



Decision Document

Environmental Protection Act 1986, Part V

Proponent: Silver Lake (Integra) Pty Limited

Licence: L8457/2010/2

Registered office: Silver Lake (Integra) Pty Limited
Suite 4, Level 3, South Shore Centre
85 South Perth Esplanade
SOUTH PERTH WA 6151

ACN: 093 278 436

Premises address: Salt Creek Processing Facility
Mount Monger Road
EMU FLAT WA 6431
Being Tenements M25/307, M25/125, M25/133, M25/71, G25/02, L25/33,
M25/347, L25/27 and L25/31

Issue date: Thursday, 05 September 2013

Commencement date: Friday, 06 September 2013

Expiry date: Tuesday, 05 September 2023

Decision

Based on the assessment detailed in this document the Department of Environment Regulation (DER) has decided to issue an amended licence. DER considers that in reaching this decision, it has taken into account all relevant considerations and legal requirements and that the Licence and its conditions will ensure that an appropriate level of environmental protection is provided.

Decision Document prepared by: Fiona Sharpe
Licensing Officer

Decision Document authorised by: Danielle Eyre
Delegated Officer



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1 Purpose of this Document

This decision document explains how DER has assessed and determined the application and provides a record of DER's decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to DER's assessment and decision making under Part V of the *Environmental Protection Act 1986*. Other approvals may be required for the proposal, and it is the proponent's responsibility to ensure they have all relevant approvals for their Premises.

2 Administrative summary

Administrative details		
Application type	Works Approval <input type="checkbox"/>	
	New Licence <input type="checkbox"/>	
	Licence amendment <input checked="" type="checkbox"/>	
	Works Approval amendment <input type="checkbox"/>	
Activities that cause the premises to become prescribed premises	Category number(s)	Assessed design capacity
	5	1 700 000 tpa
	6	200 000 tpa
Application verified	Date: N/A	
Application fee paid	Date: N/A	
Works Approval has been complied with	Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Compliance Certificate received	Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Commercial-in-confidence claim	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Commercial-in-confidence claim outcome		
Is the proposal a Major Resource Project?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the <i>Environmental Protection Act 1986</i> ?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the proposal subject to Ministerial Conditions?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Does the proposal involve a discharge of waste into a designated area (as defined in section 57	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>



of the <i>Environmental Protection Act 1986</i>)?	Department of Water consulted Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Is the Premises within an Environmental Protection Policy (EPP) Area Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
If Yes include details of which EPP(s) here.	
Is the Premises subject to any EPP requirements? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
If Yes, include details here, eg Site is subject to SO ₂ requirements of Kwinana EPP.	

3 Executive summary of proposal and assessment

Salt Creek Processing Facility is operated by Silver Lake (Integra) Pty Limited. Silver Lake Resources (SLR) took 100% ownership of Integra Mining Limited in January 2013. The Salt Creek Processing Facility is located approximately 60 kilometres (km) south east of Kalgoorlie, situated on tenements M25/347 and L25/31 (Schedule 1). Salt Creek Processing Facility is a gold mining and minerals processing operation which sources ore from three SLR owned pits (Lucky Bay, Salt Creek, Maxwell's and Cock-eyed Bob) and processes the ore by carbon-in-pulp (CIP) methods.

The project area contains an integrated waste landform (IWL), which is constructed adjacent to the Salt Creek ore body. The IWL has a footprint of 54.59 hectares (ha); a maximum height of 20 metres (m) (RL 323 m); and consists of a tailings storage facility (TSF) surrounded by a waste rock landform although this has since been replaced by the Salt Creek In-Pit TSF. Prior to the construction of the IWL, groundwater levels were recorded to be between 4.7 and 8.8 metres below ground level (mbgl). Eight groundwater monitoring bores were installed by SLR around the IWL perimeter and adjacent to the Salt Creek pit to monitor standing water levels. There are conditions on the licence for groundwater quality monitoring and for standing water level limits.

The Salt Creek In-Pit TSF was constructed in accordance with Works Approval W5678/2014/1 and is currently licensed to accept tailings from the Salt Creek Processing Facility, replacing the IWL TSF, which displays evidence of seepage. Groundwater standing water level levels in monitoring bore BH02 breached the prescribed licence limit of 4 mbgl while standing water levels at monitoring bore MB002 neared the limit and are less than 6 mbgl.

In May 2015, DER approved the implementation of a Groundwater Recovery Plan that aimed to reduce standing water levels around the IWL TSF by discharging approximately 100,000 kL per year of recovered groundwater from three production bores located in the vicinity of groundwater mounding to the Salt Creek In-pit TSF. However, all but one of the recovery bores have since been found to produce insufficient yields that would allow for a reduction in the water table. In addition, standing water levels appear to be naturally attenuating at a satisfactory rate. On 13 November 2015, DER notified SLR that allowing standing water levels around the IWL TSF to naturally attenuate was preferable to discharging recovered water to the active Salt Creek In-pit TSF. The Salt Creek In-pit TSF has a projected lifespan of eight years.

Lucky Bay Pit currently dewateres to the Salt Creek In-pit TSF although this is only anticipated to be carried out over approximately nine months to allow for six months of open pit mining at Lucky Bay Pit, which commenced in May 2015. Abstracted groundwater is utilised in processing and in lieu of current groundwater feedstocks. To ensure that Lucky Bay dewatering is not interrupted, groundwater is required to be dewatered to the Salt Creek In-pit TSF and then back to the processing facility via the process water pond.

This Licence amendment allows for an increase in throughput from 1.3 million tonnes per annum (mtpa) to 1.7 mtpa as SLR propose to utilise a mobile crusher and screener on M25/347 to assist processing and mining operations. This will allow for the crushing and screening of both metallic and non-metallic ore for mining infrastructure (roadbase/hardcore material for roads/laydowns etc) within



the Mount Monger Operations. The plant may also be used to assist with campaign crushing for ore supply to the processing facility during times of main crusher maintenance/repairs.

SLR also propose to dewater Maxwell's open pit to support underground mining on M25/133. Dewatering of approximately 200 000 kL to either the neighbouring Rumbles open pit (M25/125) or Santa open pit (M25/71) is required.



4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987* and DER's Operational Procedure on Assessing Emissions and Discharges from Prescribed Premises. Where other references have been used in making the decision they are detailed in the decision document.

DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
Premises operation	L1.2.5	<p><u>Construction</u> No construction is required as the dewatering pipelines are already in place. No construction is required for the mobile crusher and screener. The equipment will be moved from its current location to M25/347. No construction conditions are required for this amendment.</p> <p><u>Abnormal operation</u> <i>Emission:</i> Hypersaline water discharged to the surrounding environment due to rupture or leak of the pipeline. <i>Impact:</i> Contamination of surrounding soils with dissolved solids can affect groundwater quality and cause vegetation stress or even death if exposure is for a prolonged period. Controls: 200 mm HDPE poly pipes are utilised to dewater groundwater to Rumbles or Santa pits. The pipelines are located in either a 'v' drain or are banded in areas where excavation is restricted.</p> <p><u>Risk Assessment</u> Consequence: Minor Likelihood: Unlikely Risk Rating: Moderate</p> <p><u>Regulatory Control</u> Existing condition L1.2.5 states the dewatering pipeline is to be inspected every 12 hours for visual integrity. If a leak were to occur, SLR are obliged to report this to DER under section 72 of the Act.</p>	<p>Applicant Supporting Documentation</p> <p>General Provisions of the <i>Environmental Protection Act 1986</i>.</p>



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p><u>Residual Risk</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Rare <i>Risk Rating:</i> Minor</p>	
Point source emissions to groundwater including monitoring	L2.1.1 and L3.2.1	<p>Normal Operation <u>Emission Discharge</u> <i>Emission:</i> Hypersaline water (approximately 25,000 mg/L TDS) is transported in pipelines from Maxwell's underground and discharged into either Rumbles open pit or Santa open pit. TDS of Rumbles pit is 24,900 mg/L and Santa pit is 25,000 mg/L. Volumetric capacity of Rumbles pit is 940,721 m³ and Santa pit is 1,712,500 m³. Depth to groundwater in the vicinity is 40-50 metres below ground level (mbgl). <i>Impact:</i> Potential contamination of groundwater and possible mounding of the water table in the vicinity of the receiving pit. <i>Controls:</i> To ensure the pit volume is not exceeded, a flow meter will record dewatered volumes. The capacity of the pits far exceeds the estimated volume of 200 000 kL.</p> <p><u>Risk Assessment</u> <i>Consequence:</i> Moderate <i>Likelihood:</i> Rare <i>Risk Rating:</i> Moderate</p> <p><u>Regulatory Controls</u> Licence conditions will be included allow the discharge to occur and also to include pit level monitoring, along with volumetric flow, pH and TDS is undertaken. The approved production capacity has been reduced from 800 000 tonnes to 200 000 tonnes in this amendment.</p> <p><u>Residual Risk</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Rare <i>Risk Rating:</i> Low</p>	<p>Applicant Supporting Documentation</p> <p>General Provisions of the <i>Environmental Protection Act 1986</i>.</p>



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
Fugitive emissions	No conditions	<p><u>Operation</u> <i>Emission:</i> Dust may be generated during the operation of the additional mobile crushing and screening plant. <i>Impact:</i> Dust emissions are expected to be minor and unlikely to reach the nearest residential area located approximately 30 km to the west of the premises. There is the potential for dust to deposit on nearby native vegetation, restricting the plants' ability to photosynthesise. However, there are no Rare, Threatened or Priority flora near to the site. Further, vegetation in semi-arid environments of Western Australia typically display a high tolerance to ambient and deposited dust. <i>Controls:</i> Dewater from the Lucky Bay borefield will be used for dust suppression along haul roads and at the Salt Creek Processing Facility. Dust suppression of finer material is likely to be more effective as the product can be more evenly wet, preventing the handling of dry sections of product. SLR do not envisage additional dust emissions as industry standard water sprays are located on the plant. Therefore the consequence has been assessed as minor.</p> <p><u>Risk Assessment</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Rare <i>Risk Rating:</i> Low</p> <p><u>Regulatory Controls</u> The risk rating is low and does not justify the addition of alternative conditions to control fugitive emissions. The substantive offenses of the <i>Environmental Protection Act 1986</i> provide enforceable prohibitions for dust emissions that result in pollution or environmental harm.</p>	<p>Applicant Supporting Documentation</p> <p>General Provisions of the <i>Environmental Protection Act 1986</i>.</p>
Licence Duration	No conditions	The Licence duration was extended to 5 September 2023 as per Guidance Statement: Licence Duration 2016.	DER's Guidance Statement: Licence Duration August 2016



5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
22/09/2016	Proponent sent a copy of draft instrument	Signed waiver form returned with no comments.	N/A



6 Risk Assessment

Note: This matrix is taken from the DER Corporate Policy Statement No. 07 - Operational Risk Management

Table 1: Emissions Risk Matrix

Likelihood	Consequence				
	Insignificant	Minor	Moderate	Major	Severe
Almost Certain	Moderate	High	High	Extreme	Extreme
Likely	Moderate	Moderate	High	High	Extreme
Possible	Low	Moderate	Moderate	High	Extreme
Unlikely	Low	Moderate	Moderate	Moderate	High
Rare	Low	Low	Moderate	Moderate	High