

Table 2: Effluent monitoring results

	Parameter and unit									
	BOD (mg/L)	**Total Nitrogen (mg/L)**	**Total Phosphorus (mg/L)**	***E.coli* (cfu/100 mL)**	**Residual Chlorine (mg/L)**	**pH (pH units)**	**TSS (mg/L)**	**TDS (mg/L)**	**SAR**	**EC (µS/cm)**
Expected criteria	**<20**	**<30**	**<8**	**<1,000**	**0.2-2.0**	**6.5-8.5**	**<30**	**-**	**-**	**-**
10/03/2025	5.6	3.1	0.56	<10	-	-	<5	420	1.9	710
05/03/2025	**24**	21	3.6	<10	-	-	**30**	500	2.5	880
26/02/2025	13	5.9	0.95	<10	-	-	<5	460	2.1	770
19/02/2025	7.6	19	2.4	920	0.3	7.32	7	500	-	-
09/02/2025	19	16	2.2	<10	-	-	8	480	2.4	750
03/02/2025	7.1	**39**	5	<10	1.4	7.85	17	760	5.5	1,300
27/01/2025	9.4	28	3.5	<10	1.5	7.84	13	560	3.9	1,100
21/01/2025	**27**	14	3.2	500	-	-	15	620	3.6	950
13/01/2025	15	11	4.2	<10	1.05	7.56	24	570	-	-

Yellow highlight denotes exceedances of criteria

Table 3: RO simulation data

Analyte (mg/L)	Low range	Upper range
Hardness (CaCO3)	407.3	489.9
Ca	59.7	71.8
Mg	63.0	75.8
Na	110.8	132.7
K	17.0	20.3
CO3	5.2	7.7
HCO3	528.3	633.8
SO4	39.7	47.7
Cl	173.7	208.7
F	1.0	1.2
NO3	20.6	24.6
PO4	0.0	0.0
OH	0.0	0.0
SiO2	124.1	149.1
B	0.0	0.0
CO2	6.02	6.02
NH3	0.0	0.0
TDS	1,142.92	1,373.38
pH	8.09	8.17

To allow for fluctuations in the raw water TDS levels, the Licence Holder seeks approval for a maximum TDS concentration of up to 2,500 mg/L. *MinRes 2025a* states the proposed TDS value is below the ANZECC & ARMCANZ 2000 guidelines for tolerant crops (3,015 to 5,159 mg/L) and is therefore not expected to have a detrimental impact on vegetation health. Additionally, ANZECC & ARMCANZ 2000 indicates that no adverse effects to beef cattle are expected with TDS concentrations in drinking water ranging between 0-4,000 mg/L.

Blended effluent quality and soil sodicity risks

The blended effluent consists of a maximum 15 m^3/day of treated effluent; and 14 m^3 of RO brine, for a maximum combined irrigation discharge total of up to 29 m^3/day.

Irrigation using blended effluent has the potential to modify major cation ratios in the receiving soil, causing loss of soil structure and dispersion. This can occur where the irrigation water being discharged has a high proportion of sodium ions in relation to calcium and magnesium ions (commonly referred to as the Sodium Adsorption Ratio (SAR)), as well as a low electrical conductivity (EC).

SAR is an indicator of the suitability of water for use in irrigation. Generally, the higher the SAR the less suitable the water is for irrigation, depending on the water's EC. The *Australian and New Zealand Guidelines for Fresh and Marine Water Quality, Volume 3, Primary Industries* (ANZECC 2000) describes a relationship between SAR and EC that can be used to determine the suitability of an effluent for irrigation, whereby a high SAR may be tolerable if effluent also

has a high EC. The relationship between SAR, EC and soil structural impacts is shown in Figure 1.

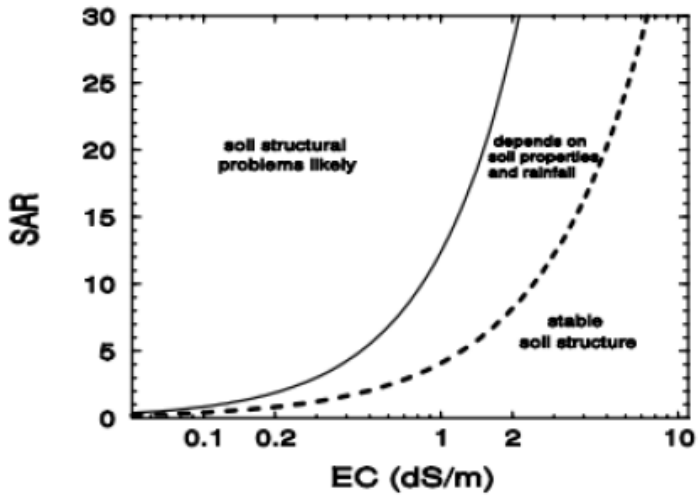

Figure 1: Relationship between SAR and EC of irrigation water for prediction of soil structural stability

A calculation for determining the SAR of an effluent is provided in the guideline document *Use of Effluent by Irrigation* (DEC NSW 2004), as depicted below:

$$SAR = \frac{Na^{+}}{\left[\frac{\left(Ca^{2+} + Mg^{2+}\right)}{2}\right]^{0.5}}$$

Where:
Na = sodium ion concentration (conc.) (meq/L) = (mg/L in effluent) / 22.99
Ca = calcium ion conc. (meq/L) = (mg/L in effluent) / (40.08 x 0.5)
Mg = magnesium ion conc. (meq/L) = (mg/L in effluent) / (24.32 x 0.5)

MinRes 2025a states the SAR of the blended treated effluent in three samples analysed during environmental commissioning ranged between 3.6 and 5.5. The EC ranged between 950 µS/cm and 1,300 µS/cm (0.95 dS/m – 1.3 dS/m), indicating a low water salinity rating. The relationship of SAR and EC of the blended effluent is considered marginal quality for irrigation purposes for predicted soil structure stability given the soil type at the irrigation area.

Sizing of the irrigation spray field

Blended effluent from the CPF WWTP is disposed of by spray irrigation to the 2.16 ha irrigation spray field.

The spray field design has considered the nutrient application criteria for Risk Category B soil type (WQPN 22). Expected nutrient loading rates are shown in Table 4.

Table 4: Nutrient application criteria

Maximum Treated Effluent Rate + Volume of additional effluent	Expected performance	Application rate for Category B soil[1]	Expected annual nutrient loading rate	Recommended Minimum Sprayfield sizing
15 m^3/day of treated effluent + 14 m^3/day of RO brine	30 mg/L Total Nitrogen	180 kg/ha/year	76.0 kg/ha/year	0.91 ha
	8 mg/L Total Phosphorus	20 kg/ha/year	20.3 kg/ha/year	2.19 ha

Note 1: WQPN 22 – Table 2: Nutrient application criteria to control eutrophication risk

Table 4 shows that the recommended minimum sprayfield sizing for the CPF WWTP is 2.19 ha. The existing irrigation spray field is sized at 2.16 ha. Total Phosphorus concentrations during environmental commissioning (Table 2) indicated concentrations ranging between 2.4 mg/L and 5.0 mg/L. At these values the minimum area required would be below 2.16 ha.

Refer to section 3 for the risk assessment of the CPF WWTP and RO plant.

RO brine reject used for dust suppression

The Licence Holder also seeks approval to use RO brine reject for dust suppression water in already disturbed areas as required. If required for dust suppression, RO reject water will be pumped to water storage infrastructure that may include turkey nest dams and/or be contained in storage tanks, and will be applied only to pre-disturbed locations throughout the prescribed premises.

Refer to section 3 for the risk assessment of this discharge.

2.2.2 MSR Landfill

The Licence Holder seeks approval for the operation of the MSR Landfill for up to 3,675 tonnes per year.

The MSR Landfill assessed under W5172/2012/1 has been designed to include a maximum of 74 trenches.

The ECR for the MSR Landfill was received by the department on 25 February 2025 (MinRes 2025c). A total of five landfill trenches have been constructed with the approximate trench dimensions for each trench being:

- 5 m wide (at the base of the trench – 11 m wide at the surface)
- 30 m length
- 3 m depth.

The department notes the due to safety concerns, the walls of the trenches were required to be benched out which brought the total width of the trench at the surface level to 11 m. *MinRes 2025c* states that the allotment for waste disposal is only within the 5 m wide trench, waste will not be dumped on the benches.

The MSR Landfill will accept the following waste types (MinRes 2025g) as defined by the *Landfill Definitions* (DWER 2019):

- Clean Fill
- Inert Waste Type 1
- Inert Waste Type 2 (plastics)
- Putrescible Waste
- Treated soils from the bioremediated facility (Uncontaminated Fill)

To note the Licence Holder applied for Category 89. The existing Licence L9430/2024/1 is authorised for Category 64 activities. Under this amendment the assessed production / design capacity for Category 64 has increased from 9,000 tonnes per annual period to 12,675 tonnes per annual period to include the MSR Landfill constructed under W5172/2012/1.

W5172/2012/1 expires on 31 December 2025. As not all trenches have been constructed the department has transferred the construction requirements from W5172/2012/1 to the Licence under this amendment.

Refer to section 3 for the risk assessment of the MSR Landfill.

2.2.3 Bulk Fuel Facilities

Bulk diesel storage tanks have been installed at the Premises as shown in Table 5.

Table 5: Bulk fuel storage at the Premises

Project Area	Details	Total storage (m^3)
CPF – Mine Haulage Maintenance Facility fuel fam	2x 200 kL double walled, self-containing diesel tanks (ECR received 25 February 2025 – MinRes 2025b)	400
CPF – Mine Haulage Maintenance	3 x 74 kL lube oil tanks 2x 76 kL waste oil tanks	374
CPF – Non-Process Infrastructure (NPI) fuel farm	3x 200 kL double walled, self-containing diesel tanks (ECR received 25 February 2025 – MinRes 2025b)	600
Power Station	1x 2,000 L self bunded lube oil tank 1x 11,000 L self bunded waste oil tank	13
Accommodation Resort	1x 110 kL double walled, self-containing diesel tank for the backup generators (ECR received 16 December 2024 – MinRes 2024b)	110
Airport fuel storage	1x 55,000 L Jet A1 storage tank, horizontal double skinned tank	55
Total Bulk Storage		**1,552**

Environmental Commissioning Reports (MinRes 2025d and MinRes 2025f) for the CPF Bulk Fuel Facility were provided to the department on 11 April 2025 and 27 May 2025.

Refer to section 3 for the risk assessment of the Bulk Fuel Facilities.

2.2.4 Other amendments

On 31 October 2024 the Licence Holder submitted an application to amend L9430/2024/1. Among other amendments they sought the addition of contingency for stormwater overflow to the environment following rainfall events.

L9430/2024/1 Amendment Report - granted 17 April 2025 states that pit stormwater will be stored for future use as dust suppression. When direct discharge is required, in-pit stormwater will be discharged to nearby creeks.

Flow through sediment basins are to be constructed within the Kens Bore infrastructure area during December 2024 and sediment basins are also proposed to be constructed around the Upper Cane NPI area, Upper Cane Run of Mine (ROM) and Cardo Bore East (CBE) ROM. The CBE sediment basin, and the adjacent bund provide settlement of sediments before the water is released into the downstream environment.

Proposed indicative discharge locations were included on the Licence L9430/2024/1 through previous Figures 8 and 9 (now Figures 10 and 11), though they weren't linked to associated conditions.

Under this amendment, the department has conducted a risk assessment of this discharge – refer to section 3.

2.3 *Environmental Protection and Biodiversity Conservation Act 1999*

The West Pilbara Iron Ore Mine and Rail Project was deemed a Controlled Action (Referral No. 2009/4706) for potential impacts on listed threatened species and communities (Matters of National Environmental Significance (MNES)). As approved by this approval, three Management Plans for MNES species (Pilbara Olive Python, Northern Quoll and Pilbara Leaf-nosed Bat) and an offset strategy have been developed.

2.4 Part IV of the EP Act

The Project – Stage 1 Mine Area was assessed by the Environmental Protection Authority (EPA) and approved under MS 1027.

Conditions under MS 1027 relevant to this assessment include:

- Condition 6 Troglofauna – relating to defining the extent of the troglofaunal habitat.
- Condition 8 Groundwater Drawdown – ensuring that the dewatering of groundwater for the implementation of the proposal does not cause the loss or decline in condition and health of the groundwater dependent vegetation.
- Condition 9 Surface Water and Significant Vegetation – ensuring that changes to surface water flows related to the proposal do not adversely affect any significant vegetation community, including Mulga vegetation.
- Condition 11 Trench Management relating to open trenches associated with construction and the burial of pipelines and/or cables.

In November 2020 an amendment via a section 46 application under the EP Act was sought. As a result, MS 1203 was granted.

Conditions under MS 1203 relevant to this assessment include:

- Condition 7 Vegetation and Flora – relating to:
    - Surveys, restricting access and minimising disturbance of the *Triodia pisoliticola* Priority Ecological Community (PEC).
    - Monitoring impacts due to dust deposition, saline water application for dust control, changed surface hydrology, weeds, fire, and feral species on the *Triodia pisoliticola* PEC.
- Condition 12 Terrestrial Fauna ensuring there is no adverse impact to the structural integrity, microclimate or capacity to support ghost bats (*Macroderma gigas*) of the seven bat caves; and to avoid, where possible, and otherwise minimise direct and indirect impacts to the ghost bat within the development envelope.
- Condition 14 Aboriginal Cultural Heritage to avoid, where practicable / possible, and otherwise minimise direct and indirect disturbance to Aboriginal cultural heritage sites within and surrounding the development envelope; and ongoing consultation and engagement with Traditional Owners.
- Condition 15 Greenhouse Gas Emissions.

Requirements of MS 1027 and MS 1203 are not re-assessed in this Amendment Report and will not be duplicated as conditions on the licence.

3. Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway and impact to receptors in accordance with the *Guideline: Risk assessments* (DWER 2020).

To establish a Risk Event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission.

3.1 Source-pathways and receptors

3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises operation which have been considered in this Amendment Report are detailed in Table 6 below. Table 6 also details the proposed control measures the Licence Holder has proposed to assist in controlling these emissions, where necessary.

Table 6: Licence Holder controls

Emission	Sources	Potential pathways	Proposed controls
Construction (W5172/2012/1 Amendment Report – granted 23 May 2023)			
Dust	Excavation works and vehicle movements associated with trench construction	Air / windborne pathway	• Dust suppression water will be applied as required. • Excavated overburden material will be placed around the edge of the landfill trenches. • After the initial five trenches have been constructed, no more than two trenches per waste type to be open at any one time.
Noise			• Noise attenuation methods will be considered for plant and relevant equipment. • Mobile equipment will be operated and serviced in line with the manufacturer's specifications. • Maximum sound power levels are specified for equipment.
Operation			
Category 54 – CPF WWTP			
Sewage, partially treated sewage, RO brine, and/or nutrient rich treated effluent	Overtopping of holding tanks	Discharges to land	• Units enclosed. • Units maintained and operated in accordance with manufacturer's specifications. • Volumetric flow meters maintained on WWTP outlet to the irrigation spray field. • Sludge produced by the WWTP collected in a sludge storage tank and collected by controlled waste contractors for disposal offsite in accordance with the *Environmental Protection (Controlled Waste) Regulations 2004*.
	Pipeline leaks / spills	Discharges to land	• Irrigation discharge pipelines are impermeable and will be maintained.
Blended wastewater (treated effluent and RO brine), nutrient rich	Irrigation to spray field	Discharges to land	• Irrigation spray field fenced and signposted. • Irrigation managed to prevent ponding and pooling of the blended wastewater on the ground surface.

Emission	Sources	Potential pathways	Proposed controls
treated effluent			
RO brine reject used for dust suppression			
RO brine reject water	Water storage infrastructure (i.e. turkey nest dams and/or storage tanks)	Direct discharges to land Dust suppression	• TDS of RO brine will be monitored. • Dust suppression water only to be used in already disturbed areas.
Category 64 – MSR Landfill (MinRes 2025a and MinRes 2025c)			
Dust	Disposal of waste, decomposition of wastes, tipping, application of landfill cover, vehicle movement	Air / windborne pathway	• Only one putrescible trench and one inert trench to be open (active) at any one time. • Landfill trenches a minimum distance of 10 m apart. • Apply dust suppression water when required (particularly during digging of new landfill trenches and covering of waste) to ensure generation of visible dust is minimised.
Odour			• Waste to be covered weekly with enough clean fill or other dense, inert incombustible material. • Landfill is signposted. • Only one putrescible trench and one inert trench to be open (active) at any one time. • Tipping area will not be greater than 30 m in length.
Windblown waste			• Tipping area will not be greater than 30 m in length. • Only one putrescible trench and one inert trench to be open (active) at any one time. • Waste to be dumped on the base of the landfill trench and not on the benches. • Any windblown waste will be collected and returned to the landfill at least monthly. • Waste to be covered weekly with enough clean fill or other dense, inert incombustible material. • Boundary fence and lockable access gate.

Emission	Sources	Potential pathways	Proposed controls
Fire / smoke			• Tipping area will not be greater than 30 m in length. • Waste to be covered weekly with enough clean fill or other dense, inert incombustible material. • Landfill trenches a minimum distance of 10 m apart.
Leachate contaminate stormwater		Overland runoff / infiltration	• Base of landfill trenches to have a minimum separation distance of 3 m between the base of trench and highest seasonal groundwater level. • Base of each trench consisting of a clay layer. • A bund has been installed around the perimeter of each trench to reduce stormwater runoff interacting with any exposed waste. • A rollover bund has been incorporated into the design of the trench to further reduce any stormwater ingress. • A perimeter exclusion bund has been constructed to prevent any surface scouring and sedimentation offsite. • A clean stormwater drain has been constructed on the outside of the bund to prevent clean stormwater ingress. • The landfill is graded from front to back to direct any stormwater to the rear of the facility to pool against the perimeter bund and settle any sediment prior to discharge against the bund.
Category 73 – Bulk fuel storage			
Hydrocarbon spill or discharge	Bulk fuel storage facilities	Discharges to land and path of flow	• Diesel tanks are double skinned tanks installed in accordance with AS 1940:2017. • Leakage monitoring probe system on diesel fuel tanks and Jet A1 tank. • Operated in accordance with the *Dangerous Goods Safety Act 2004*. • Spill kits made available at the fuel / chemical locations and employees trained in their use. • Regular inspections of hydrocarbon storage areas.

Emission	Sources	Potential pathways	Proposed controls
Contingency in-pit stormwater discharges			
In-pit stormwater	Contingency discharge of in-pit stormwater when not required for dust suppression	Discharges to land / surface water (nearby creeks)	*L9430/2024/1 Amendment Report – granted 17 April 2025* states - • Discharge locations will be in places with minimal erosion risk and natural stormwater flows, as well as outside designated avoidance areas, such as major cultural heritage areas. • Total Suspended Solids will be measured in in-pit stormwater samples before it is released directly into the environment. • Surface water quality, quantity and flows will be monitored at locations upstream and downstream of project disturbance areas. • A diffuser will be affixed to the end of the discharge pipeline to further lessen the impact of scouring. • Discharge flow rates to the environment from the in-pit pump out of stormwater will be controlled to avoid scouring of the receiving creek beds. • Flow through sediment basins are to be constructed which provide settlement of sediments before the water is released into the downstream environment.

3.1.2 Receptors

In accordance with the *Guideline: Risk assessments* (DWER 2020), the Delegated Officer has excluded employees, visitors and contractors of the Licence Holder's from its assessment. Protection of these parties often involves different exposure risks and prevention strategies, and is provided for under other state legislation.

Table 7 below provides a summary of potential environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises *(Guideline: Environmental siting* (DWER 2020)).

Table 7: Environmental receptors and distance from prescribed activity

Environmental receptors	Distance from prescribed activity
Red Hill Pastoral Lease Land is used for cattle grazing	Project occurs on Red Hill Pastoral Lease.
Rights in Water and Irrigation Act 1914	The Premises is located within the Proclaimed Pilbara Groundwater Area and Surface Water Area
Groundwater Dependent Ecosystems (GDEs) Studies conducted by Astron Environmental (2010b; 2011 and 2012) determined that vegetation in these areas have a moderate to high dependence on groundwater, comprising of mainly Melaleuca and Eucalyptus species	GDEs have been identified in two areas proximal to the Kens Bore Deposit, to the southeast and southwest of the open pit within the Red Hill Creek. **No dewatering activities associated with this application**
Groundwater The groundwater quality in the Project area is mostly fresh. Salinities range from 200 to 1,500 mg/L TDS with some brackish groundwater pockets occurring in the fractured bedrock aquifers. The water quality of chemically deposited (channel iron and calcrete) aquifers, salinity ranges between 650 and 900 mg/L TDS, with the superficial generally recording lower salinities (240 to 530 mg/L TDS) and bedrock aquifers recording higher salinities (approximately 1,100 mg/L). Recent depth to groundwater recorded in the bore closest to the CPF spray field 17.487 m BTOC in January 2024 to 21.379 m BTOC in December 2024 (monitoring bore RHMB020m1), located approximately 470 m to the northeast of the CPF irrigation spray field. Recent depth to groundwater recorded in the bore closest to the MSR landfill facility ranged from 18.69 m below top of casing (BTOC) in June 2024 to 32.53 m BTOC in January 2024 (monitoring bore MSRPZ5-1), located approximately 650 m to the south of the landfill facility boundary.	Depth to groundwater in the vicinity of the MSR landfill is approximately 18 m below top of casing (BTOC) and depth to groundwater in the vicinity of the CPF spray field is approximately 17 mBTOC
Surface water bodies The Project Area is intersected by the ephemeral **Red Hill Creek** and **Cane River**, tributaries to the Red Hill Sub-Catchment (of the larger Robe River Catchment) and Cane River Catchments respectively that flow from the Hamersley Ranges Cane River flows intermittently in a north westerly direction There are no permanent surface water features in the area	The CPF spray field is located in the catchment area for Red Hill Creek. The nearest portion of the CPF spray field is approximately 645 m from an incised portion of the braided channel system formed by Red Hill Creek, and over 1 km from its current main channel Cane River is located approximately 1 km south of the MSR Landfill facility A minor drainage line occurs approximately 40 m south of the southern boundary fence line

Environmental receptors	Distance from prescribed activity
Priority Ecological Communities (PEC) / Priority Flora *Triodia pisoliticola* (previously Triodia sp. Robe River) assemblages of mesa of the West Pilbara (Priority 3)	Identified within the premises boundary **Managed under MS 1203 and EPBC 2009/4706**
Threatened / Priority Fauna Northern Quoll (*Dasyurus hallucatus*) – Endangered Pilbara Olive Python (*Liasis olivaceaus barroni*) – Vulnerable Pilbara Leaf-nosed Bat (*Rhinonicteris aurantia*) – Vulnerable Ghost Bat (*Macroderma gigas*) – Vulnerable Western Pebble-mound Mouse (*Pseudomys chapmani*) – Priority 4.	Within project area **Ghost Bat managed under MS 1203** **MS 1027 and EPBC 2009/4706**
Cultural receptors	**Distance from prescribed activity**
Aboriginal Sites and Heritage Places Ethnographic and archaeological surveys completed. As a result of ongoing consultation, several s18 applications received Ministerial Consent with the endorsement of Robe Kuruma Marthudunera People (RRK) to disturb previously identified sites and places within and adjacent to the Project. Consultation with RRK is ongoing to identify any future requirements	Registered heritage sites are within the Project area.

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for those emission sources which are proposed to change and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are incomplete they have not been considered further in the risk assessment.

Where the Licence Holder has proposed mitigation measures/controls (as detailed in Section 3.1), these have been considered when determining the final risk rating. Where the Delegated Officer considers the Licence Holder's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the licence as regulatory controls.

Additional regulatory controls may be imposed where the Licence Holder's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 8.

The Revised Licence L9430/2024/1 that accompanies this Amendment Report authorises emissions associated with the operation of the Premises.

The conditions in the Revised Licence have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Table 8. Risk assessment of potential emissions and discharges from the Premises during operation

Risk Event					**Risk rating[1]** **C = consequence** **L = likelihood**	**Licence Holder's controls sufficient?**	**Conditions[2] of licence**	**Justification for additional regulatory controls**
Source/Activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Licence Holder's controls**				
Construction								
Excavation works and vehicle movements associated with trench construction	Dust	Airborne / windborne pathway causing impacts to health and amenity	Surrounding vegetation and threatened flora / fauna species	Refer to Section 3.1	C = Slight L = Unlikely **Low Risk**	Y	N/A	General provisions of the EP Act apply
	Noise			Refer to Section 3.1	C = Slight L = Unlikely **Low Risk**	Y	N/A	*Environmental Protection (Noise) Regulations 1997* applies

Risk Event					Risk rating[1] C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions[2] of licence	Justification for additional regulatory controls
Source/Activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Licence Holder's controls**				
Operation								
Category 54 – CPF WWTP								
Operation of the CPF WWTP	Sewage, partially treated sewage, RO brine, and/or nutrient rich treated effluent	Overtopping of sewage holding tanks resulting in sewage discharge Soil contamination, inhibiting vegetation growth and survival	Soil and vegetation adjacent to area of spill	Refer to Section 3.1	C = Minor L = Unlikely **Medium Risk**	Y	The following conditions of Licence L9430/2024/1 updated to include the CPF WWTP and/or CPF WWTP Spray Field: • Condition 3 – Operational requirements • Condition 4 – Waste acceptance criteria • Condition 5 – Waste processing	N/A
		Pipeline leaks and spills resulting in sewage discharge Soil contamination inhibiting vegetation growth and survival	Soil and vegetation at area of rupture	Refer to Section 3.1	C = Slight L = Unlikely **Low Risk**	Y	Condition 3 - Operational requirements for the Irrigation pipelines	N/A
Irrigation to spray field	Blended wastewater (treated effluent and RO brine), nutrient rich treated effluent	Direct planned discharges to spray field Soil contamination and impacts to groundwater quality Seepage to soil potentially causing loss of soil structure and dispersion	Soil and native vegetation Groundwater quality	Refer to Section 3.1	C = Minor L = Possible **Medium Risk**	Y	The following conditions of Licence L9430/2024/1 updated to include the CPF WWTP and/or CPF WWTP Spray Field: • Condition 3 - Operational requirements • Condition 4 – Waste acceptance criteria	N/A

Risk Event					Risk rating[1] C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions[2] of licence	Justification for additional regulatory controls
Source/Activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Licence Holder's controls**				
							• Condition 5 – Waste processing • Condition 6 – Authorised discharge point • Condition 7 – Irrigation emission limits • Condition 9 – Emissions and discharge monitoring • Condition 15 – Reporting requirements	
RO brine reject used for dust suppression								
Discharge of RO brine reject water	Over-application to pre-disturbed areas with RO brine for dust suppression Discharge of RO brine to vegetation as a result of turkeys nest overtopping Discharge of brine with higher concentration than suspected because of malfunction of the RO plant Run off post rain	Direct discharges to land surrounding the turkeys nest affecting vegetation health Runoff affecting vegetation Direct runoff of brine from areas where brine has been applied for dust suppression affecting vegetation Spray drift to soil, producing surface salt formation	Surrounding vegetation and threatened flora / fauna species Surface water bodies	Refer to Section 3.1	C = Minor L = Unlikely **Medium Risk**	Y	Condition 5 – Waste processing for RO brine with a TDS limit of 3,500 mg/L Condition 6 of Licence L9430/2024/1 updated to authorise the discharge of RO brine for dust suppression within the prescribed premises boundary	Condition 7 of MS 1203 applies

Risk Event					Risk rating[1] C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions[2] of licence	Justification for additional regulatory controls
Source/Activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Licence Holder's controls**				
Category 64 – MSR Landfill								
Disposal of waste, decomposition of wastes, tipping, application of landfill cover, vehicle movement	Dust	Air/windborne pathway causing impacts to heath and amenity	Surrounding vegetation and threatened flora / fauna species	Refer to Section 3.1	C = Slight L = Unlikely **Low Risk**	Y	N/A	General provisions of the EP Act apply
	Odour			Refer to Section 3.1	C = Slight L = Unlikely **Low Risk**	Y	The following conditions of Licence L9430/2024/1 updated to include the MSR Landfill: • Condition 3: Operational requirements • Condition 4 – Waste acceptance criteria	N/A
	Windblown waste		Surrounding vegetation and threatened flora / fauna species	Refer to Section 3.1	C = Slight L = Possible **Low Risk**	Y	The following conditions of Licence L9430/2024/1 updated to include the MSR Landfill: • Condition 3: Operational requirements • Condition 4 – Waste acceptance criteria	N/A
	Fire / smoke		Surrounding vegetation and threatened flora / fauna species	Refer to Section 3.1	C = Minor L = Rare **Low Risk**	Y	The following conditions of Licence L9430/2024/1 updated to include the MSR Landfill: • Condition 3: Operational requirements • Condition 4 – Waste acceptance criteria	N/A

Risk Event					Risk rating[1] C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions[2] of licence	Justification for additional regulatory controls
Source/Activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Licence Holder's controls**				
	Leachate / contaminate stormwater	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality Infiltration into soil and groundwater	Nearby surface water courses Underlying groundwater 13-35 mbgl Surrounding vegetation and threatened flora / fauna species	Refer to Section 3.1	C = Moderate L = Unlikely **Medium Risk**	Y	The following conditions of Licence L9430/2024/1 updated to include the MSR Landfill: • Condition 3: Operational requirements • Condition 4 – Waste acceptance criteria Under this amendment Condition 1 – Construction requirements for the MSR Landfill have been included.	W5172/2012/1 construction requirements for the MSR Landfill transferred to the Licence under this amendment
Category 73 – Bulk fuel storage								
Bulk fuel storage facilities	Hydrocarbon spill or discharge	Direct discharge and path of flow causing contamination of soils and vegetation	Soils and vegetation at site of spill Surface water bodies Groundwater	Refer to Section 3.1	C = Moderate L = Unlikely **Medium Risk**	Y	Condition 3 of Licence L9430/2024/1 updated to include operational requirements for the Bulk Fuel Facilities	The *Dangerous Goods Safety Act 2004* and associated Regulations will apply during all operations, and are administered by the Department of Local Government, Industry Regulation and Safety. The *Environmental Protection (Unauthorised Discharges) Regulations 2004* also apply.

Risk Event					Risk rating[1] C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions[2] of licence	Justification for additional regulatory controls
Source/Activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Licence Holder's controls**				
Contingency in-pit stormwater discharges								
Contingency discharge of in-pit stormwater when not required for dust suppression	In-pit stormwater	Discharges to land / surface water (nearby creeks) impacting surface water quality Increased sedimentation at discharge locations	Surface water bodies	Refer to Section 3.1	C = Moderate L = Unlikely **Medium Risk**	Y	Condition 6 of Licence L9430/2024/1 updated to include this locations as authorised discharge points	N/A

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk assessments* (DWER 2020).

Note 2: Proposed Licence Holder's controls are depicted by standard text. **Bold and underline text** depicts additional regulatory controls imposed by department.

4. Consultation

Table 9 provides a summary of the consultation undertaken by the department.

Table 9: Consultation

Consultation method	Comments received	Department response
Local Government Authority (Shire of Ashburton) advised of proposal on 21 May 2025	No comments received.	N/A.
Licence Holder was provided with draft amendment on 10 July 2025	The Licence Holder provided comments on 23 July 2025 and waived the remaining comment period. Refer to Appendix 1.	Refer to Appendix 1.

5. Conclusion

Based on the assessment in this Amendment Report, the Delegated Officer has determined that a Revised Licence will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

5.1 Summary of amendments

Table 10 provides a summary of the proposed amendments and will act as record of implemented changes. All proposed changes have been incorporated into the Revised Licence as part of the amendment process.

Table 10: Summary of licence amendments

Condition no. / other	Proposed amendments
DWER file number	Updated to reference the Environment Online internal number
Prescribed premises category description	Category 54 design capacity increased Category 64 design capacity increased Inclusion of Category 73
Conditions 1-5	Rearranged so that construction and operation requirements appear first followed by waste acceptance and processing requirements
Condition 1, Table 1 (previous condition 3)	Administrative updates Inclusion of construction requirements for the additional trenches yet to be constructed at the MSR Landfill (assessed under W5172/2012/1)
New condition 2	Inclusion of this condition to allow for the infrastructure to be operated under this Licence following submission of the compliance document

Condition no. / other	Proposed amendments
Condition 3, Table 2 (previous condition 6)	Administrative updates Inclusion of the Category 5 design capacity limit Inclusion of operational requirements for the following: • CPF WWTP and Spray Field • MSR Landfill • Bulk Fuel Facilities Inclusion of Category 77 production capacity limit
Condition 4, Table 3 (previous condition 1)	Administrative updates Sewage rate increased from 250 m^3/day to 265 m^3/day Removal of Special Waste Type 1 as a waste type allowed for disposal to the Kens Bore WRL Landfill and/or CBE WRL Landfills Inclusion of waste type, rate and acceptance specification for the MSR Landfill
Condition 5, Table 4 (previous condition 2)	Process limits and specifications updated to stipulate the associated WWTP for sewage and RO brine; and to allow blended effluent to be disposed to the CPF WWTP Spray Field
Condition 6, Table 5 (previous condition 7)	Administrative updates Inclusion of the following as authorised discharge points: • CPF WWTP Spray Field • RO brine for dust suppression • In-pit stormwater contingency discharge following rainfall events
Condition 7, Table 6 (previous condition 8)	Inclusion of CPF WWTP irrigation emission limits for Total Nitrogen, Total Phosphorus and TDS
Condition 9, Table 7 (previous condition 7)	Inclusion of the CPF WWTP to the emissions and discharge monitoring
Condition 14 (previous condition 13)	Updated to reflect standard licence condition wording
Condition 15, Table 8 (previous condition 14)	Updated to reflect standard licence condition wording Administrative updates Updated to include a summary of any additional trenches constructed at the MSR Landfill Updated to include the total volumes and types of waste disposed of to all landfill facilities

Condition no. / other	Proposed amendments
Condition 16 (previous condition 15)	Licence Holder must maintain records, information etc. on the works conducted under condition 1
Definitions	Updated and/or removed as applicable
Schedule 1: Maps	Inclusion of new Figures 1, 3, 8 and 9 Removal of previous Figure 7

References

1. Australian and New Zealand Environment and Conservation Council (ANZECC) and Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) (ANZECC & ARMCANZ 2000) Australian and New Zealand Guidelines for Fresh and Marine Water Quality Guidelines.
2. Australian and New Zealand Environment and Conservation Council (ANZECC) 2000. *Australian and New Zealand Guidelines for Fresh and Marine Water Quality, Volume 3, Primary Industries*, Canberra, Australia.
3. Australian Standard (AS) 1940:2017 *The storage and handling of flammable and combustible liquids*.
4. Department of Environment and Conservation New South Wales (DEC NSW) 2004. *Environmental Guidelines: Use of effluent by irrigation*, Sydney, New South Wales
5. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
6. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
7. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.
8. DWER 2019, *Landfill Waste Classification and Waste Definitions 1996 (as amended 2019)* (Landfill Definitions), Joondalup, Western Australia.
9. L9430/2024/1 and Amendment Report granted 17 April 2025 available at https://www.der.wa.gov.au/our-work/licences-and-works-approvals/current-licences.
10. Mineral Resources Limited (MinRes) 2024a, *RE: Works Approval W6769/2023/1 – Construction Compliance Report, West Pilbara Iron Ore Project – Kens Bore (Category 54)*, dated 16 December 2024 (APP-0026970).
11. MinRes 2024b, *RE: Works Approval W6840/2023/1 – Construction Compliance Report, West Pilbara Iron Ore Project – Kens Bore (Category 54, 73)*, dated 16 December 2024 (APP-0026971).
12. MinRes 2025a, *Supporting Document Licence Amendment Application L9430/2024/1 West Pilbara Iron Ore Project*, Version Rev 0, 26/03/2025.
13. MinRes 2025b, *RE: Works Approval W6769/2023/1 – Construction Compliance Report, West Pilbara Iron Ore Project – Kens Bore (Category 5)*, dated 25 February 2024 (date incorrect should be 25 February 2025) (APP-0027658).
14. MinRes 2025c, *RE: Works Approval W5172/2012/1 – Construction Compliance Report, West Pilbara Iron Ore Project – Putrescible Landfill (Category 89)*, dated 25 February 2025 (APP-0027692).

15. MinRes 2025d, *RE: Works Approval W6769/2023/1 – Environmental Commissioning Report, West Pilbara Iron Ore Project – Kens Bore (Category 54, 73)*, dated 09 April 2025 (APP-0028536).
16. MinRes 2025e, *RE: Works Approval W6840/2023/1 – Environmental Commissioning Report, West Pilbara Iron Ore Project – Kens Bore (Category 54, 73)*, dated 09 April 2025 (APP-0028534).
17. MinRes 2025f, *RE: Works Approval W6769/2023/1 – Environmental Commissioning Compliance (Categories 5 & 73)*, dated 27 May 2025 (APP-0029237).
18. MinRes 2025g, *RE: L9430 licence amendment application – questions*, 27 June 2025.
19. *W5172/2012/1* available at https://www.der.wa.gov.au/our-work/licences-and-works-approvals/current-licences.
20. *W6769/2023/1* available at https://www.der.wa.gov.au/our-work/licences-and-works-approvals/current-licences.
21. *W6840/2023/1* available at https://www.der.wa.gov.au/our-work/licences-and-works-approvals/current-licences.
22. Water Quality Protection Note (WQPN) 22, *Irrigation with nutrient-rich wastewater*, Department of Water, July 2008.

Appendix 1: Summary of Licence Holder's comments on risk assessment and draft conditions

Condition	Summary of Licence Holder's comment	Department's response
Condition 1, Table 1 for the CBE WRL Landfills	The Licence Holder has requested that this also include Kens Bore WRL Landfill.	The department has not made the requested change. According to *L9430/2024/1 Amendment Report granted 17 April 2025* - • the CBE WRL Landfills have not yet been constructed hence construction and operational requirements were applied through conditions 1 and 3 of Licence L9430/2024/1 respectively. • Kens Bore WRL Landfill was constructed under W6769/2023/1, so only operational requirements have been applied through condition 3 of Licence L9430/2024/1.
Condition 1, Table 1 for the MSR Landfill	The Licence Holder has stated that the compliance report for the putrescible landfill identified safety concerns for the 5 m width of the trenches, benching was required with the width of each trench at the surface being approximately 11 m for safety requirements. The Licence Holder therefore requests removing the requirement of 5 m width per trench to allow benching of each trench. Similarly, they also request removing the number of trenches (74) allowed within the dedicated landfill area, as the number of trenches within the area will be dependent on width of each trench at the surface.	The department has made the following updates to the design and construction / installation requirements for the MSR Landfill from Table 1: • Landfill trenches to be ~~approximately 5 m in width,~~ 30 m long and 3 to 5 m deep. • ~~No more than 74 trenches may be constructed.~~

Condition	Summary of Licence Holder's comment	Department's response
Condition 1, Table 1 Condition 3, Table 2 Condition 4, Table 3	The Licence Holder has requested that reference to the Putrescible Landfill be updated to label it the Mt Stuart Rd (MSR) Landfill.	The department has made the requested change. The Licence and Amendment Report has been updated throughout to remove reference to the Putrescible Landfill and labelled as the MSR Landfill.