



Report and recommendations of the Environmental Protection Authority



Sorby Hills Silver Lead Zinc Project, under section 46 of the *Environmental Protection Act 1986* to Amend Ministerial Statement 964

Sorby Management Pty Ltd

Report 1632

April 2019

EPA Report and recommendations No: 1632

ENVIRONMENTAL PROTECTION AUTHORITY
REPORT AND RECOMMENDATIONS TO THE MINISTER FOR
ENVIRONMENT

**SORBY HILLS SILVER LEAD ZINC PROJECT - INQUIRY UNDER SECTION 46
OF THE *ENVIRONMENTAL PROTECTION ACT 1986* TO AMEND MINISTERIAL
STATEMENT 964**

The Minister for Environment has requested that the Environmental Protection Authority (EPA) inquire into and report on the matter of changing the implementation conditions relating to the Sorby Hills Silver Lead Zinc Project proposal.

The following is the EPA's Report and Recommendations (Report No. 1632) to the Minister pursuant to section 46(6) of the *Environmental Protection Act 1986* (the EP Act).

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Dr Tom Hatton
Chairman

1 April 2019

Assessment No. 2170

Background

The Sorby Hills Silver Lead Zinc Project proposal is to develop a silver, lead, and zinc mine, associated infrastructure and processing facilities. The project is located approximately 50 kilometres north of Kununurra, with the concentrate produced transported by road and shipped through Wyndham Port.

The EPA assessed the proposal at the level of Public Environmental Review and released its assessment report EPA Report 1491 in October 2013. The EPA identified the following key environmental factors relevant to the proposal:

- flora and vegetation;
- human health;
- marine environmental quality; and
- closure and rehabilitation.

In applying the Environmental Protection Authority *Statement of Environmental Principles, Factors and Objectives*, December 2016 (SEPFO) these factors are now represented by:

- flora and vegetation;
- air quality;
- marine environmental quality.

The EPA concluded in EPA Report 1491, October 2013 that “the project can be managed to meet the EPA’s objectives, provided there was satisfactory implementation by the proponent of the EPA’s recommended conditions”.

The Minister for Environment approved the proposal for implementation subject to the implementation conditions of Ministerial Statement 964 on 2 April 2014.

Requested changes to conditions

Condition 3-1 of Ministerial Statement 964 requires the proponent to substantially commence the proposal within five years of the date of issue of the Statement (that is, before 2 April 2019).

The proposal has not yet substantially commenced. The proponent for the proposal, Sorby Management Pty Ltd, has requested an extension of the Time Limit of Authorisation (now referred to as “Time Limit for Proposal Implementation”) for substantial commencement to be extended for a further of five years to 2 April 2024.

Application of relevant EPA Policies and Guidelines

In inquiring into the change to conditions, the EPA has considered and given due regard, where relevant, to its current and any applicable former environmental impact assessment policy and guidance documents, noting that a number of published policies and guidelines pertaining to this proposal were considered but not determined to be relevant.

Inquiry into the requested change to conditions

The EPA recommends imposing a substantial commencement timeframe implementation condition so that the conditions relating to a proposal can be reviewed within a reasonable timeframe to ensure:

- consideration is given to changes in the environment, scientific or technology knowledge arising since the initial assessment; and
- proposals are being implemented using best practice and contemporary methods so that the EPA objectives for the relevant key environmental factors are met.

The EPA has discretion as to how it conducts its inquiry. This inquiry has considered the currency of the EPA's assessment 1491 and issue of Ministerial Statement 964, 2 April 2014, as these documents are instructive in determining the extent and nature of the inquiry under section 46. Ministerial Statement 964 was published on 2 April 2014.

In conducting this inquiry, the EPA reviewed the information provided by the proponent.

In considering whether it should recommend an extension of the Time Limit for Proposal Implementation for substantial commencement of the proposal, the EPA also considered whether there is any new relevant information in relation to the assessment of the potential impacts of the proposal.

Inquiry Findings

Flora and Vegetation

The EPA's objective for this factor is "to protect flora and vegetation so that biological diversity and ecological integrity are maintained."

The Sorby Hills Silver Lead Zinc Project will have a direct impact on vegetation and flora through the clearing of up to 573 ha of native vegetation in the Keep IBRA subregion for the development of the proposal. Indirect impacts may occur through dewatering of the pits, dust smothering plants, altered fire regimes, introduction and spread of weeds and the use of saline water for dust suppression.

Surveys conducted by the proponent as part of the original assessment for this proposal did not identify any Threatened or Priority Ecological Communities or Threatened Flora. The proponent is avoiding the two areas of the Priority 1 Priority Ecological Community 'Monsoon vine thickets of limestone ranges' that were identified in the vegetation surveys.

Five species of Priority Flora were identified:

- *Croton arnhemicus* (P1);
- *Fimbristylis pachyptera* (P1);
- *Goodenia malvina* (P1);
- *Fimbristylis laxiglumis* (P2); and
- *Minuria macrorhiza* (P2).

The loss of individuals of priority flora species and the clearing of native vegetation in ‘completely degraded to excellent’ condition in the Victoria Bonaparte IBRA bioregion, was not significant when considered in a cumulative context. The distribution of each of the five species extends outside of the Development Envelope and into the Northern Territory. The largest impact to the local population of *Fimbristylis laxiglumis* (P2) is 23 per cent loss and the proponent has taken measures to reduce the impact as far as possible.

The EPA recommended that the location and authorised extent of clearing be limited to 573 ha within the development envelope. The EPA also recommended condition 6 ‘vegetation’ to ensure that no vegetation, in excess of the proposed 573 ha, is impacted by the proposal.

As the proposal involves the clearing of vegetation it will require effective mine closure and rehabilitation. The proponent has proposed to not completely or partially backfill all voids, as there is not enough available waste rock to fill all of the mine voids and one pit void will be partially filled, resulting in the formation of a shallow pit lake. The proponent engaged Soil Water Consultants to model and predict the water quality for the pit lake, as well as the voids that are proposed to be completely backfilled, for a period of 500 years.

The EPA notes that there are suitable quantities of host rocks on the site with a high buffering capacity, so this work is able to be undertaken through the mine closure planning process with the Department of Mines, Industry Regulation and Safety (DMIRS).

The large evaporation basin (approximately 100 ha), which is proposed to replace the previously intended artificial wetland, is to be constructed with vegetation left *in situ* to reduce potential impacts from dust that may be generated from the pond. The EPA notes that the dust from the pond can be managed appropriately through the development of a mining proposal and mine closure plan with the DMIRS.

It is the EPA’s opinion that the proposal can be managed to meet its objective and has therefore not recommended a condition for closure and rehabilitation.

Relevant Policy and Guidance

The EPA considers that the following current environmental policy and guidance is relevant to its assessment of the change to conditions:

- Environmental Factor Guideline – Flora and Vegetation (EPA, December 2016).

This guideline was applied with regard to:

- application of the mitigation hierarchy to avoid or minimise impacts on flora and vegetation, where possible;
- any potential impacts as a result of the proposed change;
- the significance of the flora and vegetation, and the risk to the flora and vegetation;
- whether proposed management and mitigation approaches are technically and practically feasible; and
- whether the proposal area will be revegetated in a manner that promotes biological diversity and ecological integrity.

The proponent has not proposed any additional disturbance to flora and vegetation for the proposal.

EPA Report 1491 stated that, having particular regard to the:

- a) the distribution of the identified priority species found outside the proposal area;
- b) the widespread nature of the impacted vegetation types across the Kimberley;
- c) the avoidance of impacts on the Priority 1 Priority Ecological Community (PEC) 'Monsoon vine thickets of limestone ranges';
- d) the application of condition 6 'Vegetation' to ensure Groundwater Dependent Ecosystems are not impacted by the proposal;
- e) there being no permanent waste rock dumps;
- f) all waste material not used in project construction being used for backfilling of pit voids; and
- g) the ability of the DMIRS to manage Closure and Rehabilitation using the DMIRS/EPA Guidelines for preparing Mine Closure Plans.

In consideration of information provided by the proponent and relevant EPA policies and guidelines, the EPA considers that:

- there is no significant new or additional information that justifies the reassessment of the issues raised by the proposal;
- there have been no new significant changes in the relevant environmental factors since the proposal was assessed by the EPA in Report 1491 (October 2013); and
- no new significant environmental factors have arisen since the EPA's assessment of the proposal.

The EPA is therefore satisfied that the existing implementation condition 6, Vegetation; of Ministerial Statement 964 minimises the impact to flora and vegetation and continues to meet the EPA's objective.

Air Quality

The EPA's objective for this factor is "to maintain air quality and minimise emissions so that environmental values are protected".

The EPA previously considered these matters under the Human Health Key Environmental Factor, however the matters considered are now covered through the Air Quality Environmental Factor Guidelines.

The Sorby Hills Silver Lead Zinc Project will produce a concentrate which contains chemicals that have the potential to impact on air quality. Significant impact on human health may occur if fugitive emissions of the concentrate occur during transport. The most likely method by which this could occur is spillage from a container during an accident or windblown dust emanating from the port.

The Department of Health (DoH) reviewed the management measures proposed in the Public Environmental Review (PER) for the proposal and acknowledged that the use of sealed Rotabox containers to transport the concentrate will minimise the health risks to the residents of Wyndham and to Indigenous communities along the route.

The proponent has committed to minimise impacts port personnel and to minimise the potential for concentrate emissions at the port through appropriate planning and

management in line with relevant legislation such as the *Mines Safety and Inspection Act 1994* and *Occupational Health and Safety Act 1984*. The use of a mechanised system for loading will reduce the need for direct handling and protect workers from exposure to the concentrate.

The EPA notes that the proponent is required to comply with *Dangerous Goods Safety Act 2004*, no specific conditions are proposed to regulate the transport of the concentrate from the mine to the port. The use of sealed Rotabox containers, with a minimum seven per cent concentrate moisture content, as the method of transport is included in the recommended conditions to ensure that this is the method used to transport the concentrate.

Relevant Policy and Guidance

The EPA considers that the following current environmental policy and guidance is relevant to its assessment of change to conditions:

- Environmental Factor Guideline – Air Quality (EPA, December 2016).

This guideline was applied with regard to:

- application of the mitigation hierarchy to avoid or minimise emissions, where possible;
- any potential impacts as a result of the proposed change; and
- whether proposed management approaches are technically and practically feasible.

The proponent has not proposed any additional disturbance to air quality for the proposal.

EPA Report 1491 stated that, having particular regard to the:

- a) nature of the concentrate being produced and transported;
- b) the need for the storage, handling and transport of the concentrate to comply with the *Dangerous Goods Safety Act 2004*; and
- c) the use of sealed Rotabox containers being included in the recommended conditions to ensure that this is the method used to transport the concentrate.

In consideration of the information provided by the proponent and relevant EPA policies and guidelines, the EPA considers that:

- there is no significant new or additional information that justifies the reassessment of the issues raised by the proposal;
- there have been no new significant changes in the relevant environmental factors since the proposal was assessed by the EPA in Report 1491 (October 2013); and
- no new significant environmental factors have arisen since the EPA's assessment of the proposal.

The EPA is therefore satisfied that the existing implementation condition 7, Concentrate, Storage and Transport; of Ministerial Statement 964 minimises the impact to air quality and continues to meet the EPA's objective.

Marine Environmental Quality

The EPA's objective for this factor is "to maintain the quality of water, sediment, and biota so that the environmental values, are protected".

The potential significant impact to the marine environment will be dust from accidental loss of concentrate during operations at Wyndham Port. The proposed transport method is the use of rotating containers that are sealed from processing up until the final moment of loading into the ships, where the lid is removed and the container tipped into the hold. This final unlocking and tipping creates the potential for dust to contaminate the marine environment.

Wyndham Port is currently listed as a contaminated site under the *Contaminated Sites Act 2003*. There is historical contamination at the port from previous transport of nickel, lead and zinc as well as other port activities. Baseline monitoring is being undertaken to determine existing levels of lead and other metals in the sediment at the port. This will help determine if any future elevated readings in the sediment can be attributed to the implementation of the Sorby Hills proposal or are the result of historical activities. The proponent has proposed management measures and contingency actions in the PER, should elevated levels be detected.

The EPA considers that the management strategies proposed by the proponent will reduce the likelihood of impacts to the marine environment from concentrate handling.

Relevant Policy and Guidance

The EPA considers that the following current environmental policy and guidance is relevant to its assessment of the change to conditions:

- Environmental Factor Guideline – Marine Environmental Quality (EPA, December 2016).

This guideline was applied with regard to:

- application of the mitigation hierarchy to avoid or minimise impacts on marine environmental quality, where possible;
- the marine system that will potentially be affected and the significance of the environmental values that it supports;
- options for avoiding or reducing the potential effects on the environmental values (e.g. location, waste minimisation and/or waste treatment);
- any additional mitigation strategies proposed to be implemented and the predicted residual impacts; and
- whether proposed management approaches are technically and practically feasible.

The proponent has not proposed any additional disturbance to marine environmental quality for the proposal.

EPA Report 1491 stated that, having particular regard to:

- a) specification of the use of sealed 'Rotabox' containers for the transport of concentrate and the minimum concentrate moisture content in Schedule 1 of the draft recommended conditions;
- b) proponent's proposed measures to prevent concentrate discharge at Wyndham Port and the EPA's recommended condition 7, 'Concentrate handling, storage and transport' to ensure the necessary monitoring and management are implemented; and
- c) port operating under a DER licence as a prescribed premise.

In consideration of the information provided by the proponent and relevant EPA policies and guidelines, the EPA considers that:

- there is no significant new or additional information that justifies the reassessment of the issues raised by the proposal;
- there have been no new significant changes in the relevant environmental factors since the proposal was assessed by the EPA in Report 1491 (October 2013); and
- no new significant environmental factors have arisen since the EPA's assessment of the proposal.

The EPA is therefore satisfied that the existing implementation condition 7, concentrate handling, storage and transport; of Ministerial Statement 964 minimises the impact to marine environmental quality and continues to meet the EPA's objective.

EPA conclusions and recommendations

Conclusions

In relation to the environmental factors, and considering the information provided by the proponent and relevant EPA policies and guidelines, the EPA concludes that:

- there are no changes to the proposal;
- there is no significant new or additional information that justifies the reassessment of the issues raised by the proposal;
- there has been no new significant change in the relevant environmental factors since the proposal was assessed by the EPA in Report 1491, October 2013;
- no new significant environmental factors have arisen since the EPA's assessment of the proposal; and
- existing implementation conditions will continue to address the relevant environmental factors, and manage and mitigate the potential impacts of the proposal.

Recommendations

Having inquired into this matter, the EPA submits the following recommendations to the Minister for Environment under section 46 of the *Environmental Protection Act 1986*:

1. That it is appropriate to amend condition 3 of Ministerial Statement 964 to allow for the timeframe for substantial commencement of the Sorby Hills Silver Lead Zinc proposal to be extended for a further 5 years, to 2 April 2024; and
- 2 That, after complying with section 46(8) of the *Environmental Protection Act 1986*, the Minister issues a statement of decision to change condition 3 of Statement 964 in the manner provided for in the attached recommended Statement.

Identified Decision-making Authorities

Section 44(2) of the EP Act specifies that the EPA's report must set out (if it recommends that implementation be allowed) the conditions and procedures, if any, to which implementation should be subject. This Appendix contains the EPA's recommended conditions and procedures.

Section 45(1) requires the Minister for Environment to consult with decision-making authorities, and if possible, agree on whether or not the proposal may be implemented, and if so, to what conditions and procedures, if any, that implementation should be subject.

The following decision-making authorities have been identified for this consultation:

Portfolio/Position	Agency/Organisation	Relevant Approval and Legislation
1. Minister for Water, Hon D J Kelly MLA	Department of Water and Environmental Regulation	<i>Rights in Water and Irrigation Act 1914</i> Water extraction licence
2. Minister for Aboriginal Affairs, Hon B S Wyatt MLA	Department of Planning, Lands and Heritage	<i>Aboriginal Heritage Act 1972</i> s18 approval
3. Minister for Environment, Hon S N Dawson MLC	Department of Water and Environmental Regulation	<i>Wildlife Conservation Act 1950</i> Taking of protected flora and fauna
4. Chief Executive Officer, Mike Rowe	Department of Water and Environmental Regulation	<i>Part V EP Act</i> Works approval and licence
5. State Mining Engineer, Andrew Chaplyn	Department of Mines, Industry Regulation and Safety	<u>Mines Safety</u> <i>Mining Safety and Inspection Act 1984</i>
6. Chief Dangerous Goods Officer	Department of Mines, Industry Regulation and Safety	<u>Dangerous Goods</u> <i>Dangerous Goods Safety Act 2004</i> Storage and handling of hazardous materials
7. Executive Director, Resource and Environmental Compliance Division, Karen Caple	Department of Mines, Industry Regulation and Safety	<i>Mining Act 1978</i> Approval of mining proposal
8. Chief Health Officer	Department of Health	<i>Health Act 1911</i> Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations

		<p>Drains, sanitary conveniences, and any apparatus for the treatment of sewage intended to serve a building that is not a single dwelling or any other building that produces more than 540 litres of sewage per day</p>
<p>9. Chief Executive Officer</p>	<p>Shire of East Wyndham East Kimberley</p>	<p><i>Building Act 2011</i> Any building</p>

RECOMMENDED ENVIRONMENTAL CONDITIONS

**STATEMENT TO CHANGE THE IMPLEMENTATION CONDITIONS APPLYING TO A
PROPOSAL**
(Section 46 of the *Environmental Protection Act 1986*)

SORBY HILLS SILVER LEAD ZINC PROJECT

Proposal: The proposal is to develop a silver, lead and zinc mine, associated infrastructure and processing facilities approximately 50 kilometres north of Kununurra, with the concentrate produced transported by road and shipped through Wyndham Port.

Proponent: Sorby Management Pty Ltd
Australian Company Number 145 292 486

Proponent Address: 84 Stanhope Road
KILLARA NSW 2017

Assessment Number: 2170

Report of the Environmental Protection Authority: 1632

Previous Assessment Number: 1920

Previous Report Number: 1491

Preceding Statement Relating to this Proposal: 964

Pursuant to section 45 of the *Environmental Protection Act 1986*, as applied by section 46(8), it has been agreed that the implementation conditions set out in Ministerial Statement No. 964, be changed as specified in this Statement.

1. **Condition 3 replaced**

Condition 3 of Ministerial Statement 964 is deleted and replaced with:

3 Time Limit for Proposal Implementation

3-1 The proponent shall not commence implementation of the proposal after 2 April 2024, and any commencement, prior to this date, must be substantial.

3-2 Any commencement of implementation of the proposal, on or before 2 April 2024, must be demonstrated as substantial by providing the CEO* with written evidence, on or before 2 April 2014.

*“CEO” means the Chief Executive Officer of the Department of the Public Service which is responsible for the administration of section 48 of the Environmental Protection Act 1986, or his delegate.

Hon Stephen Dawson MLC
MINISTER FOR ENVIRONMENT