Government of Western Australia
Department of Water and Environmental Regulation

Amendment Report #1

Licence Number	L8721/2013/1
Licence Holder	Karara Mining Limited
ACN	070 871 831
File Number:	2012/008499-1
Premises	Karara Minesite Beneficiation Plant M59/644, M59/645, G59/38 and L59/99 PERENJORI WA 6620
Date of Report	14/11/2019

1. Definitions and interpretation

Definitions

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

Table 1: Definitions

Term	Definition
ACN	Australian Company Number
Amendment Report	refers to this document
Category/ Categories/ Cat.	categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department Administering the *Environmental Protection Act 1986* Locked Bag 10, Joondalup DC JOONDALUP WA 6919 info@dwer.wa.gov.au
Delegated Officer	an officer under section 20 of the EP Act
Department	means the department established under section 35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Part V, Division 3 of the EP Act.
DWER	Department of Water and Environmental Regulation
EP Act	*Environmental Protection Act 1986* (WA)
EP Regulations	*Environmental Protection Regulations 1987* (WA)
Existing Licence	The Licence issued under Part V, Division 3 of the EP Act and in force prior to the commencement of and during this Review
Karara	Karara Mining Limited
kL	kilolitre
km	kilometre
Licence Holder	Karara Mining Limited
m	metres
MS	Ministerial Statement
mtpa	million tonnes per annum
Noise Regulations	*Environmental Protection (Noise) Regulations 1997* (WA)

Term	Definition
Occupier	has the same meaning given to that term under the EP Act.
Prescribed Premises	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Amendment Report applies, as specified at the front of this Amendment Report.
Revised Licence	the amended Licence issued under Part V, Division 3 of the EP Act, with changes that correspond to the assessment outlined in this Amendment Report.
Risk Event	as described in *Guidance Statement: Risk Assessment*
UDR	*Environmental Protection (Unauthorised Discharges) Regulations 2004* (WA)

2. Amendment Description

2.1. Purpose and scope of assessment

On 9 July 2019, the Licence Holder submitted an application to amend the Karara Minesite Beneficiation Plant (Premises) licence L6929/1990/16.

The Licence Holder has applied for the following changes:

- Incorporation of a Category 5 mobile crusher into the processing circuit; and
- Removal of redundant construction condition requirements of the TSF2A and wet concentrate storage facility.

The following Department of Water and Environmental Regulation (DWER) guidance statements have informed the assessment and decision outlined in this Amendment Report.

- *Guidance Statement: Setting Conditions (October 2015)*
- *Guidance Statement: Environmental Siting (November 2016)*
- *Guidance Statement: Risk Assessment (February 2017)*
- *Guidance Statement: Decision Making (June 2019)*
- *Guideline: Industry Regulation Guide to Licensing (June 2019)*

2.2. Mobile Crushing Circuit

Karara proposes to install a mobile crushing circuit to maintain production levels due to the existing primary crusher currently being unable to meet production requirements.

There will be no change to the licenced category design or production capacity as the mobile crusher is required solely to maintain existing production levels.

The high compressive strength and abrasive nature of the Karara magnetite ore has resulted in a design which incorporates one complete crushing circuit consisting of 3 crushers and 2 screens, and capable of crushing 450 tonnes per hour (tph) of magnetite ore to <50 mm specification for a total of 150,000 tonnes product per month.

The ore feed will be hauled directly either from the Karara pit or from the ROM stockpile.

The mobile crushing circuit will consist of:

- Metso LT120 Jaw Crusher x 1;
- Metso LT300HP Cone Crusher x 2;
- Metso ST2.8 Scalping Screen x 1;
- Metso ST4.8 Screen x 1; and
- Conveyors between each stage of the crushing circuit, between crushers and screens.

Dust control measures will be through the use of spray nozzles on the crushing plant and focussed primarily on the jaw and cone crushers, being the primary sources of dust emissions. The spray nozzles will be in constant operation when the mobile crusher is in use.

Conveyors will be open, with spray nozzles fitted at appropriate locations to reduce dust emissions as far as practicable.

Wetting down of the feedstock and product stockpile with water cart cannons will continue to occur as per current practices.

Diesel will be supplied through a mobile fuel truck from the existing approved onsite bulk fuel storage facility. No additional fuel storage is proposed.

Water will be required for dust suppression purposes, but there is no significant increase to water consumption expected, and will be sourced from existing approved abstraction bores from the freshwater Yandanooka aquifer. Provision has been made, however, to use saline water if necessary.

The project is expected to run for a minimum of two years, but the mobile crushing circuit will continue to be available throughout the life of mine in the event that there is any malfunction or unplanned shutdown of the fixed primary crusher.

The crusher will be sited adjacent to the current Crusher Ore Stockpile within the Process Area.

Figure 1 below shows the location of the mobile crusher circuit.

Figure 2 shows the proposed crushing circuit process flow.

Figure 1: Mobile Crusher Layout

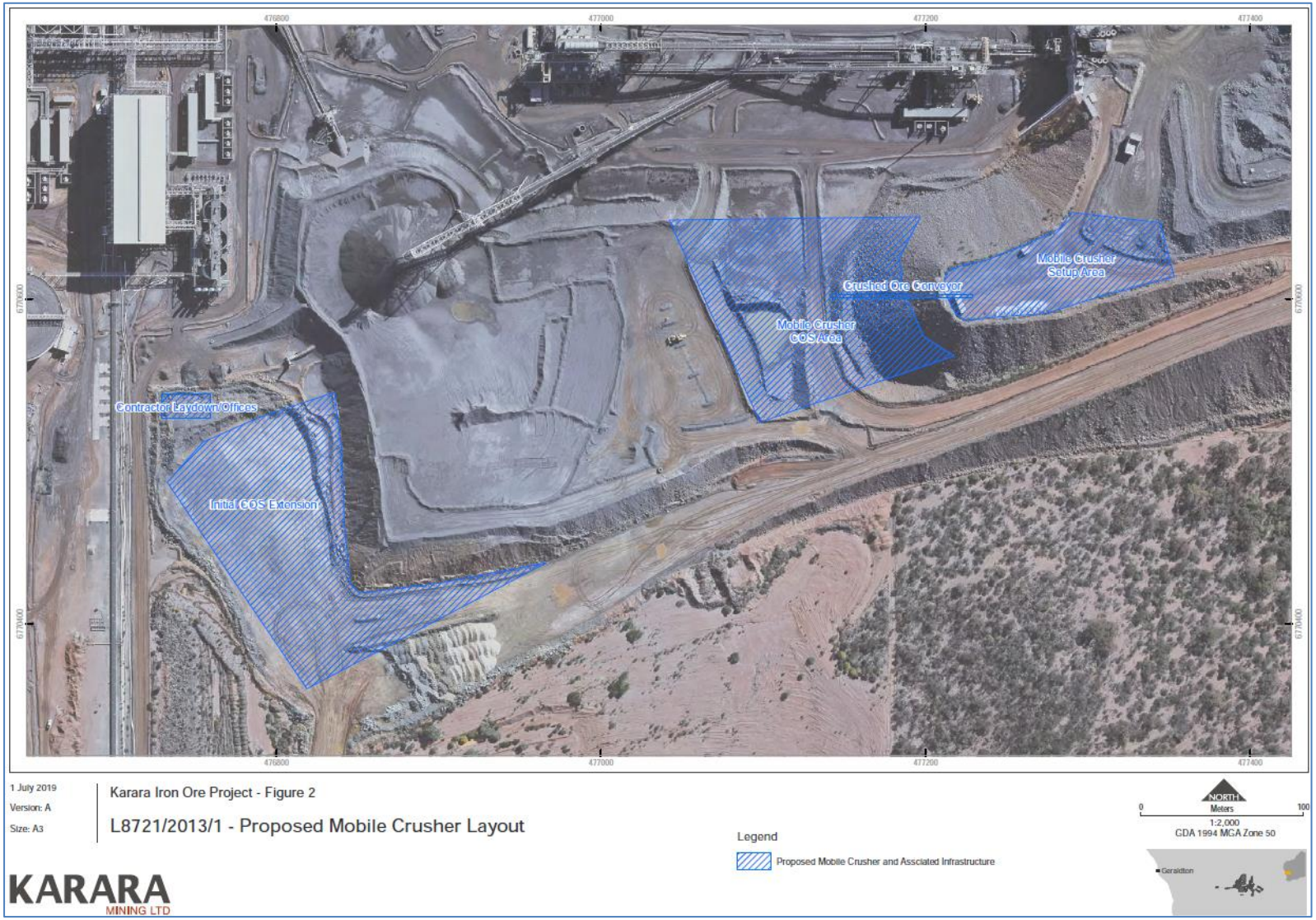
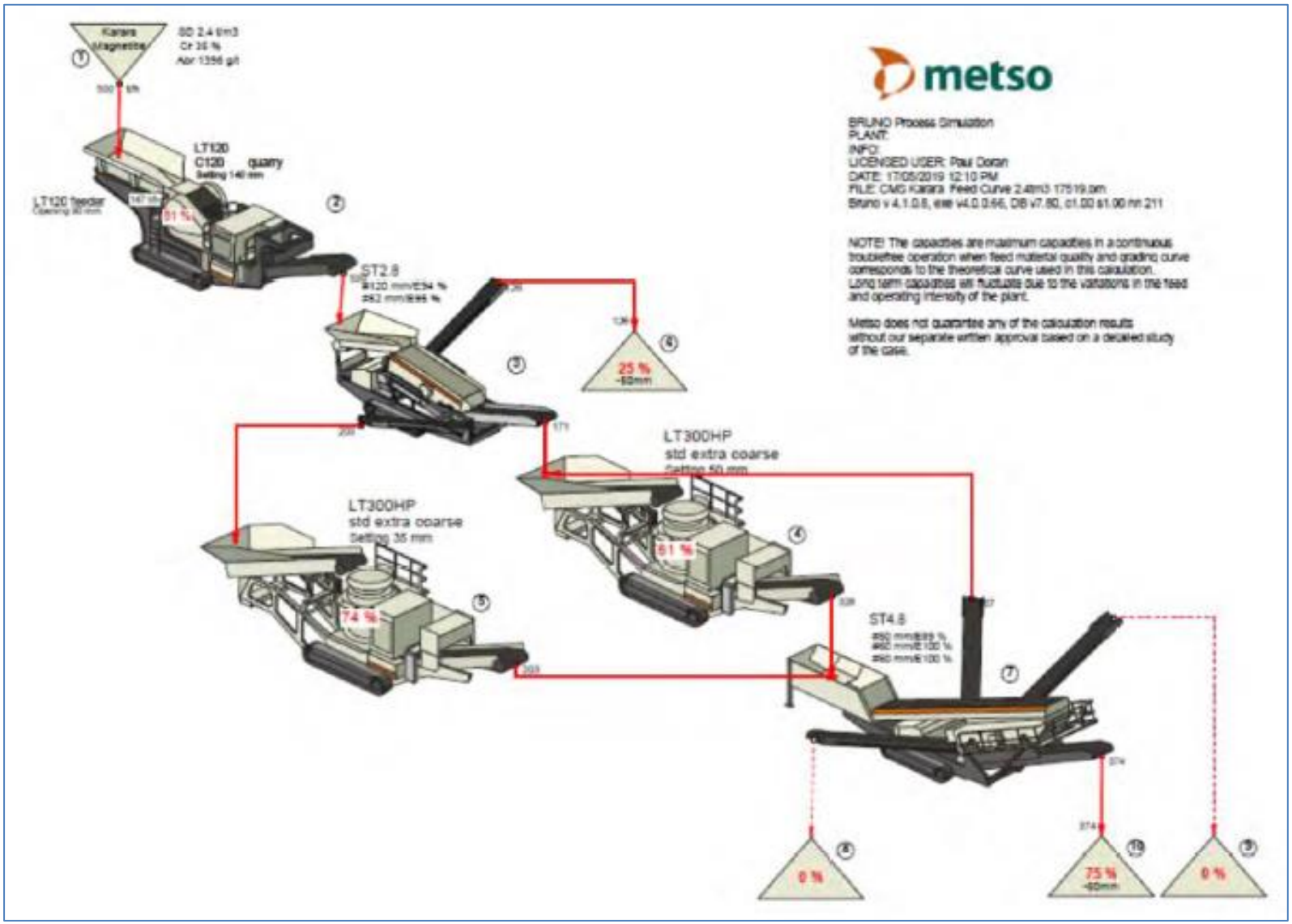


Figure 2: crushing circuit process flow



2.3. Surface water drainage

On 15 April 2019 Karara reported an environmental incident to DWER of a discharge of approximately 3,800 kilolitres (kL) of sediment laden brackish water from the Process Dam via the main drain. The incident was identified by Karara during routine inspection on 1 April 2019. The discharge was over 11.5 ha of native vegetation (Figure 3) within an area approved for TSF expansion under MS 805.

DWER conducted an incident inspection on 8 May 2019. Photographic monitoring points were required to be set up, and Karara committed for excess process water to be returned to the plant for re-use and for a long term drainage solution to be designed and implemented.

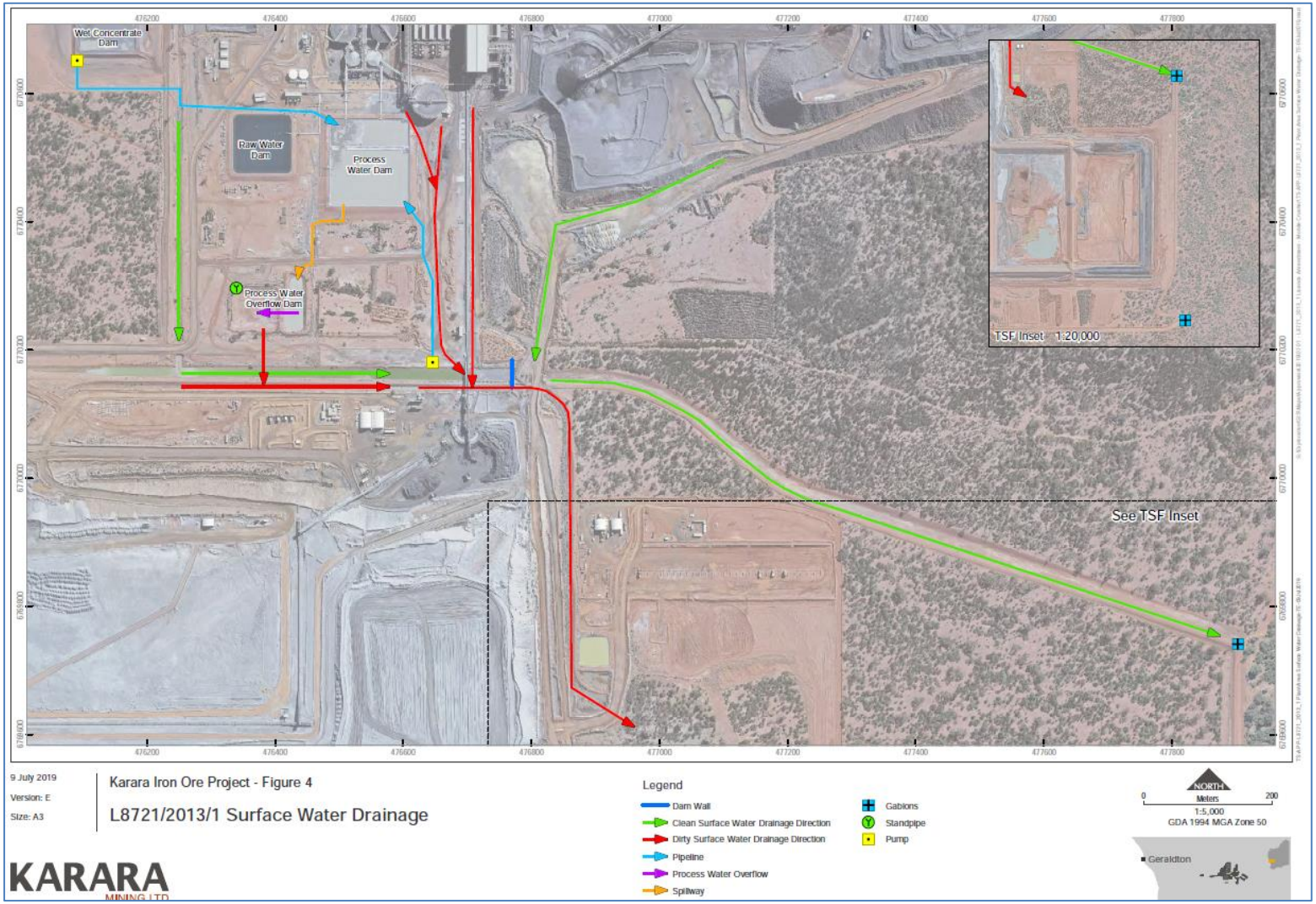
The Application included the surface water drainage solution as shown in Figure 4 and described as follows:

- Surface water runoff from: the TSF landform (including external embankments of the wet TSFs); spillage of tailings and return pipelines; and the Process Plant area flows via the 'Dirty Water Drain' to the TSF drainage retention pond/area.
- In the event of an overflow at the Process Water Dam, contingency is in place for overflow to discharge to the Process Water Overflow Dam (via Spillway) where water is either used by water carts for dust suppression (via Standpipe), or discharged to the Dirty Water Drain in cases of excessive overflow.
- Stormwater runoff from the surrounding catchments outside the processing plant footprint is diverted around the facility and is retained within a Clean Water Drain. The Clean Water Drain has been dammed (Dam Wall) to allow capture and re-use of water to maximise water usage efficiency for the Karara mine.
- The Clean Water Drain has a levy overflow into the Dirty Water Drain.
- In the case of excessively high rainfall events, clean water may ultimately be discharged to the environment within the approved footprint to the southeast of the processing plant. Two Gabions have been constructed at discharge locations to reduce any potential sediment loading.

The existing licence condition 1.2.3 will be amended to replace the generic stormwater condition that is now considered redundant, with requirements of the surface water drainage solution detailed above.

Figure 3: Incident spill location

Figure 4: Surface water drainage



2.4. Redundant construction conditions – Wet Concentrate Storage

Construction compliance documents for the Wet Concentrate Storage Facility were submitted by the Licence Holder on 2 May 2019, in accordance with existing licence condition 4.3.8. A desktop assessment determined non-compliance with the requirement for it to be "*constructed so that seepage collected by the underdrainage piping network and sump is directed to the process plant by underdrainage pipe".* The Facility was constructed so that water from the sump was directed by surface pipes 200 m to a Turkeys Nest then on to the Process Plant, and also that water could be pumped to a nearby main drain 200 metres to the east when the Turkeys nest is full.

In response to the spill incident outlined in Section 2.4, surface water drainage at the process area has been redesigned and seepage from the Wet Concentrate Facility is piped directly to the process water dam by above ground HDPE pipelines.

DWER considers the risks to the environment have not been increased by the use of above ground HDPE pipelines, and construction and reporting conditions 1.3.8, 4.3.8, 4.3.9 and 4.3.10 and Map 10 will be removed as redundant conditions. Existing condition 1.3.1 will be amended to transfer the Wet Concentrate Facility operating freeboard and containment infrastructure requirements.

2.5. Redundant construction conditions - TSF2A

Construction compliance documents for Tailing Storage Facility 2A (TSF2A) Phases 1 and 2 were submitted by the Licence Holder on 1 August 2018 and 1 March 2019 in accordance with existing licence conditions 4.3.2 and 4.3.3. Therefore, the existing licence will be amended to remove construction compliance and reporting conditions 1.3.7, 4.3.2 and 4.3.3.

Existing licence conditions 4.3.4, 4.3.5, 4.3.6 and 4.3.7 approved deposition of tailings following submission of compliance documents, with freeboard and inspection requirements. These conditions will be removed and existing condition 1.3.1 will be amended to transfer the relevant operating freeboard and containment infrastructure requirements. Schedule 1: Map 7 construction drawing of seepage collection will be removed.

3. Amendment history

Table 2 provides a summary of the works approvals and licences issued in relation to L8721/2013/1.

Table 2: Licence history

Instrument	Issued	Amendment
W4596/2009/1	10/12/2009	Works Approval for Karara Landfill Facility
W4615/2009/1	12/02/2010	Works Approval for Karara Minesite Beneficiation Plant
W4620/2009/1	05/03/2010	Works Approval for WWTP
L8486/2010/1	09/12/2010	New Licence for WWTP (this licence was later revoked and the WWTP incorporated in the Premises licence L8721).
L8721/2013/1	16/05/2013	New Licence - Karara Minesite Beneficiation Plant
L8721/2013/1	26/09/2013	Amendment - Karara Minesite Beneficiation Plant

W5545/2013/1	20/01/2014	Works Approval for wet tailings TSF1
W5664/2014/1	11/7/2014	Works Approval for wet tailings TSF2 (Stage 1 and Stage 2). The works were not constructed.
L8721/2013/1	12/11/2015	Amendment to incorporate operation of wet TSF1 in accordance with Works Approval W5545, and incorporation of the L8486/2010/1 WWTP within L8721/2013/1.
L8721/2013/1	29/04/2016	Department initiated amendment in accordance with section 59(1)(k) of the *Environmental Protection Act 1986* to amend the duration of the licence.
L8721/2013/1	30/06/2017	Amendment Notice 1 to: • Raise the Wet Tailings Storage Facility (Wet TSF1) downstream embankment from 8 metres (m) to 16 m at its deepest edge (Phase 1). • Extend Wet TSF1 to the south (Phase 2). • Correct the category 5 throughput capacity to 30,000,000 tonnes per annum. Correct the premises boundary map.
L8721/2013/1	08/01/2018	Amendment Notice 2 for the construction and operation of Tailings Storage Facility (TSF) 2A within the TSF landform footprint.
L8721/2013/1	03/08/2018	Amendment Notice 3 to construct an internal embankment from the central decant to the southern embankment of TSF Stage 2A, dividing the TSF 2A deposition area into Cell 1 and Cell 2.
L8721/2013/1	18/12/2018	Amendment Notice 4 to include a Wet Concentrate Storage Facility (WCSF) and its proposed expansion into the licence.
L8721/2013/1	16/04/2019	Amendment Notice 5 for construction and operation of a new category 64 landfill.
L8721/2013/1	14/11/2019	Amendment to include a category 5 mobile crusher, and includes a DWER initiated amendment to amalgamate / consolidate separately issued licence amendment notices into the licence.

4. Other Approvals

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

Table 3: Relevant approvals

Legislation	Approval
Mining Act 1978 (WA)	KML has submitted a Mining Proposal to the Department of Mines, Industry Regulation and Safety (DMIRS) which includes the area specific to the mobile crushing circuit detailed within the amendment application – Reg Id. 81075 still in progress at the time of this assessment.
Environmental Protection Act 1986 (WA) (EP Act)	Karara received approval for the Karara Iron Ore Project under Ministerial Statement 805 (MS 805) in September 2009. The proposed mobile crushing circuit is located within the development

	footprint as approved under MS 805. MS 805 Condition 6-5 requires the proponent to monitor impacts from mining and mining related activities due to: 1. dust; 2. saline water application for dust; 3. fire; and 4. feral species on the Blue Hills vegetation complex Priority Ecological Community (PEC). Condition 6-6 requires proponent to immediately provide and implement proposed management measures when monitoring impacts indicates, for outcome of minimizing disturbance or loss of the PEC.

5. Location and receptors

Table 4 below lists the closest sensitive land use to the proposed amendment.

Table 4: Receptors and distance from activity boundary

Residential and sensitive premises	Distance from proposed infrastructure
Karara Homestead	About 7 km southwest

Table 5 below lists the relevant environmental receptors in the vicinity of the Prescribed Premises which may be relevant to the proposed amendment *(Guidance Statement: Environmental Siting, November 2016).*

Table 5: Environmental receptors

Environmental receptors	Distance from proposed infrastructure
Priority Ecological Community – Blue Hills vegetation complex (banded ironstone formation).	Located on the premises. Occurs on ridges.
One DRF, 20 Priority Flora and four other taxa of conservation significance.	Occurs on the premises. Mapping provided by KML indicates the closest priority flora is located approximately 500 m north. The proposal area is located over 100 m away from the nearest vegetated area.
Three invertebrate and 15 vertebrate species of conservation significance.	Recorded during a fauna survey of the mine site, or are very likely to be present.
Department of Biodiversity, Conservation and Attractions (DBCA) managed land	The Premises is located entirely within DBCA managed land.
RIWI Act proclaimed Area - Gascoyne Groundwater Area – Mullewa/Byro Sub Area.	The Premises is located within the Gascoyne Groundwater Area.
Mongers Lake (non-perennial)	Approximately 6 km northeast.
Minor unconnected non-perennial watercourses	Located on the premises.

6. Risk assessment

Tables 6 and 7 below describe the Risk Events associated with the amendment consistent with the *Guidance Statement: Risk Assessments*. Both tables identify whether the emissions present a material risk to public health or the environment, requiring regulatory controls.

Table 6: Risk assessment for proposed amendments during construction

Risk Event				Consequence rating[1]	Likelihood rating[1]	Risk[1]	Reasoning	Regulatory controls
Source/Activities	**Potential emissions**	**Potential receptors, pathway and impact**	**Applicant controls**					
Installation of the mobile crusher circuit	Dust associated with movement of earth and vehicles.	Windborne pathway causing impacts to health and amenity of closest human receptors - Karara Homestead about 7 km southwest	Installation will be located more than 100 m from vegetation. Dust managed in accordance with Karara Mining Limited *Environmental Plan – Dust Management Plan CORP-EN-PLN-1010.*	NA	N/A	N/A	Distance to closest sensitive receptor is sufficient to inform the risk of dust emissions as not foreseeable.	MS 805 General provisions of the EP Act.
		Windborne pathway causing impacts to the Blue Hills PEC.		N/A	N/A	N/A	MS 805 requires Karara to monitor and manage impacts of dust to the PEC.	
		Windborne pathway causing impacts to flora of conservation significance and native vegetation.		Slight	Unlikely	Low	By default of MS 805, dust at the premises is managed and controlled. Duration of works is short term.	
	Noise associated with construction vehicles	Windborne pathway causing impacts to amenity of closest human receptors - Karara Homestead	None proposed in the Application	NA	N/A	N/A	Distance to closest sensitive receptor is sufficient to	The *Environmental Protection (Noise) Regulations 1997* (WA) are applicable.

Risk Event				Consequence rating[1]	Likelihood rating[1]	Risk[1]	Reasoning	Regulatory controls
Source/Activities	**Potential emissions**	**Potential receptors, pathway and impact**	**Applicant controls**					
		about 7 km southwest					inform the risk of noise emissions as not foreseeable.	
	Hydrocarbons	Spills and leaks resulting in direct contamination of soils causing impacts to flora of conservation significance and native vegetation.	Works will be located more than 100 m from vegetation and are within the Process Plant area where potentially contaminated surface water is directed to the Drainage Retention Pond/Area. Hydrocarbon spillages will be contained and managed by the use of absorbent material and the excavation and removal of contaminated soil to the site bioremediation facility or an off-site licensed facility. Surface water management and operations as per Environmental Procedure -	Minor	Unlikely	Medium	Duration of works is short term and the Applicant's controls have reduced the likelihood of impact.	The amended licence will require location of the works in accordance with the Application. Existing licence condition 1.2.2 requires the Licence Holder to immediately recover, or remove and dispose of spills of environmentally hazardous materials outside an engineered containment system. The *Environmental Protection (Unauthorised Discharges) Regulations 2004 (WA)* are applicable.
	Uncontained stormwater laden with sediments and/or altered flow path.	Erosion and/or sedimentation causing impacts to impacts to flora of conservation significance and native vegetation.		Minor	Unlikely	Medium	Duration of works is short term and the Applicant's controls have reduced the likelihood of impact.	

Risk Event				Consequence rating[1]	Likelihood rating[1]	Risk[1]	Reasoning	Regulatory controls
Source/Activities	**Potential emissions**	**Potential receptors, pathway and impact**	**Applicant controls**					
			Surface Water Management CORP-EN-PRO-1011.					

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the Department's Guidance Statement: Risk Assessments (February 2017)

Table 7: Risk assessment for proposed amendments during operation

Risk Event				Consequence rating[1]	Likelihood rating[1]	Risk[1]	Reasoning	Regulatory controls (refer to conditions of the granted instrument)
Source/Activities*	**Potential emissions**	**Potential receptors, pathway and impact**	**Applicant controls**					
Operation of the mobile crusher circuit	Dust	Windborne pathway causing impacts to health and amenity to Karara Homestead about 7 km southwest.	Mobile Crusher will be located more than 100 m from vegetation. Dust suppression by: • Water spray nozzles on the crushing plant, focused primarily on the jaw and cone crushers, and in constant operation when the mobile crusher is in use.	NA	N/A	N/A	Distance to closest sensitive receptor is sufficient to inform the risk of dust emissions as not foreseeable.	General provisions of the EP Act.

Risk Event				Consequence rating[1]	Likelihood rating[1]	Risk[1]	Reasoning	Regulatory controls (refer to conditions of the granted instrument)
Source/Activities*	**Potential emissions**	**Potential receptors, pathway and impact**	**Applicant controls**					
		Windborne pathway causing impacts to the Blue Hills PEC.	• Conveyors fitted with spray nozzles at locations to reduce dust emissions as far as practicable. • Wetting down of the feedstock and product stockpile with water cart. Dust Management Plan includes dust monitoring at sensitive environmental receptors and background locations with trigger levels for contingency and management actions.	N/A	N/A	N/A	MS 805 requires Karara to monitor and manage impacts of dust to the PEC.	MS 805 The amended licence will require dust controls of the crusher circuit in accordance with the Application. Existing licence condition 2.3.1 requiring dust emissions to be managed in accordance with Karara Mining Limited Dust Management Plan, will be removed because dust management via MS 805 applies.
		Windborne pathway causing impacts to flora of conservation significance and native vegetation		Minor	Unlikely	Medium	By default of MS 805, dust at the premises is managed and controlled. Applicant's dust controls on the crushing facility.	
	Noise associated with the crushing circuit - cumulative noise from the premises	Airborne, causing amenity impacts to Karara Homestead located about 7 km southwest	None proposed in the Application	N/A	N/A	N/A	Distance to closest sensitive receptor is sufficient to inform the risk of noise emissions as not foreseeable.	The *Environmental Protection (Noise) Regulations 1997* (WA) are applicable.
Operation of the Process Plant infrastructure	Stormwater/drainage water contaminated with hydrocarbons	Uncontained contaminated stormwater with	The crushing circuit is located within the	Moderate	Unlikely	Medium	Uncontained contaminated water could	The amended licence will require drainage to be directed in

Risk Event				Consequence rating[1]	Likelihood rating[1]	Risk[1]	Reasoning	Regulatory controls (refer to conditions of the granted instrument)
Source/Activities*	**Potential emissions**	**Potential receptors, pathway and impact**	**Applicant controls**					
(including Cat 5 mobile crusher)	and/or sediments	potential impacts of contamination of soils, erosion and sedimentation, and inundation of vegetation along the flow path.	processing area and is more than 100 m from vegetation. Drainage is by the surface water drainage network described in Section 2.4. Potentially contaminated water from the processing area drains to a Drainage Retention Pond/Area. Hydrocarbon spillages will be contained and managed by the use of absorbent material and the excavation and removal of contaminated soil to the site bioremediation facility or an off-site licensed facility. Surface water management and operations				potentially drain a high volume of water to a large area, impacting native vegetation by sedimentation and inundation. However, environmentally significant receptors are located on ridges or 500 m away. The Applicant's drainage management infrastructure has reduced the likelihood of the risk event occurring.	accordance with the Application. Condition 1.2.2 requires the Licence Holder to immediately recover, or remove and dispose of spills of environmentally hazardous materials outside an engineered containment system. The *Environmental Protection (Unauthorised Discharges) Regulations 2004 (WA)* are applicable.

Risk Event				Consequence rating[1]	Likelihood rating[1]	Risk[1]	Reasoning	Regulatory controls (refer to conditions of the granted instrument)
Source/Activities*	**Potential emissions**	**Potential receptors, pathway and impact**	**Applicant controls**					
			as per Environmental Procedure - Surface Water Management CORP-EN-PRO-1011.					

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the Department's Guidance Statement: Risk Assessments (February 2017)

7. Consultation

Table 8: Summary of consultation

Method	Comments received	DWER response
Department of Mines, Industry Regulation and Safety referred Application documents 13/08/2019	No objection to the proposal	N/A
Applicant referred draft documents (date)	28/10/2019	Appendix 2

8. Consolidation of Licence

As part of this amendment package DWER has consolidated the licence by incorporating changes made under Amendment Notices 1 to 5.

The obligations of the Licence Holder have not changed in consolidating the licence. DWER has not undertaken any additional risk assessment of the Premises related to previous Amendment Notices.

In consolidating the licence, the CEO has:

- updated the appearance of the Licence (template);
- deleted the redundant AACR form set out in schedule 1 of the previous licence and advised the Licence Holder to obtain the form from the Department's website;
- revised licence condition's numbers, and removed any redundant conditions and realigned condition numbers for numerical consistency; and
- corrected clerical mistakes and unintentional errors.

Previously issued Amendment Notices will remain on the DWER website for future reference and will act a record of DWER's decision making.

9. Conclusion

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

9.1. Summary of amendments

Table 9 provides a summary of the proposed amendments and will act as a record of implemented changes. All proposed changes have been incorporated into the Revised Licence as part of the amendment process.

Table 9: Licence amendments

Existing Condition No.	Proposed amendments
-	Definitions update.
1.3.1	Update of Table 1.3.1 and Table 1.3.2 to reflect deposition of wet tailings is now only in TSF2A in accordance with comments received from the Licence Holder. Inclusion of containment infrastructure and freeboard requirements of the Wet

	Concentrate Storage Facility and TSF2A. Removal of redundant construction conditions. Transfer of relevant inspection requirements of the Wet Concentrate Storage Facility and TSF2A from removed conditions.
Table 1.3.2	Freeboard and inspection required for TSF2A only (in accordance with comments received from the Licence holder and DWER's response).
1.3.7	Addition of construction requirements for the category 5 mobile crusher.
1.3.8 4.3.8 4.3.9 4.3.10	Removal of redundant construction, compliance reporting and operating approval conditions for the Wet Concentrate Storage Facility.
1.3.7 4.3.4 4.3.5 4.3.6 4.3.7	Removal of redundant construction, compliance reporting and operating approval conditions for the TSF2A.
2.3.1	Removal of dust condition.
3.2.1 3.3.1	Updated to account for treated effluent discharge only to the Spray field (in accordance with comments received from the Licence holder and DWER's response).
4.3.2 4.3.3 4.3.4	Addition of requirements for submission of compliance documents following installation of the Category 5 mobile crusher, and approval for its operation.
Map 5	Removal of redundant map (WRD landfill is located on Map 2) and addition of Surface Water Drainage map.
Map 6	Removal of redundant map of TSF2A.
Map 7	Removal of redundant drawing for construction of TSF2A seepage collection.
Map 8	Removal of redundant map of groundwater monitoring locations and addition of map for the location of the mobile crushing circuit.
Map 10	Removal of redundant map for construction of Wet Concentrate Storage Facility
-	Maps renumbered as required after removal of maps.

Alana Kidd
Manager, Resource Industries
INDUSTRY REGULATION

An officer delegated by the CEO under section 20 of the EP Act

Appendix 1: Key documents

	Document title	In text ref	Availability
1	Application form and supporting documentation *Karara Minesite Beneficiation Plant Licence L8721/2013/1 Supporting Document to Licence Amendment Application, Mobile Crushing Circuit, 8 July 2019.* Received by email 9 July 2019.	Application	DWER records (DWERDT177622)
2	Karara Mining Limited, 21 June 2017. *Karara Corporate Standard Environmental Plan - Dust Management Plan CORP-EN-PLN-1010*	Dust management plan	DWER records (A1829050)
3	Karara Mining Limited, 20 December 2016. *Environmental Procedure - Surface Water Management CORP-EN-PRO-1011*	Surface water management plan	DWER records (A1829051)
4	Licence L8271/2013/1 – Karara Minesite Beneficiation Plant	L8721/2013/1	accessed at www.dwer.wa.gov.au
5	Ministerial Statement 805	MS 805	accessed at www.epa.wa.gov.au/
6	DER, February 2017. Guidance Statement: Risk Assessments.	-	accessed at www.dwer.wa.gov.au
7	DER, November 2016. Guidance Statement: Environmental Siting. Department of Environment Regulation, Perth.	-	
8	DWER, June 2019. Guideline: Industry Regulation Guide to Licensing	-	
9	DWER, June 2019. Guidance Statement: Decision Making.	-	
10	DER, October 2015. Guidance Statement: Setting Conditions	-	

Appendix 2: Summary of Licence Holder comments

The Licence Holder was provided with the draft Amendment Report on 21 October 2019 for review and comment. The Licence Holder responded on 28 October 2019. The following comments were received on the draft Amendment Report.

Condition or Table	Summary of Licence Holder comment	DWER response
Definitions suggested to be added.	'Beach and Operational freeboard' and 'Total freeboard' – suggested update based on DMIRS 2015 (Guide to the preparation of a design report for tailings storage facilities (TSFs)).	Included as requested.
	'TSF Landform' - the combination of the Dry TSF and Wet TSFs as one feature (suggest added to avoid confusion on its use in the 'Table 1.3.1: Containment infrastructure').	The TSF landform is defined by the shaded areas labelled as 'Dry TSF', 'TSF1' and 'TSF2'. It is agreed to include a definition for 'TSF landform' but worded as *'TSF Landform' means the combination of the areas shaded as 'Dry TSF', 'TSF1' and 'TSF2A'' in Maps 2 and 3 of Schedule 1* for consistency with Maps.
	'Wet TSF' - A TSF geotechnically designed, constructed and operated with sufficient freeboard to contain wet tailings (>20% moisture content (added to avoid confusion on its use in the 'Table 1.3.1: Containment infrastructure')	Definition not included as requested. Instead, the term 'Wet' TSF1 is renamed TSF1, and is hence redundant. According to comments this TSF is no longer a TSF accepting wet tailings. Requirements for wet tailings deposition managed by works approval construction conditions, and conditions of the Licence. Embankment stability is managed by Department of Mines, Industry Regulation and Safety under the *Mining Act 1978*. Definition of 'wet tailings' is added to Definitions.

Condition or Table	Summary of Licence Holder comment	DWER response
	Dry Tailings' tailings which are ≤ 20% moisture content.	Definition included as requested.
	'Dry TSF' - A TSF which has dry tailings deposited to it (≤ 20% moisture content), or a wet TSF that is drained and demonstrated to DMIRS to be geotechnically stable for the stacking of dry tailings;	Proposed definition not accepted. Stack stability is managed by Department of Mines, Industry Regulation and Safety (DMIRS) under the *Mining Act 1978*. Karara has provided a copy of an email from DMIRS confirming that Karara must "*before commencement of further lifts greater than the 10m assessed in 2019, demonstrate to DMIRS that stability of the dry stack will not be impacted by the Wet temporary TSF foundation. This can be included in the annual TSF report submission. This advice is based on the review of Karara Mining Limited report 'Dry Stack TSF and Temporary Wet TSF Investigation and Geotechnical Stability Analyses' completed by Golder dated August 2019*." Dry tailings to be defined in definitions and are also defined by condition limit of moisture content.
Table 1.3.1	'Drainage Retention Pond' requested to be changed to 'Drainage Retention Area' throughout.	Name changed as requested.
	TSF Landform – Stormwater defined a rainfall intensity event (1 in 100 year). No event previously defined.	Not required – directed to Drainage Retention Area which is required to be cconstructed and maintained to accommodate stormwater flows from a 1 in 100 year, 72 hour ARI rainfall event.
	Slurry tailings conditions do not apply, as TSF1 filled to capacity and operationally decommissioned (delivery lines removed). TSF1 will be dry stacked over.	Noted as above, and wet tailings only to be deposited in TSF2A.

Condition or Table	Summary of Licence Holder comment	DWER response
	TSF1 – Tailings – please remove all conditions, TSF1 no longer in use for disposal of wet tailings.	Freeboard conditions removed for 'TSF1' as wet tailings are only to be deposited in TSF2A.
	TSF2A – Tailings – request to remove 'key trenches' and replace with, 'Seepage collected by toe drains and directed to the Seepage Collection Sump.' TSF2A – Tailings – request to remove requirement for a specific number of piezometers per embankment, propose to change to 'Piezometers maintained in each embankment wall in accordance to design and construction reports.' TSF2A – Tailings – request to add 'total' to freeboard, to avoid confusion, and align with DMIRS TSF management conditions TSF2A – Tailings – request for requirement for prescriptive spigot spacing edited to read 'Spigots, for subaerial deposition of tailings, positioned and rotated around the embankment perimeter in order to maintain even beaching of tailings'.	No change to risk and intended outcomes, conditions edited as requested.
	Return water lines – propose to change to 'Return water from operational Wet TSF'.	Proposed wording not accepted. Instead, the term 'Wet TSF' is removed from all conditions and the material described as 'TSF return water'.
	TSF2A – Tailings – request to remove 'Embankments maintained with hydraulic conductivity less than 1 x 10-8 m/sec'. This is a construction condition, TSF embankment permeability verified during construction, and not done thereafter.	Agreed. Given that construction compliance has been verified by compliance documents, and that seepage would be intercepted by toe drains and directed to the Seepage Collection Sump, the risk of seepage through embankment walls is Low and the embankment permeability requirement is removed as requested. Embankment stability is managed by Department of Mines, Industry Regulation and Safety under the *Mining Act 1978*.

Condition or Table	Summary of Licence Holder comment	DWER response
Conditions 3.2.1, 3.3.1 and Map 4	WWTP – propose to remove the existing Monitoring point M2 which requires a second flow meter in the plant on the discharge line. This is based on how the WWTPs are set up, with all treated water discharged to the sprayfield. Therefore there is no other point of discharge of treated water.	Karara confirmed that all treated effluent is now discharged to the spray field only, hence only one discharge monitoring point required. Confirmed M3 should be removed, M2 remains and updated map provide. Conditions and maps are updated.
Maps 2, 5 and 6 - updates provided with comments	Containment infrastructure –Drainage Retention Pond changed to Drainage Retention Area in the legend. Added a small area to the north, which is contained within the bunded retention area. TSF layout – updated to reflect changes to and interact with Containment infrastructure and surface water drainage maps. Seepage interception sump clearly defined, imagery updated etc. Added a 'drainage collection point' to define where drainage is re-captured. Surface water drainage updated to reflect changes to and interact with above two maps. Containment bund line continued to the NW (top) and W (bottom) to reflect what is on the ground.	Maps 2 and 5 are updated in the licence with the maps provided. Map 6 is not required.
Table 1.3.6	Mobile Crusher – Location and details of the manufacturer of infrastructure is very prescriptive. Suggest minor edits to remove manufacturer and inclusion of 'indicative' in the Map 8 title, to create flexibly for minor on ground changes noting changes must not result increased risks to health, environment and amenity as per condition 1.3.8.	Agreed (suggested changes not result increased risks to health, environment and amenity and condition edited as requested.