



Application for Licence Amendment

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

| | |
|-----------------------|--|
| Licence Number | L8308/2008/2 |
| Licence Holder | CITIC Pacific Mining Management Pty Ltd |
| ACN | 119 578 371 |
| File Number | DER2014/000430-2 |
| Premises | Sino Iron Project Mine Site Mining Tenements M08/123, M08/124, M08/125, M08/264, M08/265, M08/266, G08/54 and L08/126 MARDIE WA 6714 As defined by the Premises map attached to the Revised Licence |
| Date of Report | 01 February 2021 |
| Decision | Revised licence granted |

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MANAGER, RESOURCE INDUSTRIES

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

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1. Decision summary

Licence L8308/2008/2 is held by CITIC Pacific Mining Management Pty Ltd (Licence Holder) for the Sino Iron Project Mine Site (the Premises), located on mining tenements M08/123, M08/124, M08/125, M08/264, M08/265, M08/266, G08/54 and L08/126.

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 L8308/2008/2 has been granted.

The Revised Licence issued as a result of this amendment supersedes the existing Licence previously granted in relation to the Premises. The Revised Licence has been granted in a new format with existing conditions being transferred, but not reassessed, to the new format.

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 14 October 2020, the Licence Holder submitted an application (CPM 2020f) to the department to amend Licence L8308/2008/2 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act) with the following amendments being sought:

- Tailings Storage Facility (TSF) 2, Raise 4 up to a maximum embankment height of 66 mRL; and
- An increase in discharge of TSF water (decant and seepage) via emission point DC2 from 1 gigalitres per annum (GL/a) (previously approved under Licence L8308/2008/2 Amendment Notice 7) to 2 GL/a.

On 26 November 2020, the Licence Holder requested (CPM 2020c) that the department expedite the assessment of the 2 GL/a discharge through emission point DC2, for which this Amendment Report relates.

The assessment of TSF2, Raise 4 will be done under a separate licence amendment and Amendment Report.

This amendment is limited only to changes to Category 5 activities from the Existing Licence. No changes to the aspects of the existing Licence relating to Category 6, 12, 52, 54, 57, 64 and 73 have been requested by Licence Holder.

During this amendment the following changes have also been made:

- Licence updated to align with the current licensing format (refer also to Section 5.1).
- Administrative updates.
- Removal of construction requirements (previously condition 1.2.14) for DC1 and the TSF2 Raise 3 lift as these infrastructures have been constructed/installed:
 - Compliance documentation for DC1 was previously received on 24 November 2017. On 23 December 2020 the licence holder advised (CPM 2020d) that DC1 had been relocated approximately 150 m north of the approved location due to the construction of a haul road to the South West Waste Dump footprint.
 - Compliance documentation for TSF2 Stage 2 was received on 9 March 2018. The construction requirements under previous condition 1.2.14 for the TSF2 Raise 3 lift

for the finger drains, seepage trenches, pumps and groundwater monitoring bores were all installed as part of the TSF2 Stage 2 construction works. TSF2 Stage 2 operational requirements including embankment height and liner systems are all now covered under condition 8 (previous condition 1.2.8).

- Updated Premises map which shows the revised location of DC1.

2.2.1 TSF (decant and seepage) waters discharged via DC2

Process water with a total dissolved solids (TDS) concentration greater than 2,000 mg/L is not suitable for use within the processing plant due to the increased risk of corrosion to process circuit plant equipment.

The discharge of TSF decant and seepage water via emission point DC2 only occurs when:

- 1) TDS concentration is greater than 2,000 mg/L;
- 2) TSF decant and seepage water is surplus to operational dust suppression requirements; and
- 3) All other options for storage and/or reuse of TSF decant and seepage water have been exhausted.

Decant water is generally collected in the staging pond (located adjacent to the south-west corner of TSF2) prior to being pumped back to the processing plant for reuse. There is however capacity to send decant water to the seepage pond and through emission point DC2; and seepage to the staging pond if required (CPM 2020b).

Seepage water from TSF2 is collected in a series of finger drains which underly the TSF2 embankment and is directed via a series of drainage channels to a seepage pond (located adjacent to the north-west corner of TSF2). As the seepage water is generally high in salinity (typically ~4,500 to 6,800 mg/L) it can't be reused in the processing circuit so it is pumped directly to emission point DC2 by way of a 400 mm diameter high density polyethylene (HDPE) pipeline.

Refer to Figure 1 which outlines the TSF waters pathways.

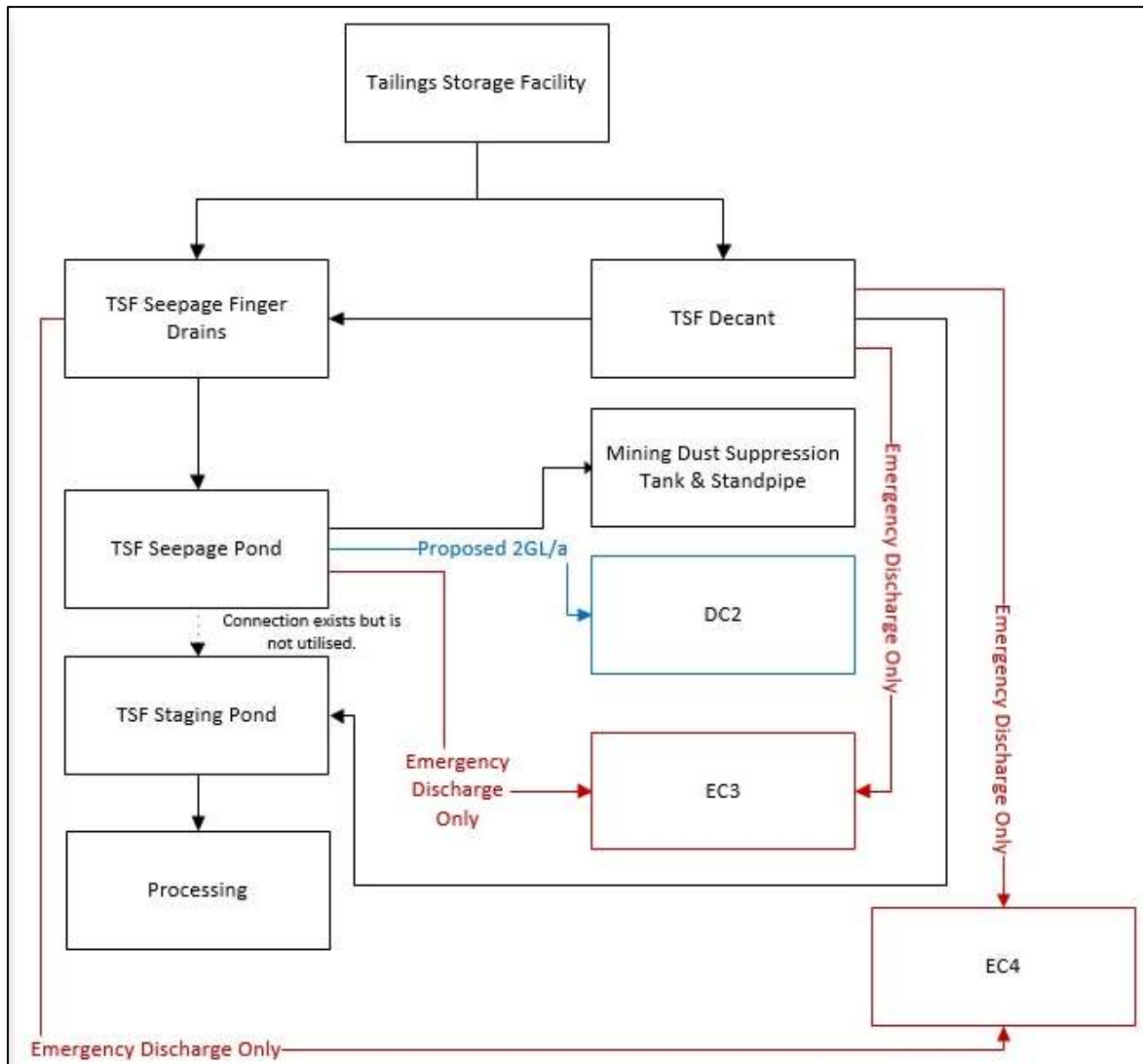


Figure 1: TSF waters pathway

2.2.2 Water quality

Under existing licence L8308/2008/2 emission point DC2 has limits for TDS (<50,000 mg/L) and pH (6.5-9). Tables 1 and 2 show the water quality data of the TSF decant and seepage water with a comparison to DuBoulay Creek at emission point DC2 and 500 m downstream (Licence L8308/2008/2 Amendment Notice 7, CPM 2020a, CPM 2020e, CPM 2019 and CPM 2018).

This data indicates that metal concentrations in discharge water are generally low, and that at the proposed discharge rate of 2 GL/a, the mass of chemical constituents of potential concern (CCOPC) that would be discharged would probably be very small by comparison to natural fluxes of metals in the tidal stretch of the DuBoulay Creek.

To note: Existing licence L8308/2008/2 authorises stormwater and process water to be discharged in a controlled manner via emission point DC2 as a result of an uncontrollable event. CPM 2020e states “there was one mine water discharge event to DC2 from 14 February 2020 to 23 February 2020. This discharge was required after heavy rainfall from Tropical Cyclone Damien.” The monitoring results for this discharge are provided in Table 3 (CPM 2020e).

Table 1: Monitoring results from emission point DC2

| Parameter | Units | Limit | ANZECC ARMCANZ 2000 95% species protection level | DuBoulay Creek Baseline Range* | Decant Water Range† | Seepage Water Range‡ | TSF Decant Water – Turkey’s nest | Decant / Seepage [DC2 In-Pipe] | DC2 | | | | | |
|--|----------|---------|--|--------------------------------|---------------------|----------------------|----------------------------------|--------------------------------|------------|------------|------------|------------|------------|-----------|
| | | | Marine | | | | 5/12/2017 | | 13/03/2019 | 11/05/2019 | 30/07/2019 | 21/10/2019 | 28/01/2020 | 6/04/2020 |
| pH ¹ | pH units | 6.5 - 9 | | 7.8 - 8.6 | 8.17 – 8.81 | 7.72 – 8.41 | 8.2 | 7.95 | 8.08 | 8.12 | 7.92 | 7.67 | 7.95 | |
| Electrical Conductivity ¹ | uS/cm | - | | 1,530 - 106,000 | 1,190 – 6,570 | 2,590 – 13,600 | 6,200 | 9,980 | 7,150 | 6,400 | 8,830 | 8,390 | 8,800 | |
| Total Dissolved Solids | mg/L | <50,000 | | 859 - 92,000 | 1,160 – 4,140 | 1,470 – 10,400 | 3,600 | 5,620 | 5,330 | 4,450 | 6,380 | 6,800 | 6,670 | |
| Oxidation Reduction Potential ¹ | mV | - | | | | | | | 269.20 | 262.4 | 284.8 | 268 | 193 | |
| Dissolved Oxygen ¹ | mg/L | - | | 8.2 - 10.9 | | | | 8.7 | 8.43 | 8.42 | 7.42 | 7.23 | 7.3 | |
| Total Nitrogen | mg/L | - | | Background Data – 1.2 | | | | | | | | | | |
| Total Phosphorus | mg/L | - | | Background Data – 0.5 | | | | | | | | | | |
| Nitrate | mg/L | - | | Background Data – 0.06 | | | | | | | | | | |
| Temperature ¹ | °C | - | | | | | | | 23.90 | 26 | 31.3 | 31.5 | 30.1 | |
| Total Sulfur | mg/L | - | | | | | | | 153 | 113 | 170 | 144 | 182 | |

| Parameter | Units | Limit | ANZECC ARMCANZ 2000 95% species protection level | DuBoulay Creek Baseline Range* | Decant Water Range† | Seepage Water Range‡ | TSF Decant Water – Turkey's nest | Decant / Seepage [DC2 In- Pipe] | DC2 | | | | |
|---|-------|-------|---|---|---------------------------|----------------------------|---|--|------------|------------|------------|------------|-----------|
| | | | Marine | | | | 5/12/2017 | 13/03/2019 | 11/05/2019 | 30/07/2019 | 21/10/2019 | 28/01/2020 | 6/04/2020 |
| Calcium | mg/L | - | | | | | | | 326 | 261 | 414 | 415 | 466 |
| Sodium | mg/L | - | | | | | | | 826 | 770 | 998 | 914 | 997 |
| Total Alkalinity | mg/L | - | | | | | | | 176 | 201 | 187 | 200 | 258 |
| Chloride | mg/L | - | | | | | | | 2,220 | 1,600 | 2,090 | 2,370 | 2,460 |
| Magnesium | mg/L | - | | | | | | | 211 | 168 | 254 | 294 | 316 |
| Potassium | mg/L | - | | | | | | | 10 | 37 | 14 | 10 | 12 |
| Sulfate (SO ₄ ²⁻) | mg/L | - | | | | | | | 443 | 326 | 485 | 399 | 509 |
| Bicarbonate (HCO ₃ ⁻) | mg/L | - | | | | | | | 176 | 201 | 187 | 200 | 258 |
| Carbonate (CO ₃ ²⁻) | mg/L | - | | | | | | | <1 | <1 | <1 | <1 | <1 |
| Aluminium | mg/L | - | | BD - 0.0013 | BD – 0.02 | BD | <0.01 | BD | 0.02 | 0.08 | <0.01 | <0.01 | <0.01 |
| Lead | mg/L | - | 0.0044 | BD – 0.169 | BD | BD | <0.001 | BD | | <0.001 | <0.001 | <0.001 | <0.001 |
| Mercury | mg/L | - | 0.0004 | | BD | BD | <0.0001 | BD | <0.0001 | <0.001 | <0.0001 | <0.0001 | <0.0001 |
| Copper | mg/L | - | 0.0013 | BD - 0.017 | BD – 0.001 | BD – 0.001 | <0.001 | BD | <0.001 | <0.001 | <0.001 | <0.001 | 0.002 |

| Parameter | Units | Limit | ANZECC ARMCANZ 2000 95% species protection level | DuBoulay Creek Baseline Range* | Decant Water Range† | Seepage Water Range‡ | TSF Decant Water – Turkey's nest | Decant / Seepage [DC2 In- Pipe] | DC2 | | | | |
|--------------------------|-------|-------|---|---|---------------------------|----------------------------|---|--|-----------|------------|------------|------------|------------|
| | | | Marine | | | | | | 5/12/2017 | 13/03/2019 | 11/05/2019 | 30/07/2019 | 21/10/2019 |
| Chromium (hexavalent) | mg/L | - | 0.0044 | BD - 0.0003 | BD – 0.013 | BD | <0.01 | BD | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| Nickel | mg/L | - | 0.07 | BD - 0.0013 | BD – 0 003 | BD – 0.002 | <0.001 | BD | <0.001 | 0.001 | 0.001 | 0.001 | 0.002 |
| Zinc | mg/L | - | 0.015 | BD | BD | BD | <0.001 | BD | 0.008 | 0.009 | 0.008 | 0.011 | <0.005 |
| Cadmium | mg/L | - | 0.0055 | BD | BD | BD | <0.0001 | BD | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| Cobalt | mg/L | - | 0.001 | BD – 0.001 | BD – 0.001 | BD | | BD | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Iron | mg/L | - | | BD – 0.009 | BD – 0.037 | BD | | BD | <0.05 | 0.11 | <0.05 | <0.05 | <0.05 |
| Manganese | mg/L | - | | BD - 0.0186 | | | <0.001 | | 0.002 | 0.004 | <0.001 | <0.001 | <0.001 |

*Range of 14 monthly opportunistic sampling events conducted between April 2014 and February 2016 (approximately 350 m downstream of emission).

†Opportunistic sampling conducted as part of the TSF quarterly groundwater monitoring program. Total of 12 laboratory samples collected from September 2014 to April 2018 and analysed for Major Analytes; three samples included dissolved metals.

‡Opportunistic sampling conducted as part of the TSF quarterly groundwater monitoring program. Total of 16 laboratory samples collected from September 2014 to July 2018 and analysed for Major Analytes; four samples included dissolved metals.

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

BD= Below Analytical Detection Limit

Exceedance of the ANZECC/ARMCANZ 2000 Marine 95% species protection levels

Table 2: Monitoring results from 500 m downstream of DC2

| Emission Point | Parameter | Units | ANZECC ARMCANZ 2000 95% species protection level | DuBoulay Creek Baseline (13/03/2019) | 11/05/2019 | 30/07/2019 | 21/10/2019 | 28/01/2020 | 6/04/2020 |
|---------------------|--|----------|--|--------------------------------------|------------|------------|------------|------------|-----------|
| | | | Marine | | | | | | |
| DC2 500m Downstream | pH ¹ | pH units | | 8.28 | 8.11 | 8.35 | 8.26 | 8.2 | 8.18 |
| | Electrical Conductivity ¹ | uS/cm | | 60,000 | 62,800 | 25,200 | 47,500 | 56,000 | 34,300 |
| | Total Dissolved Solids | mg/L | | 42,800 | 47,700 | 17,400 | 35,900 | 43,000 | 24,800 |
| | Oxidation Reduction Potential ¹ | mV | | | 295.6 | 292 | 287.2 | 245.8 | 202.7 |
| | Dissolved Oxygen ¹ | mg/L | | 9.7 | 7.89 | 8.6 | 6.05 | 7.59 | 6.97 |
| | Total Nitrogen | mg/L | | 0.68 | | | | | |
| | Total Phosphorus | mg/L | | 1.2 | | | | | |
| | Nitrate | mg/L | | 0.02 | | | | | |
| | Temperature ¹ | °C | | | 22.4 | 25.2 | 33.9 | 35.1 | 33.1 |
| | Total Sulfur | mg/L | | | 1,260 | 463 | 958 | 1,210 | 742 |
| | Calcium | mg/L | | | 639 | 358 | 634 | 641 | 626 |
| | Sodium | mg/L | | | 12,800 | 4,390 | 9,840 | 12,400 | 6,940 |
| | Total Alkalinity | mg/L | | | 157 | 168 | 169 | 146 | 154 |
| | Chloride | mg/L | | | 21,800 | 8,450 | 16,100 | 19,900 | 12,200 |
| Magnesium | mg/L | | | 1,670 | 629 | 1,230 | 1,480 | 968 | |

| Emission Point | Parameter | Units | ANZECC ARMCANZ 2000 95% species protection level | DuBoulay Creek Baseline (13/03/2019) | 11/05/2019 | 30/07/2019 | 21/10/2019 | 28/01/2020 | 6/04/2020 |
|----------------|--|-------|--|--------------------------------------|------------|------------|------------|------------|-----------|
| | | | Marine | | | | | | |
| | Potassium | mg/L | | | 466 | 207 | 360 | 426 | 230 |
| | Sulfate (SO ₄ ²⁻) | mg/L | | | 3,280 | 1,230 | 2,540 | 2,660 | 1,770 |
| | Bicarbonate (HCO ₃ ⁻) | mg/L | | | 157 | 160 | 169 | 146 | 154 |
| | Carbonate (CO ₃ ²⁻) | mg/L | | | <1 | 8 | <1 | <1 | <1 |
| | Aluminium | mg/L | | BD | 0.16 | 0.16 | <0.05 | <0.10 | <0.05 |
| | Lead | mg/L | 0.0044 | BD | | <0.001 | <0.005 | <0.010 | <0.005 |
| | Mercury | mg/L | 0.0004 | BD | <0.0001 | <0.001 | <0.0001 | <0.0001 | <0.0001 |
| | Copper | mg/L | 0.0013 | BD | <0.01 | 0.002 | <0.005 | <0.010 | <0.005 |
| | Chromium (hexavalent) | mg/L | 0.0044 | BD | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Nickel | mg/L | 0.07 | BD | <0.01 | <0.001 | <0.005 | <0.010 | <0.005 |
| | Zinc | mg/L | 0.015 | BD | <0.05 | 0.008 | <0.025 | <0.050 | <0.025 |
| | Cadmium | mg/L | 0.0055 | BD | <0.001 | <0.0001 | <0.0005 | <0.0010 | <0.0005 |
| | Cobalt | mg/L | 0.001 | BD | <0.01 | <0.001 | <0.005 | <0.010 | <0.005 |
| | Iron | mg/L | | BD | <0.50 | 0.26 | <0.025 | <0.50 | <0.025 |
| | Manganese | mg/L | | 0.014 | 0.031 | <0.05 | 0.04 | <0.010 | 0.011 |

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

Exceedance of the ANZECC/ARMCANZ 2000 Marine 95% species protection levels

Table 3: Ambient surface water monitoring for DC2

Camp 123 Turkey's Nest to DC2 Discharge Pipeline 1

| Emission Point | Parameter | Units | Limit | 14/02/2020 | 15/02/2020 | 16/02/2020 | 17/02/2020 | 18/02/2020 | 19/02/2020 | 20/02/2020 | 21/02/2020 | 22/02/2020 | 23/02/2020 |
|----------------|-------------------------------------|----------|---------|------------|------------|------------------|------------|------------|------------|------------|------------|------------|------------|
| | | | | Result | Result | Result | Result | Result | Result | Result | Result | Result | Result |
| DC2 | pH ¹ | pH units | 6.5 - 9 | 6.26* | 6.98 | not in operation | 6.87 | 6.83 | 6.85 | 6.89 | 6.66 | 6.72 | 6.77 |
| | Total Dissolved Solids ¹ | mg/L | <50,000 | 48,209 | 47,557 | not in operation | 48,474 | 48,899 | 47,920 | 48,079 | 47,302 | 47,581 | 46,978 |

Camp 123 Turkey's Nest to DC2 Discharge Pipeline 2

| Emission Point | Parameter | Units | Limit | 14/02/2020 | 15/02/2020 | 16/02/2020 | 17/02/2020 | 18/02/2020 | 19/02/2020 | 20/02/2020 | 21/02/2020 | 22/02/2020 | 23/02/2020 |
|----------------|-------------------------------------|----------|---------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------------|
| | | | | Result | Result | Result | Result | Result | Result | Result | Result | Result | Result |
| DC2 | pH ¹ | pH units | 6.5 - 9 | 6.25* | 6.94 | 6.87 | 6.82 | 6.54 | 6.6 | 6.71 | 6.82 | 6.84 | not in operation |
| | Total Dissolved Solids ¹ | mg/L | <50,000 | 40,212 | 39,772 | 40,264 | 41,014 | 40,720 | 41,301 | 41,011 | 40,991 | 42,029 | not in operation |

| Emission Point | Parameter | Units | Limit | 14/02/2020 | 15/02/2020 | 16/02/2020 | 17/02/2020 | 18/02/2020 | 19/02/2020 | 20/02/2020 | 21/02/2020 | 22/02/2020 | 23/02/2020 |
|----------------------|-------------------------------------|----------|-------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | | | | Result | Result | Result | Result | Result | Result | Result | Result | Result | Result |
| DC2 500 m Downstream | pH ¹ | pH units | - | 7.47 | 7.92 | 8.02 | 7.64 | 7.91 | 7.56 | 7.61 | 7.8 | 7.56 | 7.46 |
| | Total Dissolved Solids ¹ | mg/L | - | 1,869 | 3,437 | 3,543 | 1,740 | 2,401 | 2,585 | 2,076 | 1,861 | 2,024 | 2,761 |

* Measurement outside of compliance limit. pH monitoring probe found to be faulty, monitoring resumed with backup pH meter.

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

2.2.3 Vegetation monitoring

Existing licence L8308/2008/2 requires the Licence Holder to monitor vegetation within 3 months of discharge. *CPM 2020e* states “there was one mine water discharge event to DC2 from 14 February 2020 to 23 February 2020.” The vegetation inspection report undertaken on the 21 February 2020 for DC2 states that there was “substantial growth & consistent density”.

CPM 2020b stated that “there is very limited vegetation in the area, the nearest mangrove vegetation is 1.5 km’s downstream from DC2. The trees which are monitored are typically outside the influence of saline water but when it floods they are inundated with fresh water”.

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 *Guidance Statement: Risk Assessments* (DER 2017).

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 4 below. Table 4 also details the proposed control measures the Licence Holder has proposed to assist in controlling these emissions, where necessary.

Table 4: Licence Holder controls

| Emission | Sources | Potential pathways | Proposed controls |
|-------------------------------------|--|-------------------------------------|--|
| Increase in contaminants discharged | Increased discharge of TSF decant and seepage water via emission point DC2 | Direct discharges to DuBoulay Creek | <ul style="list-style-type: none">• Routine monitoring in accordance with the existing licence and limits for TDS and pH.• Existing program to utilise decant and seepage water in other aspects of the project (i.e. dust suppression and used to supplement water in the secondary tailings thickeners) so that only the remaining water (surplus to operational requirements) is discharged to DC2. |

3.1.2 Receptors

In accordance with the *Guidance Statement: Risk Assessment* (DER 2017), 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.

Figure 2 shows the location of emission point DC2 within the premises. Noting Figure 2 states Fortescue River, but it is actually DuBoulay Creek.

Table 5 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 (*Guidance Statement: Environmental Siting* (DER 2016)).

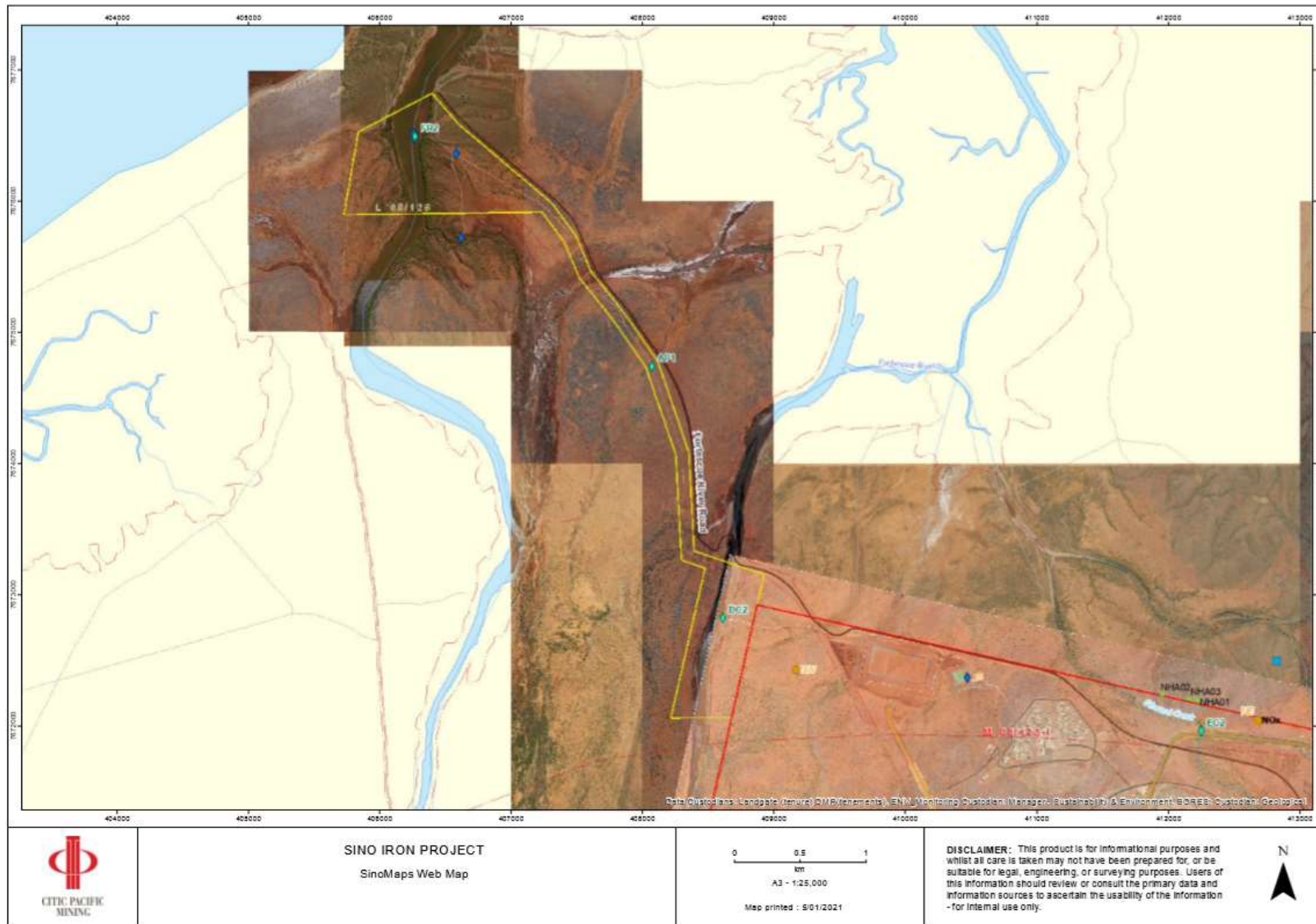


Figure 2: Location of DC2 within DuBoulay Creek

Table 5: Sensitive environmental receptors and distance from prescribed activity

| Environmental receptors | Distance from prescribed activity |
|-------------------------|--|
| DuBoulay Creek | Emission point DC2 is located within DuBoulay Creek in a tidal location where hypersaline conditions are experienced regularly and also subjected to flood conditions after significant rainfall in the Fortescue River catchment. |

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guidance Statement: Risk Assessments* (DER 2017) 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 in-complete 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 6.

The Revised Licence L8308/2008/2 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 6. 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 | | | | |
| Operation | | | | | | | | |
| Increased discharge of TSF decant and seepage water via emission point DC2 | Spillage of TSF decant and seepage water through leaks, pipeline ruptures or failure | Direct discharges to land (infiltration to soil) and/or DuBoulay Creek resulting in contamination and vegetation decline | Soil DuBoulay Creek water quality Riparian ecosystems / fauna within DuBoulay Creek | N/A | C = Moderate L = Unlikely Medium Risk | N/A | Existing condition on the licence relating to the daily visual inspection of the seepage water discharge pipeline (Condition 10) | N/A |
| | Increase in TDS and contaminants discharged | Direct discharge to DuBoulay Creek causing impacts to the water quality, vegetation and soils within the drainage channel Impacts to flora and fauna within the creek and river Erosion/scouring | DuBoulay Creek water quality Flora and fauna within the creek and river | Refer to Section 3.1 | C = Moderate L = Possible Medium Risk | N | Existing condition on the licence relating to: <ul style="list-style-type: none"> Condition 16 – Authorised discharge points for surface water emissions including operational requirements. Condition 17 emission and discharge limits for TDS and pH via DC2. Condition 27 ambient surface water monitoring requirements 500 m downstream of DC2 for TDS and pH. Condition 28 ambient vegetation health monitoring requirements 500 m downstream of DC2. During this amendment Condition 22 emission and discharge quarterly monitoring for DC2 (TSF decant and seepage water) has been updated to include additional parameters Table 10). | Refer to Section 3.3 |

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guidance Statement: Risk Assessments* (DER 2017).

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

3.3 Additional regulatory controls imposed

Condition 22:

The following parameters have been added to condition 22 for the TSF decant and seepage waters discharged via emission point DC2:

- Volumetric flow rate with a limit (condition 17) of 2 GL/a (as per this Amendment Report);
- Acrylamide;
- Total Nitrogen;
- Nitrate as N;
- Nitrite as N; and
- Ammonia.

Grounds: The application was referred internally with the recommendations made for the following:

- That the routine monitoring of ammonium ions, nitrate ions and total nitrogen concentrations are included in the monitoring suite for discharge point DC2, and
- Acrylamide is included in the suite of chemical constituents in water that are discharged to the environment at DC2 and other discharge points.

Rationale:

Nitrate and ammonium ions

Elevated concentrations of nitrate and ammonium ions are present in process water at the site. Although not directly measured in discharge at DC2, elevated ammonium ion concentrations present in process water at the mine site are of particular concern, as these commonly exceed the marine limit of 0.75 mg/L-N (at pH=8.1) that has been established in the 2018 Australian and New Zealand water quality guidelines (for more details, refer to web site <https://www.waterquality.gov.au/anz-guidelines/guideline-values/default/water-quality-toxicants/toxicants/ammonia-2000>). Impacts include eutrophication and declined water quality, as well as direct and indirect detrimental effects on aquatic organisms.

Acrylamide

Polyacrylamide flocculants are added to mine-water at the site to accelerate the settling of fine suspended particles from solution. These chemicals are generally considered to be environmentally benign. However, in water that contains elevated concentrations of dissolved iron and is exposed to intense sunlight, chemical reactions can take place (primarily the Fenton reaction) that can break-down these polymers to form monomeric acrylamide (Xiong et al., 2018).

Acrylamide is highly toxic and can cause mutagenic impacts on sensitive receptors. Although this chemical compound is chemically unstable in surface water bodies, it is sufficiently persistent to cause harmful impacts on aquatic organisms. As a consequence of this, a review of acrylamide that was carried out by the European Union has recommended a limit of 20 µg/L for this chemical compound in marine water bodies to protect aquatic organisms (refer to page 75 of European Chemicals Bureau, 2002). There are currently no Australian guidelines for protecting aquatic organisms from the effects of acrylamide.

4. Consultation

Table 7 provides a summary of the consultation undertaken by the department.

Table 7: Consultation

| Consultation method | Comments received | Department response |
|--|---|----------------------|
| Licence Holder was provided with draft amendment on 22/01/2021 | The Licence Holder provided comments on 27/01/2021 and waived the remaining comment period on 29/01/2021. Refer to Appendix 1. | Refer to Appendix 1. |

To note the department sent out stakeholder letters to the City of Karratha; Department of Jobs, Tourism, Science and Innovation; and the Department of Mines, Industry Regulation and Safety on the original application for the TSF2 Raise 4. A summary of the comments received for that assessment will be provided in its subsequent Amendment Report.

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 8 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 8: Summary and consolidation of licence conditions in this amendment

| Existing condition | Condition summary | Revised licence condition | Conversion notes |
|--------------------|-------------------------------|---------------------------|---|
| N/A | Contents | N/A | Deleted as per current licensing format. |
| N/A | Introduction | N/A | Deleted as per current licensing format. |
| N/A | Licence history | Licence history | Administrative changes. |
| 1.1.1 | Interpretation | Interpretation | Updated as per current licensing format. |
| 1.1.2 | Definitions | Definitions | Moved to the back of the Licence now Table 16. |
| 1.1.3 | Australian or other standard | Interpretation | Condition deleted and now included in the updated 'Interpretation' section as per current licensing format. |
| 1.1.4 | Reference to code of practice | Interpretation | Condition deleted and now included in the updated 'Interpretation' section as per current licensing format. |
| 1.2.1 | Investigate exceedance of any | 1 | Deleted, as premises production and design capacity limits are stipulated under new |

| Existing condition | Condition summary | Revised licence condition | Conversion notes |
|--------------------|--|---------------------------|---|
| | descriptive or numerical limit in this section | | condition 1 (previously condition 1.2.13). Exceedance of these limits is a non-compliance with Licence conditions and reportable within the Annual Audit Compliance Report. |
| 1.2.2 | Management of waste | 2 | Administrative updates in line with current licensing format. |
| 1.2.3 | Cover requirements | 3 | Administrative updates in line with current licensing format. |
| 1.2.4 | Landfill activity requirements | 4 | Condition number changed only. |
| 1.2.5 | | 5 | Administrative and condition number changes. |
| 1.2.6 | Refuelling areas | 6 | Condition number changed only. |
| 1.2.7 | Sumps and bunds | 7 | Condition number changed only. |
| 1.2.8 | Containment infrastructure | 8 | This condition has been updated to stipulate operational requirements for the infrastructure rather than containment infrastructure requirements. Mainly administrative changes, but TSF seepage drains have been deleted and now included under the TSF Stage 2. |
| 1.2.9 | TSF dust | 9 | Condition number changed only. |
| 1.2.10 | Inspections | 10 | Administrative and condition number changes. |
| 1.2.11 | Pipelines | 11 | Condition number changed only. |
| 1.2.12 | Annual water balance | 12 | Condition number changed only. |
| 1.2.13 | Production or design capacity limits | 1 | Administrative and condition number changes. |
| 1.2.14 | Infrastructure requirements | 13 | Removal of infrastructure requirements for DC1 and TSF Raise 3 lift – refer to Section 2.2 of this Amendment Report. The infrastructure requirement for the controlled surface water discharge points has been deleted and since EC1 and EC2 haven't been constructed it is now specified under each of these. |

| Existing condition | Condition summary | Revised licence condition | Conversion notes |
|--------------------|--|---------------------------|---|
| 1.2.15 | Compliance document | 14 | Administrative and condition number changes. |
| 2..1.1 | Point source emissions to air | 15 | Administrative updates in line with current licensing format. |
| 2.2.1 | Point source emissions to surface water | 16 | Administrative updates in line with current licensing format. For the mine dewatering discharge via emission point FR2 to previous condition 2.2.3 has now been included in condition 16 under operational requirements. For the TSF decant and seepage water discharged via emission point DC2 an operational requirement for the pipeline to be equipped with a flow meter has been added during this amendment so that the volumetric flow rate can be recorded to ensure the discharge limit of 2 GL/a is not exceeded. |
| 2.2.2 | Surface water emission limits | 17 | Administrative updates in line with current licensing format. Emission limits have been added for the following: <ul style="list-style-type: none"> • FR2 of 8 GL/a as assessed under the existing licence; and • DC2 of 2 GL/a as assessed under this Amendment Report. |
| 2.2.3 | Discharge of mine dewatering water | 16 | Previous condition 2.2.3 has been deleted. New condition 16 now specifies these requirements within the Table for mine dewatering discharges. |
| 3.1.1 | Sampling collection and monitoring methods | 22 and 27 | Deleted, the method of sampling methodology is now specified within each monitoring condition. |
| 3.1.2 | Timeframes for taking samples | 18 | Condition number changed only. |
| N/A | NATA accreditation | 19 | Inclusion of this conditions, similar to previous condition 3.1.1(d), requiring analysis to be undertaken by a laboratory with current NATA accreditation. |
| 3.1.3 | Calibration of monitoring equipment | 20 | Administrative and condition number changes. |
| 3.1.4 | Where calibration requirements | 21 | Condition number changed only. |

| Existing condition | Condition summary | Revised licence condition | Conversion notes |
|--------------------|--|---------------------------|--|
| | cannot be practicably met | | |
| 3.2.1 | Monitoring of point source emissions to air | 22 | Administrative updates in line with current licensing format. |
| 3.2.2 | Compliance with CEMS Code | 23 | Deleted, as covered under new condition 23. |
| 3.2.3 | CEMS Code | 23 | Administrative and condition number changes. |
| 3.3.1 | Recording commencement and cessation of mine dewatering discharges | 24 | Administrative update to specify mine dewatering discharges from FR2. |
| 3.3.2 | Monitoring point source emissions to surface water | 22 | <p>Deleted, now covered under new condition 22, which also includes administrative updates in line with current licensing format for emission points FR2, Camp 123 Turkey's nest or Dewatering Staging Facility and controlled surface water discharge points (for stormwater and/or process water discharges).</p> <p>During this amendment, additional parameters have been added for emission point DC2 for TSF decant and seepage water). Refer to Section 3.3 of this Amendment Report.</p> |
| 3.4.1 | Monitoring of inputs and outputs | 25 | Administrative updates in line with current licensing format. |
| 3.5.1 | Process monitoring | 26 | Administrative updates in line with current licensing format. |
| 3.6.1 | Ambient environmental quality monitoring | 27 | <p>Administrative updates in line with current licensing format and stipulation of method to use within the table.</p> <p>During this amendment the frequency for surface water 'FR1, FR3, FR4 and FR8' has been left at monthly but the "<i>Monthly during discharge to obtain dilution data for a 12 month period from the date of submission of the compliance documentation for the mine dewatering discharge infrastructure required by condition 5.3.1</i>" has been deleted.</p> |
| 3.6.1 | Ambient vegetation health monitoring | 28 | The new condition 28 has taken previous condition 3.6.1 and Table 3.6.3 and made it a separate condition. |

| Existing condition | Condition summary | Revised licence condition | Conversion notes |
|--------------------|---|---------------------------|--|
| 4.1.1 | Records | N/A | Deleted as per current licensing format. |
| 4.1.2 | Annual Audit Compliance Report | 30 | Updated as per current licensing format. |
| 4.1.3 | Complaints | 29 | Updated as per current licensing format. |
| 4.2.1 | Annual Environmental Report | 35 | Updated as per current licensing format. Under this amendment the parameters have been removed and instead the reporting requirements have been stipulated. |
| 4.2.2 | Summary of monitoring results against previous results, licence limits etc. | 35 | Deleted, now covered within the new condition 35. |
| 4.2.3 | Non-annual reporting requirements | N/A | Deleted as per current licensing format. |
| 4.2.4 | CEMS results within the Annual Environmental Report | 35 | Deleted, now covered within the new condition 35. |
| N/A | Maintaining accurate and auditable books | 36 | Included as per current licensing format. |
| N/A | | 37 | Included as per current licensing format. |
| 4.3.1 | Unauthorised fire | 33 | Deleted, now covered under new condition 33. |
| | Breach of limit | 30 | Deleted, breaches of licence limits to be reported within the Annual Audit Compliance Report. |
| | Compliance documents for the controlled surface water discharge points | 31 and 32 | Deleted, now covered under new condition 31 and 32. |
| | Compliance documents for TSF2 Raise 3 lift | N/A | Deleted, refer to Section 2.2 of this Amendment Report. |
| | Calibration report | N/A | Deleted as per current licensing format. |
| | Decommissioning of landfill monitoring bores | 34 | Deleted, now covered under new condition 34. |

| Existing condition | Condition summary | Revised licence condition | Conversion notes |
|-------------------------------|---|---------------------------|--|
| | Summary of the Magnetic Separation Elutriation Columns Trial | 35 | Deleted, now included under new condition 35 as part of the Annual Environmental Report. |
| Schedule 1: Maps | Premises map | Schedule 1: Maps | New map showing new location of emission point DC1. |
| Schedule 2 Notification forms | Form ET1: Unauthorised Fires N1 Notification of detection of breach of a limit | N/A | Deleted as per current licensing format. |

References

1. Australian and New Zealand Environment and Conservation Council (ANZECC) and the Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) 2000, Australian and New Zealand Guidelines for Fresh and Marine Water Quality, National Water Quality Management Strategy; no. 4.
2. CITIC Pacific Mining Management Pty Ltd (CPM) 2020a, *Increased discharge volume to DC2*, email received from Harley Barron dated 10 November 2020.
3. CPM 2020b, *RE: L8308 amendment for the increase in discharge volume to emission point DC2*, received from Haley Barron dated 15 December 2020.
4. CPM 2020c, *Sino Iron Project – Certification of Discharge Location DC1 – Licence L8308/2008/2*, CPM Ref: DR049815, dated 22 December 2020.
5. CPM 2020d, *Sino Iron Project Duboulay Creek (DC2) Increased Annual Discharge Rate*, CPM Ref: DR049759, dated 26 November 2020.
6. CPM 2019, *Sino Iron Project Mine Site, Annual Environmental Report – L8308/2008/2*, For financial year 2018 – 2019, Revision No. 01, dated 12 September 2019.
7. CPM 2020e, *Sino Iron Project Mine Site, Annual Environmental Report – L8308/2008/2*, For annual period 2019 – 2020, Document No: DR049563, Revision 02, dated 4 September 2020.
8. CPM 2018, *Sino Iron Project Mine Site – Excess Water Controlled Discharges – TSF Decant Water Discharge Regime*, CPM Ref: DR045221, dated 16 January 2018.
9. CPM 2020f, *Sino Iron Project Mine Site – Tailings Storage Facility Stage 2 Raise 4 (66mRL) – Application to Amend L8308/2008/2*, CPM Ref: DR049562, dated 30 September 2020.
10. Department of Environment Regulation (DER) 2016, *Guidance Statement: Environmental Siting*, Perth, Western Australia.
11. DER 2017, *Guidance Statement: Risk Assessments*, Perth, Western Australia.
12. DER 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
13. European Chemicals Bureau, 2002. European Union Risk Assessment Report: Acrylamide. European Union technical report which is available from web site

<https://echa.europa.eu/documents/10162/50218bf9-ba0f-4254-a0d9-d577a5504ca7>.

14. Licence L8308/2008/2 Amendment Notice 7, date of amendment 18 April 2019.
15. Xiong, B., Dettam Loss, R., Shields, D., Pawlik, T., Hochreiter, R., Zydney, A.L. and Kumar, M., 2018. Polyacrylamide degradation and its implications in environmental systems. *Nature Clean Water*, 1. The paper is available from web site <https://www.nature.com/articles/s41545-018-0016-8>.

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

| Condition | Summary of Licence Holder's comment | Department's response |
|-------------------------|---|---|
| Licence | | |
| Condition 15 Table 7 | <p>Table 7 refers to emissions of carbon monoxide, particulates, volatile organic compounds, oxides of nitrogen and oxides of sulfur however as per Table 10, the Licence Holder is only required to monitor for carbon monoxide and oxides of nitrogen.</p> <p>The Licence Holder recommends that Table 7 be aligned with Table 10.</p> | <p>Condition 15 relates to the authorised discharge points for air emissions from the power station on the premises.</p> <p>By stating the emissions of carbon monoxide, particulates, volatile organic compounds, oxides of nitrogen and sulphur oxides this is only identifying the emissions authorised to be discharged from these discharge points.</p> <p>Condition 22, Table 10 requires the monitoring of oxides of nitrogen and carbon monoxide. This has been assessed previously and this monitoring requirement has not changed under this amendment or been reassessed.</p> <p>The department will retain the emissions specified.</p> |
| Condition 19 | <p>The Licence Holder has stated that the proposed condition implies that the person(s) doing the sampling are required to be NATA accredited. This would require the Licence Holder to engage NATA certified persons until the Licence Holder could gain NATA accreditation. This would pose significant issues for maintaining compliance particularly during cyclone season with trying to mobilise contractors to site for emergency sampling events.</p> <p>Further to this, Note 3 on Table 10 says In-field non-NATA accredited analysis is permitted.</p> | <p>The department notes the Licence Holder's comments and has changed the wording of the condition to:</p> <p><i>All sample analysis must be undertaken by laboratories with current accreditation from the National Association of Testing Authorities (NATA) for the relevant parameters, unless otherwise specified in conditions 22, 26 and 27.</i></p> |

| Condition | Summary of Licence Holder's comment | Department's response | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|---|----------------------|---------------------|---------------|-------|---------------|---|---|----|--|--|--|------------------|----------|--|--|--|---------------------------|----|--|--|--|-------------------------------|------|--|--|--|---|
| | <p>The Licence Holder recommends that the condition be amended to: <i>The licence holder must ensure all non-continuous sampling and laboratory analysis undertaken pursuant to conditions 22, 26 and 27 is undertaken by a holder of a current accreditation from NATA for the method of sampling and analysis relevant to the corresponding relevant parameter. All sampling must be conducted in accordance with the relevant Australian Standard.</i></p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Condition 22 | <table border="1" data-bbox="443 464 1447 799"> <tr> <td data-bbox="450 507 618 560">(TSF decant and seepage water)</td> <td data-bbox="629 488 819 512">Volumetric flow rate</td> <td data-bbox="898 488 976 512">m³/day</td> <td data-bbox="999 488 1077 512">Annual</td> <td data-bbox="1133 464 1211 544" style="border: 2px solid red;">Daily</td> <td data-bbox="1301 480 1391 528">AS/NZS 5667.6</td> </tr> <tr> <td data-bbox="450 576 618 799" rowspan="4"> <ul style="list-style-type: none"> DC2 (TSF-decant and seepage) in-pipe (or if discharges are not occurring at the time of sampling. </td> <td data-bbox="629 552 819 600">Oxidation Reduction Potential⁴³</td> <td data-bbox="898 560 976 584">mV</td> <td data-bbox="999 552 1077 600"></td> <td data-bbox="1133 552 1211 600"></td> <td data-bbox="1301 552 1391 600"></td> </tr> <tr> <td data-bbox="629 616 819 655">pH⁴³</td> <td data-bbox="898 624 976 647">pH units</td> <td data-bbox="999 616 1077 663"></td> <td data-bbox="1133 616 1211 663"></td> <td data-bbox="1301 616 1391 663"></td> </tr> <tr> <td data-bbox="629 671 819 711">Temperature⁴³</td> <td data-bbox="898 679 976 703">°C</td> <td data-bbox="999 671 1077 719"></td> <td data-bbox="1133 671 1211 719"></td> <td data-bbox="1301 671 1391 719"></td> </tr> <tr> <td data-bbox="629 727 819 767">Dissolved Oxygen¹</td> <td data-bbox="898 735 976 759">mg/L</td> <td data-bbox="999 727 1077 775"></td> <td data-bbox="1133 727 1211 775"></td> <td data-bbox="1301 727 1391 775"></td> </tr> </table> <p data-bbox="443 831 1447 887">The Licence Holder requests that the TSF decant and seepage water volumetric flow rate be changed to monthly to align with current practices.</p> | (TSF decant and seepage water) | Volumetric flow rate | m ³ /day | Annual | Daily | AS/NZS 5667.6 | <ul style="list-style-type: none"> DC2 (TSF-decant and seepage) in-pipe (or if discharges are not occurring at the time of sampling. | Oxidation Reduction Potential ⁴³ | mV | | | | pH ⁴³ | pH units | | | | Temperature ⁴³ | °C | | | | Dissolved Oxygen ¹ | mg/L | | | | <p>The department has changed the TSF decant and seepage water volumetric flow rate frequency to monthly.</p> |
| (TSF decant and seepage water) | Volumetric flow rate | m ³ /day | Annual | Daily | AS/NZS 5667.6 | | | | | | | | | | | | | | | | | | | | | | | | |
| <ul style="list-style-type: none"> DC2 (TSF-decant and seepage) in-pipe (or if discharges are not occurring at the time of sampling. | Oxidation Reduction Potential ⁴³ | mV | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | pH ⁴³ | pH units | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Temperature ⁴³ | °C | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Dissolved Oxygen ¹ | mg/L | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Amendment Report | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tables 1 and 2 | <p>Tables 1 and 2 reference freshwater 95% species protection levels for DC2. DC2 is not a freshwater ecosystem, it is a tidal area and hence the trigger values for marine water should be used. Please refer to the third row of Table 1 which references the baseline range of the creek: 859mg/L – 92,000 mg/L.</p> <p>Aluminium, Copper and Zinc are all highlighted as having exceeded freshwater guidelines. When referenced against the marine criteria – Aluminium does not have a 95% species protection level, Copper is 1.3µg/L and Zinc is 15µg/L. Copper is the only CCOPC which has exceeded the 95% species protection level.</p> <p>The Licence Holder recommend the report be amended to reference the marine water species protection level as this is most representative of the discharge environment.</p> | <p>Tables 1 and 2 of the Amendment Report have been updated to remove the column that previously referenced the ANZECC ARM CANZ 2000 95% Freshwater species protection level.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Appendix 2: Application validation summary

| SECTION 1: APPLICATION SUMMARY | | | | |
|---|---|---|--------------|--------------------------|
| Application type | | | | |
| Amendment to licence | <input checked="" type="checkbox"/> | Current licence number: | L8308/2008/2 | |
| | | Relevant works approval number: | N/A | <input type="checkbox"/> |
| Date application received | 14 October 2020 | | | |
| Applicant and Premises details | | | | |
| Applicant name/s (full legal name/s) | CITIC Pacific Mining Management Pty Ltd | | | |
| Premises name | Sino Iron Project Mine Site | | | |
| Premises location | Mining Leases M08/123, M08/124 and M08/125, MARDIE WA 6714 | | | |
| Local Government Authority | City of Karratha | | | |
| Application documents | | | | |
| HPCM file reference number: | DER2014/000430-2~7 and DER2014/000430-2~8 | | | |
| Key application documents (additional to application form): | <ul style="list-style-type: none"> Sino Iron Project Mine Site – Tailings Storage Facility Stage 2 Raise 4 (66mRL) – Application to Amend L8308/2008/2 (DWERDT350465) Sino Iron Project DuBoulay Creek (DC2) increased annual discharge rate (DWER379030) | | | |
| Scope of application/assessment | | | | |
| Summary of proposed activities or changes to existing operations. | Licence amendment to increase the discharge rate from 1 GL/a to 2 GL/a for TSF decant and seepage water via emission point DC2. | | | |
| Category number/s (activities that cause the premises to become prescribed premises) | | | | |
| Table 1: Prescribed premises categories | | | | |
| Prescribed premises category and description | Assessed production or design capacity | Proposed changes to the production or design capacity (amendments only) | | |
| Category 5: Processing or beneficiation of metallic or non-metallic ore | Primary Crushers (1, 2, 3 and 4) 85,400,000 tonnes per Annual Period Concentrators (Mill Lines 1, 2, 3, 4, 5 and 6) 85,400,000 tonnes per Annual Period (producing 27,600,000 tonnes per Annual Period) Tailings Storage Facility (Stage 2) 67,400,000 tonnes per Annual Period | N/A | | |
| Category 6: Mine dewatering discharge | 8,000,000 tonnes per Annual Period | N/A | | |

| | | |
|---|---|-----|
| | (8 gigalitres per Annual Period) | |
| Category 12: Screening, etc. of material | 2,700,000 tonnes per Annual Period | N/A |
| Category 52: Electric power generation | 480 megawatts | N/A |
| Category 54: Sewage facility | 160 cubic metres per day | N/A |
| Category 57: Used tyre storage (general) | No more than 500 tyres | N/A |
| Category 64: Class II putrescible landfill site | Landfill Facilities and Waste Rock Landforms 25,000 tonnes per annual period (excluding Clean Fill used for cover material) | N/A |
| Category 73: Bulk storage of chemicals, etc | 4,800 cubic metres in aggregate | N/A |

Legislative context and other approvals

| | | |
|--|--|---|
| Has the applicant referred, or do they intend to refer, their proposal to the EPA under Part IV of the EP Act as a significant proposal? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Referral decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input type="checkbox"/> |
| Does the applicant hold any existing Part IV Ministerial Statements relevant to the application? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | Ministerial statement No: 635, 822, 1066 EPA Report No: 1056, 1343, 1602 |
| Has the proposal been referred and/or assessed under the EPBC Act? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | Reference No: Sino Iron Mine Continuation Proposal (EPBC 2017/7862) |
| Has the applicant demonstrated occupancy (proof of occupier status)? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | Certificate of title <input type="checkbox"/> General lease <input type="checkbox"/> Expiry: Mining lease / tenement <input checked="" type="checkbox"/> Expiry: Other evidence <input type="checkbox"/> Expiry: |
| Has the applicant obtained all relevant planning approvals? | Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> | Approval: Expiry date: If N/A explain why? Mining tenure |
| Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | CPS No: Clearing approved under Ministerial Statements No clearing is proposed. |
| Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Application reference No: N/A Licence/permit No: N/A |

| | | |
|--|---|---|
| Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Application reference No: N/A Licence/permit No: N/A Licence / permit not required. |
| Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Name: N/A Type: N/A Has Regulatory Services (Water) been consulted? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Regional office: N/A |
| Is the Premises situated in a Public Drinking Water Source Area (PDWSA)? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Name: N/A Priority: N/A Are the proposed activities/ landuse compatible with the PDWSA (refer to WQPN 25)? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> |
| Is the Premises subject to any other Acts or subsidiary regulations (e.g. <i>Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx</i>) | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | <i>Iron Ore Processing (Mineralogy Pty Ltd) Agreement Act 2002</i> |
| Is the Premises within an Environmental Protection Policy (EPP) Area? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | N/A |
| Is the Premises subject to any EPP requirements? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | N/A |
| Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i> ? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Classification: N/A Date of classification: N/A |