



Report and recommendations of the Environmental Protection Authority



Turee Syncline Iron Ore Project – inquiry under section 46 of the *Environmental Protection Act 1986* to amend Ministerial Statement 947

Hamersley Iron Pty Limited

Report 1667

February 2020

Inquiry under section 46 of the *Environmental Protection Act 1986*

The Minister for Environment has requested that the Environmental Protection Authority (EPA) inquire into and report on the matter of changing the implementation conditions 3-1 and 3-2 (Time Limit for Proposal Implementation) in Ministerial Statement 947 relating to the Turee Syncline Iron Ore Project.

Section 46(6) of the *Environmental Protection Act 1986* requires the EPA Report to include:

1. a recommendation on whether or not the implementation conditions to which the inquiry relates, or any of them, should be changed
2. any other recommendations that it thinks appropriate.

The following is the EPA's Report and Recommendations to the Minister pursuant to s. 46(6) of the *Environmental Protection Act 1986*.



Robert Harvey
Deputy Chairman

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Contents

	Page
1. The proposal	1
2. Requested changes to conditions.....	2
3. Inquiry into changing conditions.....	3
4. Inquiry findings	4
4.1 Flora and Vegetation.....	4
4.2 Terrestrial Fauna.....	6
4.3 Subterranean Fauna.....	7
5. Conclusions and recommendations	9
References.....	10
Appendix 1: Identified Decision-Making Authorities and recommended environmental conditions.....	11

1. The proposal

The Turee Syncline Iron Ore Project involves the construction and operation of a greenfield mine site and associated infrastructure (roads, administration buildings, accommodation camp and potential borefield), located approximately 30 kilometres (km) north-east of Paraburdoo. The proponent is Hamersley Iron Pty Limited.

The Environmental Protection Authority (EPA) assessed the proposal at the level of Public Environmental Review, releasing its Report and Recommendations (Report 1479) in June 2013. In this report, the EPA considered the following key environmental factors required detailed evaluation:

- Vegetation and Flora
- Terrestrial Fauna
- Subterranean Fauna
- Rehabilitation and Closure (integrating factor)
- Offsets (integrating factor).

In applying the *Statement of Environmental Principles, Factors and Objectives* (EPA 2018a), these factors are now represented by:

- Flora and Vegetation
- Terrestrial Fauna
- Subterranean Fauna.

The EPA concluded in Report 1479 that it was likely the EPA's objectives would be achieved, provided there was satisfactory implementation by the proponent of the EPA's recommended conditions.

The then Minister for Environment approved the proposal for implementation, subject to the implementation conditions of Ministerial Statement 947 (22 August 2013).

Previously approved changes to conditions

There have been no changes to the proposal or the implementation conditions under the *Environmental Protection Act 1986* since the publication of Ministerial Statement 947.

2. Requested changes to conditions

Condition 3-1 of Ministerial Statement 947 states that the proponent shall not commence implementation of the proposal after the expiration of five years from the date of the statement (being 22 August 2013), and any commencement, within this five year period, must be substantial.

The proponent requested a change to condition 3-1 to extend the authorised timeframe for substantial commencement of the proposal by a further five years. At the time of the request, the proposal had not substantially commenced.

In response to the proponent's request, the Minister for Environment requested that the EPA inquire into and report on the matter of changing the implementation conditions of Ministerial Statement 947 for the Turee Syncline Iron Ore Project. This report satisfies the requirements of the EPA's inquiry.

3. Inquiry into changing conditions

The EPA typically recommends the Minister sets conditions on significant proposals that require them to be substantially commenced within a specified timeframe. Extending this timeframe requires the Minister to change the relevant conditions under s. 46 of the *Environmental Protection Act 1986*, and provides for the EPA to review and consider the appropriateness of the implementation conditions relating to the proposal.

The EPA has discretion as to how it conducts this inquiry. The currency of the initial assessment and issue of the Ministerial Statement (that is, when it was published) is also instructive in determining the extent and nature of the inquiry.

The EPA inquiry has considered:

- the currency of its original assessment (Report 1479)
- Ministerial Statement 947
- information provided by the proponent
- advice from relevant decision-making authorities
- any new information regarding the proposal's potential impacts on the environment.

These documents are instructive in determining the extent and nature of the inquiry under s. 46 of the *Environmental Protection Act 1986*.

In addition to the above, the EPA has also considered:

- any changes in environmental, scientific or technological knowledge that may have arisen since the initial assessment
- whether the proposal is being implemented using best practice and contemporary methods so that the EPA objectives for the key environmental factors are met.

EPA policy and procedures

In conducting this inquiry, the EPA followed the procedures in the *Environmental Impact Assessment (Part IV Divisions 1 and 2) Administrative Procedures 2016* (EPA 2016a) and the *Environmental Impact Assessment (Part IV Divisions 1 and 2) Procedures Manual* (EPA 2018b).

4. Inquiry findings

The EPA considered that the following are the key environmental factors relevant to the change to conditions:

- Flora and Vegetation
- Terrestrial Fauna
- Subterranean Fauna.

4.1 Flora and Vegetation

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

EPA Report 1479

The Turee Syncline Iron Ore Project will have a direct impact on vegetation and flora through the clearing of up to 1,050 hectares of native vegetation in the Hamersley Interim Biogeographic Regionalisation for Australia (IBRA) subregion. Indirect impacts may occur through alteration of surface water flow patterns, introduction of weeds, dust deposition, and altered fire regimes.

Surveys conducted between 2003 and 2011 by the proponent as part of the original assessment for the proposal did not identify any Threatened or Priority Ecological Communities or Threatened Flora.

Eight species of Priority (P) Flora were identified:

- *Aristida lazaridis* (P2)
- *Oxalis* sp. Pilbara (P2)
- *Goodenia* sp. East Pilbara (P3)
- *Gunniopsis propinqua* (P3)
- *Sida* sp. Barlee Range (P3)
- *Eremophila coacta* (P3)
- *Nicotiana umbratica* (P3)
- *Ptilotus mollis* (P4).

The EPA recommended that the location and authorised extent of clearing be limited to 1,050 hectares within the development envelope. The EPA also recommended condition 6 to ensure a Vegetation and Flora Management Plan (VFMP) is implemented to protect Priority Flora. The VFMP (April 2012), approved as part of the assessment process, requires the proponent to implement actions such as avoiding areas of Priority Flora where possible and the protection of Priority Flora from disturbance by flagging and recording observed species.

The loss of individuals of Priority Flora species and the clearing of native vegetation in ‘Good to Excellent’ condition in the Pilbara IBRA bioregion is considered to be significant when considered in a cumulative context. The clearing of this vegetation also results in the loss of habitat for conservation significant species. This proposal is in the Hamersley IBRA subregion, which is fairly well represented (12.6 per cent) within the conservation reserve system. However, this is still below the target of 15 per cent.

As the proposal involves the clearing of vegetation and alteration of landforms, it will require effective mine closure and rehabilitation. The proponent has proposed to not backfill all voids, as the mine is above the watertable and the risk of acid and metalliferous drainage is considered to be low, based on the results of waste characterisation testing. As a result, mine voids would remain post mine closure. However, some backfilling is proposed to minimise total disturbance, with several pits proposed to have waste rock dumps constructed over them once they are mined.

To manage impacts, the EPA recommended the following conditions:

- condition 6 – implement a Vegetation and Flora Management Plan to protect Priority Flora
- condition 10 – mine closure and rehabilitation
- condition 11 – offsets to address the significant residual impacts of the proposal.

Assessment of the proposed change to conditions

The EPA considers that the following current environmental policy and guidance is relevant to its assessment of the proposal for this factor:

- *Environmental Factor Guideline – Flora and Vegetation* (EPA 2016b).

Updates to Flora

Additional surveys undertaken in 2014 (post assessment) have identified the following additional Priority Flora species in the vicinity of Turee Syncline:

- *Eremophila* sp. Hamersley Range (P1) (now P3)
- *Hibiscus* sp. Gurinbiddy Range (P2)
- *Solanum kentrocaule* (P3)
- *Grevillea saxicola* (P3).

Due to the non-restrictive range of these four species, it is believed that targeted surveys will extend their range and population counts.

There have been two changes to Priority Flora species listings since the surveys:

- *Eremophila* sp. Hamersley Range was P1, now P3
- *Gunniopsis propinqua* was P3, now no longer listed.

The EPA considers that a Vegetation and Flora Management Plan can still be implemented to avoid and minimise impacts to the four additional Priority Flora species identified in the 2014 surveys, the priority species originally considered in the EPA's assessment, and changes to conservation status of these species. The proponent is not proposing any changes to the proposal that would change the extent or location of clearing of native vegetation. The EPA is satisfied that its objectives for flora and vegetation can be met, and the potential impacts of the proposal can be managed through existing implementation condition 6 (Priority Flora), condition 10 (Mine Closure and Rehabilitation) and condition 11 (Offsets).

Pilbara Offsets

The proposal still involves the clearing of vegetation in 'Good to Excellent' condition which is considered a residual impact that requires an offset. Since the original approval of the proposal, the EPA's approach to offsets in the Pilbara has been reviewed. Updates to the standard wording of the offset conditions have occurred which require condition 11 of Ministerial Statement 947 to be updated to align with the EPA's contemporary approach to conditioning offsets that contribute to the Pilbara Environmental Offsets Fund. The proponent also operates on a calendar year, so the reporting and reconciliation requirements of condition 11 has been updated to reflect this and ensure consistency across the proponent's proposals.

4.2 Terrestrial Fauna

The EPA's environmental objective for this factor is to *protect terrestrial fauna so that biological diversity and ecological integrity are maintained.*

EPA Report 1479

The Turee Syncline proposal will have an impact on terrestrial fauna through the loss of 1,050 ha of habitat. Direct impacts are also likely through vehicle strikes on fauna species. Indirect impacts are possible due to altered fire regimes, introduction of feral species and noise, dust and light emissions. Trenching may be required for the water supply pipeline, which could result in fauna becoming trapped in open trenches.

Short Range Endemic (SRE) surveys were conducted in 2012 as part of the assessment for this proposal. Fifty-one invertebrate species were found, of which 12 were considered potential SRE species. It was concluded that, of these 12 species, none were definitely an SRE species or highly likely to be an SRE species. Habitat mapping showed that for those SRE species collected from within the impact area only, the habitat types extended beyond the impact area.

Fauna surveys were carried out across the proposal area between 2008 and 2012. The surveys recorded 154 fauna species; comprising 18 mammals, 79 birds, 51 reptiles and six introduced species. Of these, the species protected under the *Wildlife Conservation Act 1950* are:

- northern quoll (*Dasyurus hallucatus*) Endangered
- Pilbara leaf-nosed bat (*Rhinonictoris aurantia*) Vulnerable
- Pilbara olive python (*Liasis olivaceus barroni*) Vulnerable.

The EPA recommended condition 8 to ensure a Conservation Significant Fauna Management Plan is implemented for the management of species considered a Matter of National Environmental Significance under the *Environment Protection and Biodiversity Conservation Act 1999*. The EPA also recommended condition 7 to ensure that any trenching required for the proposal is undertaken according to the prevailing best management practices.

To manage these impacts, the EPA recommended the following conditions:

- condition 7 (Trapped Fauna in Trenches)
- condition 8 (Conservation Significant Fauna).

Assessment of the proposed change to conditions

The EPA considers that the following current environmental policy and guidance is relevant to its assessment of the proposal for this factor:

- *Environmental Factor Guideline – Terrestrial Fauna* (EPA 2016c).

Updates to Listed Fauna

A survey undertaken in 2017 (post assessment) recorded the call of a ghost bat (*Macroderma gigas*). The ghost bat is listed as Vulnerable under the *Wildlife Conservation Act 1950*. Given the project is already managed for the Pilbara leaf-nosed bat, the identification of the ghost bat does not significantly change the EPA assessment or management regimes. Condition 8-2 prescribes the implementation of a Significant Species Management Plan (September 2011). This plan will require updating to include the ghost bat and actions in the plan are likely to meet the EPA's objectives.

Considering the information provided by the proponent, relevant agencies and stakeholders, and the 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 Terrestrial Fauna factor for this proposal since it was assessed by the EPA in Report 1479.

The proponent is not proposing any changes to the proposal that would change the potential impacts to terrestrial fauna, and the EPA is satisfied that its objectives for this factor can be met, and the potential impacts of the proposal can be managed through existing implementation condition 7 and condition 8.

4.3 Subterranean Fauna

The EPA's environmental objective for this factor is *to protect subterranean fauna so that biological diversity and ecological integrity are maintained*.

EPA Report 1479

The main impact to troglofauna will be the excavation of the mine pits. The troglofauna sampling program focused on the area to be excavated for mine pits

within the mining development envelope. Additional drill hole locations were sampled outside the area of the proposed mine pits (some within the proposal area and some outside), to show the wider distribution of troglifauna species.

The EPA considered the proposal will not have a significant impact on troglifauna as most of the troglifauna species are represented outside of the proposal area. The three troglifauna species recorded only within the proposed mine pits are likely to extend beyond the mine pit areas due to the widespread and contiguous habitat.

Impacts to stygofauna will mainly be from drawdown of the Wittenoom or Kalkamunda borefields, should either of these water sources be pursued. The proponent undertook a desktop risk assessment to determine the likelihood of stygofauna occurring within the proposal area. The proponent concluded that there is a moderate likelihood of stygofauna being found in the groundwater resources that are the target of this proposal.

EPA Report 1479 stated that, having particular regard to:

- a) the extension of troglifauna habitat outside the mine pit area
- b) the moderate likelihood of stygofauna occurring in the proposed borefields
- c) the proponent's commitments to avoid significant impacts to stygofauna if they develop a borefield,

it was the EPA's opinion that the proposal can be managed to meet the EPA's environmental objective for subterranean fauna provided a condition is imposed to ensure that the borefield is located to avoid significant impacts on stygofauna. To manage these impacts, the EPA recommended condition 9 (Stygofauna).

Assessment of the proposed change to conditions

The EPA considers that the following current environmental policy and guidance is relevant to its assessment of the proposal for this factor:

- *Environmental Factor Guideline – Subterranean Fauna* (EPA 2016d).

Updates to Subterranean Fauna

Considering information provided by the proponent, relevant agencies and stakeholders, and the 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 Subterranean Fauna factor for this proposal since it was assessed by the EPA in Report 1479.

The proponent is not proposing any changes to the proposal that would change the potential impacts to subterranean fauna, and the EPA is satisfied that its objectives for this factor can be met, and the potential impacts of the proposal can be managed through existing implementation condition 9.

5. Conclusions and recommendations

Change to condition 3

The proponent has requested to extend the timeframe for commencement for an additional five years. The EPA considers it is appropriate to extend the time limit for project implementation for a further five years, to 22 August 2023.

Change to condition 11

The EPA considers it is appropriate to update the offsets condition to contemporary wording and calendar year basis.

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 changes the conclusions reached by the EPA under any of the relevant environmental factors since the proposal was assessed by the EPA in Report 1479 (June 2013)
- no new significant environmental factors have arisen since its assessment of the proposal
- the impacts to the key environmental factors are considered manageable, based on the requirements of existing conditions, and the imposition of the attached recommended conditions.

Recommendations

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

1. While retaining the environmental requirements of the original conditions of Ministerial Statement 947, it is appropriate to change implementation conditions 3 and 11, and replace them with new implementation conditions.
2. After complying with s. 46(8) of the *Environmental Protection Act 1986*, the Minister may issue a statement of decision to change conditions 3 and 11 of Ministerial Statement 947 in the manner provided for in the attached recommended statement (Appendix 1).

References

EPA 2013, Turee Syncline Iron Ore, Report and Recommendations, Report 1479, Environmental Protection Authority, Perth, WA.

EPA 2016a, *Environmental Impact Assessment (Part IV Divisions 1 and 2) Administrative Procedures 2016*, Environmental Protection Authority, Perth, WA.

EPA 2016b, *Environmental Factor Guideline – Flora and Vegetation*, Environmental Protection Authority, Perth, WA.

EPA 2016c, *Environmental Factor Guideline – Terrestrial Fauna*, Environmental Protection Authority, Perth, WA.

EPA 2016d, *Environmental Factor Guideline – Subterranean Fauna*, Environmental Protection Authority, Perth, WA.

EPA 2018a, *Statement of Environmental Principles, Factors and Objectives*, Environmental Protection Authority, Perth, WA.

EPA 2018b, *Environmental Impact Assessment (Part IV Divisions 1 and 2) Procedures Manual*, Environmental Protection Authority, Perth, WA.

Appendix 1: Identified Decision-Making Authorities and recommended environmental conditions

Identified Decision-Making Authorities

The following decision-making authorities have been identified for the purposes of s. 45 as applied by s. 46(8) of the *Environmental Protection Act 1986*:

Decision-making Authority	Legislation (and Approval)
1. Minister for Water	<i>Rights in Water and Irrigation act 1914</i> (Water abstraction licence)
2. Minister for Aboriginal Affairs	<i>Aboriginal Heritage Act 1972</i> (s. 18 clearances)
3. Minister for Mines and Petroleum	<i>Mining Act 1978</i>
4. Minister for State Development	<i>Iron Ore (Mount Bruce) Agreement Act 1972</i> <i>Iron Ore (Hamersley Range) Agreement Act 1963</i>
5. Minister for Environment	<i>Biodiversity Conservation Act 2016</i> (Taking of flora and fauna)
6. CEO, Department of Water and Environment Regulation	<i>Environmental Protection Act 1986</i> (Works approval and licence)
7. Department of Mines, Industry Regulation and Safety	
State Mining Engineer	<i>Mines Safety and Inspection Act 1994</i> (Mine safety)
Chief Dangerous Goods Officer	<i>Dangerous Goods Safety Act 2004</i> (Dangerous goods)

Note: In this instance, agreement is only required with DMA 1-4 since these DMAs are Ministers.

RECOMMENDED ENVIRONMENTAL CONDITIONS

STATEMENT TO CHANGE THE IMPLEMENTATION CONDITIONS APPLYING TO A PROPOSAL

(Section 46 of the *Environmental Protection Act 1986*)

TUREE SYNCLINE IRON ORE PROJECT

Proposal: The proposal is to develop an open-cut iron ore mine and associated infrastructure at the Turee Syncline deposit, located approximately 30 kilometres north-east of Paraburdoo. The proposal is further documented in Schedule 1 of this Statement.

Proponent: Hamersley Iron Pty. Limited
Australian Company Number 004 558 276

Proponent Address: Level 22
152-158 St Georges Terrace
PERTH WA 6000

Report of the Environmental Protection Authority: 1667

Previous Report Relating to this Proposal: 1479

Preceding Statement Relating to this Proposal: 947

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. 947, be changed as specified in this Statement.

Condition 3 of Ministerial Statement 947 is deleted and replaced with:

3 Time Limit for Proposal Implementation

3-1 The proponent shall not commence implementation of the proposal after 22 August 2023, and any commencement, prior to this date, must be substantial.

3-2 Any commencement of implementation of the proposal, on or before 22 August 2023, must be demonstrated as substantial by providing the CEO with written evidence, on or before 22 August 2023.

Condition 11 of Ministerial Statement 947 is deleted and replaced with:

11 Offsets

- 11-1 In view of the significant residual impacts and risks as a result of the implementation of the proposal, the proponent shall contribute funds to the Pilbara Environmental Offset Fund calculated pursuant to condition 11-2, subject to any reduction approved by the CEO under condition 11-10.
- 11-2 The proponent's contribution to the Pilbara Environmental Offset Fund shall be paid biennially, with the amount to be contributed calculated based on the clearing undertaken in each year of the biennial reporting period in accordance with the rates in condition 11-3. The first biennial reporting period shall commence from ground disturbing activities of the environmental values identified in condition 11-3.
- 11-3 Calculated on the 2018 calendar year, the contribution rates are:
- (1) \$821 AUD (excluding GST) per hectare of 'Good' to 'Excellent' condition native vegetation, including foraging and denning habitat for the northern quoll, Pilbara olive python, Pilbara leaf-nosed bat and ghost bat cleared within the Hamersley IBRA subregion.
- 11-4 From the commencement of the 2018 calendar year, the rates in condition 11-3 will be adjusted annually each subsequent calendar year in accordance with the percentage change in the CPI applicable to that calendar year.
- 11-5 Prior to ground disturbing activities within the development envelopes as defined in Figure 2 of Schedule 1 of Ministerial Statement 947, the proponent shall prepare and submit an Impact Reconciliation Procedure to the CEO.
- 11-6 The Impact Reconciliation Procedure required pursuant to condition 11-5 shall:
- (1) state that clearing calculation for the first biennial reporting period will commence from ground disturbing activities in accordance with condition 11-2 and end on the second 31 December following commencement of ground disturbing activities;
 - (2) state that clearing calculations for each subsequent biennial reporting period will commence on 1 January of the required reporting period, unless otherwise agreed by the CEO;
 - (3) include a methodology to calculate the amount of clearing undertaken during each year of the biennial reporting period for each of the environmental values identified in condition 11-3; and
 - (4) indicate the timing and content of the Impact Reconciliation Reports.

- 11-7 The proponent shall not commence ground disturbing activities within the development envelopes as defined in Figure 2 of Schedule 1 of Ministerial Statement 947, unless otherwise agreed by the CEO, until the CEO has confirmed in writing that the Impact Reconciliation Procedure satisfies the requirements of condition 11-6.
- 11-8 The proponent shall submit an Impact Reconciliation Report in accordance with the Impact Reconciliation Procedure approved in condition 11-7.
- 11-9 The Impact Reconciliation Report required pursuant to condition 11-8 shall provide the location and spatial extent of the clearing undertaken within the development envelopes as defined in Figure 2 of Schedule 1 of Ministerial Statement 947 during each year of each biennial reporting period.
- 11-10 The proponent may apply in writing and seek the written approval of the CEO to reduce all or part of the contribution payable under condition 11-2 where:
- (1) a payment has been made to satisfy a condition of an approval under the *Environment Protection and Biodiversity Conservation Act 1999* in relation to the proposal;
 - (2) the payment is made for the purpose of counterbalancing impacts of the proposal on matters of national environmental significance; and
 - (3) the payment is made for the purpose of counterbalancing the significant residual impacts to the environmental values identified in condition 11-3.

Acronym, Abbreviation or Term	Definition or Term
CEO	Chief Executive Officer of the Department of the Public Service which is responsible for the administration of section 48 of the <i>Environmental Protection Act 1986</i> , or his delegate.
CPI	The All Groups Consumer Price Index numbers for Perth compiled and published by the Australian Bureau of Statistics.
Pilbara Environmental Offset Fund	The special purpose account called the Pilbara Environmental Offsets Fund Account that has been created pursuant to section 16(1)(d) of the <i>Financial Management Act 2006</i> by the Department of Water and Environmental Regulation.