



Government of **Western Australia**
Department of **Mines and Petroleum**



GUIDELINE FOR MINING PROPOSALS IN WESTERN AUSTRALIA

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FOREWORD

A key objective of the Department of Mines and Petroleum's (DMP) Reforming Environmental Regulation (RER) initiative is to provide a framework for risk and outcome-based decision making. This will ensure that the department's regulatory effort is both targeted and proportionate in order to protect environmental values in an effective, efficient and timely manner and support community and stakeholder expectations for responsible development.

This Guideline for Mining Proposals is an essential component of the RER program. It establishes a risk and outcome-based regulatory framework for environmental assessment and management of mining activities.

It also provides greater clarity around approvals and will reduce unnecessary regulatory burden. Improvements include:

- moving to an 'activity-based' approval, rather than regulation against every section of a Mining Proposal document
- each mine having only one approved Mining Proposal at any one time
- allowing for an appropriate level of flexibility in the approval to promote innovation and continuous improvement through best practice
- preventing unnecessary minor amendments having to be formally proposed and assessed.

DMP is committed to meaningful engagement with stakeholders when implementing change. This guideline was drafted following extensive consultation and feedback from open forums, an industry reference group, the RER Advisory Panel and public submissions on the draft guidelines and discussion paper. DMP has incorporated stakeholders' comments where possible.

The department is firmly committed to the responsible development of the resources industry in Western Australia. These guidelines will assist us in ensuring that this objective is met. In achieving this aim, I strongly encourage you to engage early with DMP and other key stakeholders during the development of your mining proposals to ensure the preparation and assessment process runs smoothly.

These guidelines for mining proposals are approved by the Director-General of Mines under section 700 of the *Mining Act 1978* for the purposes of Division 3 of Part IV of that Act.



Richard Sellers

Director General of Mines
Department of Mines and Petroleum

1. BACKGROUND

1.1 Introduction

DMP is responsible for regulating mineral and petroleum exploration and development activities across Western Australia (WA) and ensuring that development occurs in a manner that is safe, environmentally acceptable, and achieves community and stakeholder confidence.

In 2012, DMP announced the implementation of its RER program which aims to establish a risk and outcome-based regulatory framework. In order to achieve a risk-based Mining Proposal process, DMP has considered the concept of risk management as outlined in the Australian Standard AS/NZS ISO 31000:2009 Risk Management. This is illustrated in Figure 1 below.

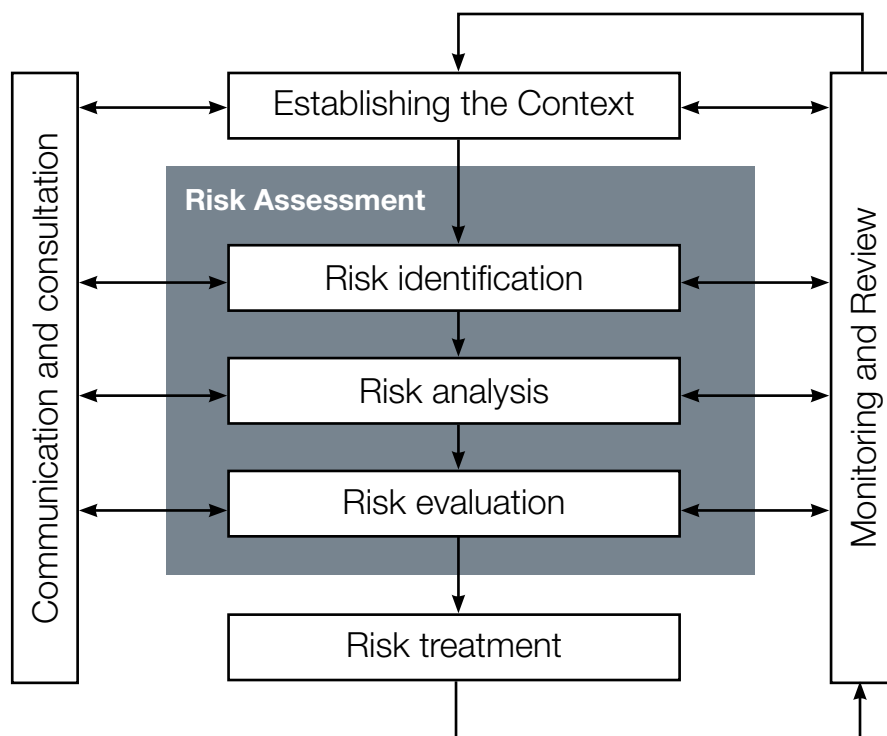


Figure 1: Risk Management Process ISO 31000:2009

It is the proponent's responsibility to ensure that an appropriate risk management process is undertaken for a project. The structure of a Mining Proposal has been designed to complement the various components of the risk management process.

Looking at the structure of a Mining Proposal (Figure 2) in the context of the risk management process (Figure 1), it can be considered that the Environmental Group Site Details, Activity Details and Environmental Legislative Framework sections of the Mining Proposal **establish the context** of the process. It can also be considered that the Stakeholder Engagement section of the Mining Proposal covers **communication and consultation** and that the Environmental Risk Management section of the Mining Proposal is the **risk assessment and treatment** process. The Environmental Outcomes and Reporting section of the Mining Proposal covers the **monitoring and review** process.

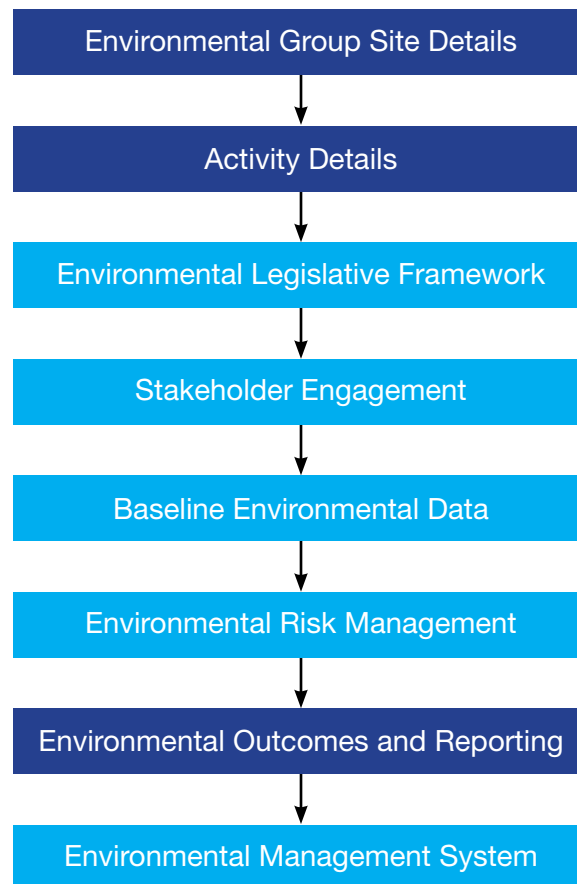


Figure 2: Structure of a Mining Proposal

The Environmental Management System (EMS) section of the Mining Proposal is where the proponent explains how appropriate measures will be implemented to ensure the required environmental management is undertaken on site. It should also outline how ongoing stakeholder and community engagement is undertaken and the risk management process is kept up-to-date. Further details on the risk management process are provided in section 3.9 – Environmental Risk Management.

These guidelines have been designed to deliver an outcome-based assessment and approval process. DMP is moving away from the previous method of approving a Mining Proposal document and then monitoring compliance against that document. Instead, DMP will consider the Environmental Group Site Details, Activity Details and Environmental Outcomes and Reporting sections of the Mining Proposal (darker blue boxes in Figure 2) to be the fixed activities and outcomes that have been approved. As a result, these cannot be updated without notification to, or the approval of, the department. The other sections are considered information that is provided in the Mining Proposal to assist DMP in making a decision.

To improve the clarity surrounding Mining Proposal approvals, these guidelines require there to be only one approved Mining Proposal for a mine site, rather than numerous proposals and amendments that are approved with each modification or variation. Revising or updating the approved Mining Proposal will ensure there is only one set of approved activities and environment outcomes for a site at any one time. Further details on this can be found in Appendix D.

1.2 Purpose of the Guidelines

These guidelines assist proponents in the preparation of Mining Proposals to meet DMP's regulatory requirements. This document outlines the requirement for proponents to identify the potential risks that a mining operation could pose to the environment throughout the life of mine, how the risks will be treated, establishing appropriate site-specific environmental outcomes and the monitoring and reporting on the success of these outcomes.

1.3 Definition of a Mining Proposal

The *Mining Act 1978* (The Mining Act) defines a Mining Proposal as a document that:

- is in the form required by the guidelines
- contains information of the kind required by the guidelines about proposed mining operations in, on or under the land in respect of which a mining lease is sought or granted, as the case requires
- contains a Mine Closure Plan.

For the purposes of these guidelines, a Mining Proposal is a document prepared by a proponent, containing the information required in Section 3 of these guidelines.

1.4 Requirements for submitting a Mining Proposal

The Mining Act requires the tenement holder to submit a Mining Proposal in the prescribed manner. It also requires the tenement holder to obtain written approval for the Mining Proposal from a prescribed official prior to undertaking any mining operations on a lease granted under the Act. It is a covenant of all tenements that ground disturbing activity cannot occur unless it is covered by a relevant mining proposal (or Programme of Work for exploration).

Commencing mining operations without the written approval of DMP's Executive Director of the Environment Division is a breach of tenement conditions and renders the tenement(s) liable to forfeiture under the Mining Act. Under other legislation, activities associated with mining operations may attract additional penalties if the relevant approvals have not been obtained prior to commencement.

The regulatory and administrative context of Mining Proposals, and details of the submission and assessment process, is detailed in Appendices B and C.

1.4.1 Mining Proposals to support Mining Lease Applications

A Mining Proposal may be submitted to support the application of a mining lease under Section 74(1)(ca) of the Mining Act. Where the application is lodged with a Mining Proposal, a DMP Environmental Officer will assess the Mining Proposal and make recommendations to the department's Mineral Titles Division regarding the grant of the mining lease.

If the proponent does not have secured access to the land, it may be difficult to complete a Mining Proposal that meets the requirements of these guidelines. In these circumstances, DMP recommends that the proponent uses a statement and mineralisation report to support the tenement application, as allowed under section 74(1)(ca) of the Mining Act. This method can be used for basic raw material applications – for further guidance contact DMP’s Geological Survey Division.

2. DMP KEY ENVIRONMENTAL OBJECTIVES AND FACTORS

In a risk and outcome-based environmental assessment process, it is imperative that clear environmental objectives are established. This ensures that the environmental risk assessment and setting of site-specific environmental outcomes is consistent with the expectations of DMP, industry and the community.

The objectives detailed below have been determined based on extensive engagement with key stakeholders, predominately through DMP’s Reforming Environmental Regulation Advisory Panel (RERAP).

DMP’s principal objective for environmental regulation is:

Resource industry activities are designed, operated, closed, decommissioned and rehabilitated in an ecologically sustainable manner¹, consistent with agreed environmental outcomes and end land-uses without unacceptable liability to the State.

Specific DMP environmental objectives have been listed in Table 1 for the key environmental factors which are relevant to Mining Proposals. These objectives need to be addressed when determining whether a site-specific environmental outcome is acceptable.

Table 1: Objectives for environmental factors

Environmental factor	Objective
Biodiversity/Flora/Fauna/Ecosystem	To maintain representation, diversity, viability and ecological function at the species, population and community level.
Water resources	To maintain the hydrological regimes, quality and quantity of groundwater and surface water to the extent that existing and potential uses, including ecosystem maintenance, are protected.
Landforms	Mining will not result in appreciable land degradation ² or the contamination or pollution of the land.
Mine closure	Mines are closed in a manner to make them (physically) safe to humans and animals, (geo-technically) stable, (geo-chemically) non-polluting/ non-contaminating, and capable of sustaining an agreed post-mining land use, and without unacceptable liability to the State.

¹ Ecologically Sustainable Manner is defined by Ecologically Sustainable Development (ESD) in the COAG endorsed National Strategy for Ecologically Sustainable Development prepared by Ecologically Sustainable Development Steering Committee, December, 1992 (ISBN 0 644 27253 8)

² The term ‘appreciable land degradation’ is taken from the clearing principles outlined in Schedule 5 of the Environmental Protection Act 1986, with further guidance provided in “A guide to the assessment of applications to clear native vegetation” available on the Department of Environment Regulation’s website.



The environmental objectives in Table 1 have considered, and broadly cover, the clearing principles set out in the *Environmental Protection Act 1986* (EP Act) Schedule 5. Future amendments to the EP Act have been proposed that will allow for an exemption to a clearing permit for activities approved under the Mining Act. Should this amendment be passed, DMP will ensure that the clearing principles are specifically addressed in the assessment and decision making process. For further information see Appendix N.

3. CONTENT OF A MINING PROPOSAL

3.1 Cover page

Mining Proposal requirement(s):

For consistency and ease of reference, the following information must be included on the Mining Proposal cover page:

- Environmental Group Site name
- Environmental Group Site code
- document title
- version number
- date of document
- company name and contact details.

3.2 Mining Proposal checklist

Mining Proposal requirement(s):

Mining Proposals (including each revised Mining Proposal) must be submitted with the Mining Proposal checklist provided in Appendix E.

3.3 Third Party authorisation

Mining Proposal requirement(s):

Mining Proposals must include evidence of authorisation from the tenement holder(s) to conduct mining activities.

Mining Proposals that have not been submitted by the tenement holder, or cover tenements held by multiple tenement holders, must include an authorisation from all tenement holders or an explanation of the company's link to the tenement holder (for subsidiary companies).

Authorisation is best presented through a signed letter from the tenement holder(s) stating that authority is given to submit Mining Proposals and conduct mining activities on those tenements.

It is important to note that the responsibility to comply with all obligations and tenement conditions is retained by tenement holders. This responsibility is not removed under the Mining Act by allowing third parties to undertake work on their tenements.

3.4 Environmental Group Site details

Mining Proposal requirement(s):

Information regarding the Environment Group Site (EGS) must be provided in accordance with the requirements of Appendix G.

An EGS is a grouping of individual tenements that make up a particular operation. An EGS should be a mine site/operation that the tenement holder/proponent wants to report on as a single entity. It will have one Mining Proposal, one Mine Closure Plan and one Annual Environmental Report (AER). For further explanation on Environmental Group Sites see Appendices F and G.

The EGS details section of a Mining Proposal is intended to capture and display information specific to the EGS for which a Mining Proposal is being lodged. The information captured is intended to outline the key characteristics of the EGS. The information is required to be submitted using the table outlined in Appendix G and must include a key contact for the proposal.

Note – DMP is committed to developing enhanced online systems for lodging Mining Proposals and other applications. The aim will be for the EGS and Activity details (section 3.5) of a Mining Proposal to be provided within the lodgement system, with data to be auto-populated where possible. This functionality will be developed in due course however, in the meantime, proponents will need to use the tables provided in Appendices G and H.

3.5 Activity Details

Mining Proposal requirement(s):

The following information must be included in a Mining Proposal:

- the disturbance envelope for which approval is being sought
- spatial data provided in accordance with the specified properties and allowances (see section 3.5.2)
- activity details regarding the proposal provided in accordance with the requirements of Appendix H
- an indicative site plan.

Mining Proposals that include large engineered structures must include the relevant design reports and information (see section 3.5.5)

The Activity Details section of a Mining Proposal must accurately and concisely record the individual activities for which the proponent is seeking approval and the area within which the activities will occur. This includes any amendments to previously approved or new activities/areas proposed for the EGS. The scope and scale of the proposed activities forms the basis of the approved activities of a Mining Proposal.

3.5.1 Disturbance envelopes for activities

A flexible approach can be used to broadly define the maximum area within which the activities will be located (a disturbance envelope). Disturbance envelopes provide flexibility for proponents to make minor changes to the precise location of an activity without the need for subsequent revisions to the original Mining Proposal. For example, this may occur when wanting to avoid, minimise or mitigate impacts to the environment or for operational reasons.

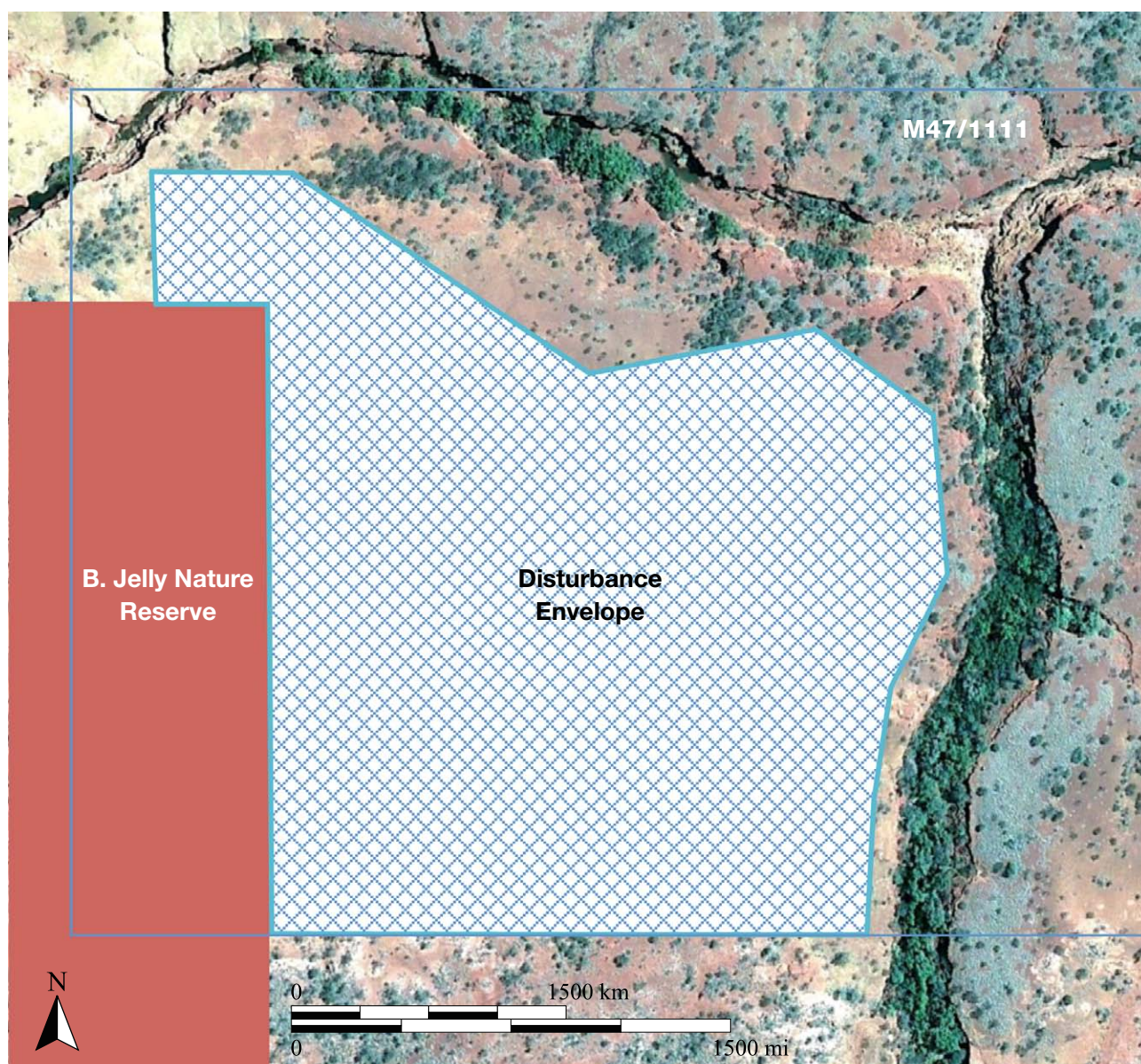


Figure 3 – Example disturbance envelope with sensitive areas intentionally excluded



The Mining Proposal assessment will consider the likely environmental impact/s of the proposed activities within the extent of the disturbance envelope, and on the surrounding environment. DMP will require the proponent to undertake a review of the environmental impacts of the proposed activities within the envelope and mitigate against the impacts identified. This may result in the requirement to survey the envelope area (and possibly surrounding areas) to identify environmental values that are likely to be impacted and/or require protection.

A Mining Proposal may also employ the use of a disturbance envelope to illustrate areas that will be excluded from the proposal and within which no activities will occur (eg. sensitive areas such as Aboriginal Heritage Sites, reserves, wetlands, waterways, prominent ridges, etc.). All areas included in the disturbance envelope will need to be adequately addressed in the risk assessment and the environmental outcomes. An example of a disturbance envelope showing sensitive areas intentionally excluded (eg. river and nature reserve) is provided in Figure 3.

The application of a disturbance envelope must meet the following requirements:

- envelope boundaries must be within tenement boundaries associated with the Environmental Group Site
- the entire envelope will need to be assessed to determine all risks
- all land types intersected by the envelope must be considered and their individual requirements met. For example, disturbance envelopes that intersect with reserves will need to ensure all reserve requirements (tenement conditions, external agency consent etc.) have been met.

3.5.2 Spatial information

A Mining Proposal must include digital spatial data for the activity envelope within which all activities will occur.

All spatial files should have the following properties:

- Format: ESRI Shapefile
- Geometry Type: Polygon
- Coordinate System: GCS GDA1994 (Geographic)
- Datum: GDA 1994 (Geocentric Datum of Australia 1994).

An ESRI Shapefile format is preferred, however other formats such as Autocad (dxf), Microstation (dgn) and Mapinfo (TAB, MIF) can be provided. Formats other than ESRI will need to be converted, which may cause a delay in the processing of an application.

It is important that any spatial data provided is consistent with the areas supplied for section 3.5.1. Any inconsistencies will require resolution during assessment and may cause delays.

3.5.3 Mine Activity Types

All mine activities must be provided using the standard tables provided in Appendix H.

For reference, the standard list of 'Mine Activity Types' is shown in Table 2. The Mine Activity Types reflect the rehabilitation liability categories in Schedule 1 of the Mining Rehabilitation Fund (MRF) Regulations 2013. For definitions of these categories, refer to the Mining Rehabilitation Fund Regulations 2013 and associated guidance material. This standardised list is used throughout DMP's online systems and provides a consistent approach towards classifying mining related activities.

The level of detail required for each mining activity is governed by the level of complexity of each Mine Activity Type. The activities referred to as a **Key Mine Activity** in Table 2 below must provide information relating to the disturbance area and scope of the activity. The information requirements are detailed in Appendix H. For the **Miscellaneous Mine Activities**, a reference as to whether the activity is part of the proposal and the associated tenement is required. Actual disturbance associated with each Miscellaneous Mine Activity is to be provided per tenement during the post-approval Annual Environmental Report (AER) and MRF reporting processes. As per Appendix H, the maximum disturbance footprint per tenement (all activity types), must be provided.

Table 2: Summary of information requirements for each Mine Activity Type

Mine Activity Type	Area (Ha)	Other information requirements
Key Mine Activities		
Tailings or residue storage facility (class 1) ³	√	Max. Height, Type/Design, Materials Characteristics
Waste dump or overburden stockpile (class 1)	√	Max. Height, Type/Design, Materials Characteristics
Heap or vat leach facility	√	Max. Height, Type/Design, Materials Characteristics
Evaporation pond	√	Max. Height, Type/Design, Materials Characteristics
Dam – saline water or process liquor	√	Max. Height, Type/Design, Materials Characteristics
Tailings or residue storage facility (class 2)	√	Max. Height, Type/Design, Materials Characteristics
Waste dump or overburden stockpile (class 2)	√	Max. Height, Type/Design, Materials Characteristics

³ The class of a tailings or residue storage facility is defined in the Mining Rehabilitation Fund Regulations 2013. This does not reflect the category of the tailings storage facilities (TSF) as defined in the DMP's Guide to the preparation of a design report for tailings storage facilities), August 2015.

Mine Activity Type	Area (Ha)	Other information requirements
Key Mine Activities continued		
Low-grade ore stockpile (class 1)	√	Max. Height, Materials Characteristics
Plant site	√	Type/Design
Mining void (depth greater than 5m – below groundwater)	√	Max. Depth, Materials Characteristics
Mining void (depth greater than 5m – above groundwater)	√	Max. Depth, Materials Characteristics
Run-of-mine pad	√	Materials Characteristics
Miscellaneous Mine Activities		
Fuel storage facility	x	<i>No further specific information</i>
Workshop	x	<i>No further specific information</i>
Landfill site	x	<i>No further specific information</i>
Diversion channel or drain	x	<i>No further specific information</i>
Dam – fresh water	x	<i>No further specific information</i>
Low-grade ore stockpile (class 2)	x	<i>No further specific information</i>
Sewage pond	x	<i>No further specific information</i>
Building (other than workshop) or camp site	x	<i>No further specific information</i>
Transport or service infrastructure corridor	x	<i>No further specific information</i>
Airstrip ⁴	x	<i>No further specific information</i>
Laydown or hardstand area	x	<i>No further specific information</i>
Core yard	x	<i>No further specific information</i>
Borrow pit or shallow surface excavation	x	<i>No further specific information</i>
Borefield	x	<i>No further specific information</i>
Processing equipment or stockpile associated with basic raw material extraction	x	<i>No further specific information</i>
Land that is cleared of vegetation (other cleared land)	x	<i>No further specific information</i>
Topsoil stockpile	x	<i>No further specific information</i>
TOTAL	√	

⁴ Proponents should notify Civil Aviation Safety Authority, Airservices Australia and the Local Government Authority.

3.5.4 Site plan

Mining Proposal requirement(s):

The following information must be included in a Mining Proposal:

- A site plan, consistent with all spatial data and activity details provided, detailing the existing and proposed activities and other relevant information such as tenement boundaries and other land tenure, including Reserves and pastoral lease boundaries.
- The site plan must detail existing activities and indicative localities for the proposed activities.

DMP requires the submission of a site plan as it helps to explain how the mine site will be laid out and function. It also provides additional context to the activity details and risk assessment. The minimum requirements of site plans are listed below. Multiple plans can be provided to show detail at a sufficient scale. Site plans must include:

- tenement boundaries of all tenements relevant to the EGS
- existing activities and the indicative localities for all the proposed 'Mine Activity Types'
- a north indication
- a scale bar
- a key or labelling of all site features.

The following aspects are also required but can be specified on separate additional plans with reference to the mine activities:

- other land tenure including reserves and pastoral lease boundaries
- major topographic features
- relevant information from the environmental baseline data showing areas of environmental constraint (eg. sensitive environments, flora with conservation significance, habitats with conservation significance, threatened or priority ecological communities, acid sulphate soils risk areas, major watercourses). There is no requirement to duplicate maps that are provided in the Baseline Data section of the Mining Proposal (see section 3.8).

Any alteration to the location of an activity that results in a change in risk or outcomes will require the submission and approval of a revised Mining Proposal. The requirements for revisions and notifications are detailed in Appendix D.

3.5.5 Design details for significant engineered structures

Mining Proposals that include tailings storage facilities (TSF) must include the relevant design reports outlined in DMP's *Guide to the preparation of a design report for tailings storage facilities*, August 2015.

Where other activities are proposed that require significant geotechnical design, such as a heap leach facility, large evaporation pond/storage pond, significant surface water diversion structure or high waste dumps, the proposal must include detailed design reports. If you are unsure whether this is required it is suggested you engage early with DMP to discuss the requirements (see scoping template in Appendix O).

Any detailed design reports should be attached as an appendix to the Mining Proposal.

3.6 Environmental Legislative Framework

Mining Proposal requirement(s):

The following information must be included in a Mining Proposal:

- a list of all relevant environmental approvals that have been sought or are required before the proposal may be implemented
- any specific statutory requirements that will affect the environmental management of the mining proposal.

Where possible, DMP aims to remove regulatory overlap and duplication from the Mining Proposal assessment process. For this reason, a Mining Proposal must contain a list of all relevant environmental approvals and statutory requirements that will affect the environmental management of the mining project. As far as practicable, DMP will not duplicate assessment of any component of an activity that also requires approval from another regulatory agency (although it will need to be included in the Activity Details section to ensure it is approved under the *Mining Act 1978*).

It is suggested that this information is summarised in a table (see example in Table 3). For each approval or statutory requirement listed, it is important to state the specific environmental factor(s) that this will regulate. This will enable DMP's assessment to focus on the factors that are not directly regulated by another agency or covered by another regulatory requirement. It is important to note that Table 3 is not a complete list of environmental (or related) approvals and regulatory requirements. Some of the relevant legislation may include:

- *Aboriginal Heritage Act 1972*
- *Conservation and Land Management Act 1984*
- *Contaminated Sites Act 2003*
- *Country Areas Water Supply (CAWS) Act 1947*
- *Dangerous Goods Safety Act 2004*
- *Environment Protection and Biodiversity Conservation Act 1999*

- *Environmental Protection Act 1986*
- *Health Act 1911*
- *Heritage of Western Australia Act 1990*
- *Metropolitan Water Supply Sewerage and Drainage Act 1909*
- *Mines Safety and Inspection Act 1994*
- *Native Title Act 1993*
- *Petroleum (Submerged Lands) Act 1982*
- *Petroleum and Geothermal Energy Resources Act 1967*
- *Petroleum Pipelines Act 1969*
- *Planning and Development Act 2005*
- *Rights in Water and Irrigation Act 1914*
- State Agreement Acts
- *Waterways Conservation Act 1976*
- *Wildlife Conservation Act 1950.*

Table 3: Example Environmental Legislative Framework

Relevant legislation	Environmental factor regulated/affected	Relevant approval/ requirement
<i>Environmental Protection and Biodiversity Conservation Act 1999</i>	Biodiversity/Flora/Fauna/ Ecosystem: Impacts to <i>Leipoa ocellata</i> (Malleefowl) and <i>Liopholis kintorei</i> (Great Desert Skink).	Controlled action – listed threatened species.
<i>Environmental Protection Act 1986</i> (Part IV)	Key environmental factors ⁵ assessed via EPA assessment under Part IV: • Flora and vegetation • Terrestrial fauna • Hydrological processes • Terrestrial environmental quality • Inland waters environmental quality • Rehabilitation and closure	Ministerial approval under Part IV of the <i>Environmental Protection Act 1986</i> . Conditions set in Ministerial Statement.

⁵ See the Environmental Protection Authority's EAG 8 'Environmental Assessment Guideline for Environmental principles, factors and objectives'.

Relevant legislation	Environmental factor regulated/affected	Relevant approval/ requirement
<i>Environmental Protection Act 1986</i> (Part V) Prescribed premises categories ⁶ : • (5) Processing or beneficiation of metallic or non-metallic ore • (6) Mine dewatering; • (12) Screening etc. of material • (31) Chemical Manufacturing • (44) Metals Smelting or Refining • (54) Sewage facility • (64) Class II or III putrescible landfill site • (84) Electric power generation	Water Resources (pollution) Landforms	Works approval and licence/ registration under Part V.
<i>Rights in Water and Irrigation Act 1914</i>	Water resources	5C licence to take 0.5ML/ year of groundwater within the Goldfields Groundwater Management Area. 26D licence to construct 8 bores within the Goldfields Groundwater Management Area.
<i>Aboriginal Heritage Act 1972</i>	Aboriginal heritage ⁷	Section 18 Consent to certain uses.

While DMP's assessment will focus on those environmental issues not already covered by other approvals or legislation, proponents are still required to identify all risks through the risk assessment process (see section 3.9). In most circumstances, DMP will consider it acceptable to include the requirements of the relevant approvals as appropriate risk treatment measures (eg. licence conditions, Ministerial conditions, etc.). However, some environmental approvals only apply during specific scenarios (eg. while a site is operating), and may not be directly applicable to mine closure or care and maintenance scenarios. In these circumstances, specific risk identification and treatment will be required to ensure that mine closure and care and maintenance phases are appropriately addressed in the Mining Proposal and Mine Closure Plan.

⁶ See Schedule 1 of the Environmental Protection Regulations 1987.

⁷ Aboriginal heritage is not an environmental factor listed in Table 1; however it is suggested this information is provided for context and to provide assurance that relevant approvals or consents have been sought, granted or provided.

3.6.1 Clearing Principles

In a situation where the Mining Proposal is being used as an exemption from requiring a clearing permit under Part V of the EP Act (see Appendix N), the proponent can choose to undertake their own assessment of the proposed activities against the clearing principles. This should be attached as a separate appendix to the Mining Proposal. It is important to note that this will only be used as information by DMP and will not necessarily reflect the outcome of the department's assessment against the clearing principles.

3.7 Stakeholder engagement

Mining Proposal requirements:

To enable DMP to accurately and appropriately assess stakeholder engagement undertaken on the proposed mining activities, the Mining Proposal must contain the following:

- A Stakeholder Engagement Register, in tabulated form, identifying the engagement that has been conducted leading up to the submission of the Mining Proposal including:
 - identity of stakeholder(s)
 - date of engagement
 - a description of the nature of the engagement and level of information provided to stakeholders
 - comments and issues raised by the stakeholder(s)
 - an assessment of the merits of any issues raised
 - how the proponent has responded to the concerns raised and incorporated the proposed resolution into the Mining Proposal (ie. inclusion in the risk assessment and/or environmental outcomes)
 - stakeholder acceptability of proponent response to issues/concerns
- A summary of the Stakeholder Engagement Strategy.

An example Stakeholder Engagement Register and further guidance on developing a targeted community and stakeholder engagement strategy is provided in Appendix I.

For the purpose of the guidelines, the term **stakeholders**, includes both internal and external parties who are likely to affect, be affected by, or to have an interest in the proposed mining activities.

Proponents must demonstrate to DMP's satisfaction that effective and appropriate engagement has been undertaken leading up to the submission of the Mining Proposal and that this will continue to be undertaken throughout the mine life. Stakeholders must be provided with sufficient information to make an informed assessment of the possible consequences of the activity on the function, interest or activities of the stakeholder and a reasonable period of time must be provided for the consultation process.



DMP requires community and stakeholder engagement to be undertaken to ensure that interested and affected parties are informed of proposed mining activities and given the opportunity to express how they may be affected. Stakeholder and community engagement is considered fundamental in determining agreed environmental outcomes. Early and continuous stakeholder engagement also enables proponents to understand and manage stakeholder expectations and mitigate the potential risks associated with the mining activity.

While preparing or revising a Mining Proposal, proponents must demonstrate consultation has been undertaken with each of the following:

- all decision making authorities and any other relevant State or Commonwealth government departments and local government authorities
- any person or organisation whose functions, interests or activities may be affected by the activities carried out under the Mining Proposal (eg. environmental non-government organisations, local Indigenous people and the local community)
- any other person or organisation that the proponent considers relevant.

Consultation with government agencies includes seeking advice on each agency's specific regulatory requirements and, where relevant, agreement on issues, management measures, environmental standards, criteria and procedures that may apply to the proposal.

One of the aims of the consultation process is to identify the relevant environmental receptors for a project and environmental values that they hold for stakeholders. Environmental receptors are those qualities of the environment that stakeholders value for the support of particular ecosystems and/or human uses. Stakeholders will expect that environmental receptors that are of environmental value are protected from both affects and impacts (both real and potential) as a result of the mining operation (during construction, operation and mine completion).

It is essential that stakeholders have the opportunity to engage, through an iterative process, in the development of environmental outcomes (including mine closures) to ensure that the identified environmental receptors are protected. The Mining Proposal must also demonstrate how the consultation has, or has not, influenced the development of the applicant's proposed environmental outcomes.

Stakeholder engagement should be inclusive. As a result, it is not generally recommended that engagement be conducted through one forum alone (eg. a community consultative committee or informal landowner discussions). A well prepared, resourced and implemented stakeholder consultation plan will ensure that all stakeholders are identified and that stakeholders are being effectively engaged.

3.7.1 Principles of stakeholder engagement

Proponents must demonstrate that the following principles have been addressed when formulating and implementing their community and stakeholder engagement strategy. These principles have been adapted from the Ministerial Council on Mineral and Petroleum Resources (MCMPR) *Principles for Engagement with Communities and Stakeholders* (2005).



Communication

Communication must be open, accessible, clearly defined, two-way and appropriate.

Transparency

The process and outcomes of community and stakeholder engagement should, wherever possible, be made open and transparent, agreed upon and documented.

Collaboration

A cooperative and collaborative approach to seek mutually beneficial outcomes is considered key to effective engagement.

Inclusiveness

Inclusiveness involves identifying and involving communities and stakeholders early and throughout the process, in an appropriate manner.

Integrity

Community and stakeholder engagement should establish and foster mutual trust and respect.

Further guidance to assist with identifying key stakeholders and developing a targeted community and stakeholder engagement strategy is provided in Appendix I.

3.7.2 Targeted community and engagement strategy

A summary of the engagement strategy must be provided in the Mining Proposal. It is important that all stakeholders have their interests and concerns considered and, where appropriate, addressed. Stakeholders must also be given an opportunity to provide feedback on the response or proposed action to address their interests and concerns.

DMP does not intend to prescribe the strategy for engagement and recognises that the type, scale and location of activities will determine the most appropriate engagement strategy to be implemented. The department also acknowledges that the process of engagement is likely to be modified according to changes in mining activities and the needs of interested parties.

Further guidance on developing targeted community and stakeholder engagement strategy is provided as Appendix I.

3.7.3 Ongoing community and stakeholder engagement

Proponents must demonstrate ongoing community and stakeholder engagement via their Environmental Management System (EMS – refer to section 3.11). DMP requires the following information to be updated in the EMS:

- any changes to the engagement strategy
- a summary of all engagement undertaken during the life of the project.

3.8 Baseline environmental data

Mining Proposal requirement(s):

The following information must be included in a Mining Proposal:

- Baseline environmental data must cover the following environmental aspects:
 - climate
 - landscape
 - materials characterisation
 - hydrology
 - biodiversity, flora, fauna and ecosystem
 - environmental threats and other factors
- The above environmental aspects must be presented as distinct sub-sections in the baseline data section of the Mining Proposal.
- An appropriate description, analysis and interpretation of the baseline data must be provided in each sub-section.
- Each sub-section must include an appropriate analysis and interpretation of the baseline data so that DMP can see that this information has informed the risk assessment and environmental outcomes.
- Environmental threats, specific to the project, must be identified.

DMP requests that digital spatial datasets be provided for baseline data (eg. vegetation communities, vegetation types, dieback mapping) where available. Spatial data should be provided in accordance with the requirements detailed in section 3.5.2 of the Guidelines.

Baseline environmental data is vital in identifying the environmental risks and potential impacts, informing the risk treatment measures and determining appropriate environmental outcomes and performance criteria. It also provides an understanding of the environmental values and beneficial uses that may be affected by the proposed activity. In essence, Baseline data establishes the environmental context in the risk management process.

It is imperative that baseline data is used to inform the Mining Proposal risk assessment and the proposal's risk treatment measures (see section 3.9). This section of the guidelines has been designed so that the relevant baseline data is summarised and interpreted in the Mining Proposal document, with relevant technical reports attached as appendices.

For mining projects with existing, approved Mining Proposals, no new data is required when re-submitting the Mining Proposal in accordance with these guidelines unless there is an expansion or alteration to the project, or it has been identified as a knowledge gap in an approved Mine Closure Plan.

3.8.1 Climate

Climate is an important environmental aspect used to inform the risk assessment as it will have an impact on all other environmental factors and affect the success of mine closure.

Mining Proposal deliverables – Climate

The Mining Proposal shall contain adequate climatic information to adequately assess all significant climatic impacts on the project. This shall include but is not limited to:

- a description of the climatic zone
- the range of mean monthly maximum and minimum temperatures
- average annual rainfall
- a description of the frequency and intensity of rainfall
- a description of seasonal and long term climatic trends/patterns
- average annual evaporation rates
- predominant wind directions and wind speeds
- historic flood events and maximum rainfall events (duration and magnitude).

3.8.2 Landscape

Providing the geographic and topographical context of the Mining Proposal assists in the explanation and understanding of the broad environmental attributes of the area. It also assists to explain decisions that may be made for location of landforms and infrastructure and decisions regarding mine closure.

Mining Proposal deliverables – Landscape

The Mining Proposal shall include a description of where the proposal sits within the broad landscape and the landscape features of the project area (eg. ranges, valleys, plateaus, lakes). It is recommended that the description references the relevant Interim Biogeographic Regionalisation for Australia (IBRA) Bioregion and Sub-bioregion (see the Commonwealth Department of Environment's website). The description may also include the Department of Agriculture and Food WA (DAFWA) soil-landscape units that occur within the project area.

3.8.3 Materials characterisation

For the purpose of these guidelines, 'materials' refers to all soils and subsurface material that will be disturbed or extracted by the mining activity, including material that has been physically or chemically processed on site (eg. tailings). Materials characterisation identifies the physical and geochemical properties of materials and whether they have the potential to:

- cause environmental harm
- contribute to, or detract from, success of rehabilitation and closure.



Materials characterisation is a critical component of mine planning due to the large-scale physical disturbance that is associated with most mining activities. It helps to ensure that the risk assessment is appropriately informed and aids in responsible mine closure planning. Appropriate materials characterisation assists in the cost-effective operation and closure of a mine. Materials characterisation provides a basis for preventative management, appropriate use of materials and improved environmental outcomes. Effective characterisation of materials and scheduling can save on double handling and expensive remediation later in mine life. Proponents shall use the materials characterisation baseline data to identify environmental risks and inform the Mining Proposal risk assessment.

Materials characterisation shall address the following risk factors associated with the proposed mining activities:

- acidic and/or metalliferous drainage (AMD), inclusive of:
 - acidic drainage
 - metalliferous drainage (encompassing all metals/metalloids regardless of whether the conditions are acidic)
 - saline materials and/or drainage
- sodic and/or dispersive material
- material with other chemical/physical properties that will affect stability or success of rehabilitation (eg. low pH, low fertility, poor structural integrity, water holding capacity)
- naturally occurring radioactive material (NORM).

Mining Proposal deliverables – Materials characterisation

(a) Soils

The Mining Proposal shall contain:

- a description of the major soils occurring in the project area including the indicative volume and characterisation of topsoil and subsoil available for rehabilitation
- where there are multiple soil types identified, a map showing the spatial extent of each identified soil type in the project area should be provided. The map must include a scale bar, latitude and longitude coordinates, date of field survey, and regional map location. Soils may be classified according to the WA Soil groups outlined in Schoknecht and Pathan (2013)
- adequate characterisation of the soils to ensure that the risk posed by adverse components can be determined
- reference to the characterisation methodologies used
- interpretation of baseline data and broad implications for risk assessment and treatments
- relevant technical reports attached as appendices.

(b) Subsurface materials and processing waste

The Mining Proposal shall contain:

- a description of the geology and mineralisation of the project area
- the indicative volume of ore and waste materials that will be mined
- the predicted volume of tailings or any other processing waste, where applicable
- the indicative tonnages and proportion of each lithology
- adequate characterisation of the subsurface materials and processing waste to ensure that the risk(s) posed by adverse components can be determined
- diagram(s) and map(s) of the sampling locations to indicate, the location of mine activities and the 3D spatial distribution of samples and proximity to the water table (where applicable)
- a description of the methodology used to characterise the materials
- interpretation of baseline data and broad implications for risk assessment, treatments and environmental outcomes
- relevant technical reports attached as appendices.

3.8.4 Biodiversity/flora/fauna/ecosystem

Baseline data is required to understand the pre-existing assemblages, diversity, condition and ecological function of flora, fauna and ecosystem(s) at a species, population and community level. It is imperative that enough information is collected to allow an appropriately informed risk assessment to be undertaken.

Where there are likely to be species or communities of conservation significance, or where land managed for the purposes of conservation may be directly or indirectly impacted, proponents are encouraged to engage with the Department of Parks and Wildlife (DPaW) for specific advice on information collection and interpretation.

Mining Proposal deliverables – Biodiversity/flora/fauna/ecosystem

The Mining Proposal shall contain:

- a description of the pre-existing biodiversity/flora/fauna/ecosystem values of the area affected by the proposal. Specific reference must be made to any species or communities of conservation significance (e.g. listed species/communities under state or commonwealth legislations, including listed weed species).

Surveys will usually be required to achieve the above. The level of survey(s) can range from desktop to detailed field surveys. Guidance on undertaking

an appropriate survey of flora and fauna values is found within the Environmental Protection Authority's (EPA) Guidance Statements, in particular:

- EPA Guidance Statement No. 51 – Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia
 - EPA Guidance Statement No. 56 – Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia.
- suitable maps to illustrate the existing vegetation communities and habitat descriptions as well as the location and extent of any sensitive values or threats (endemic or introduced). It is suggested that the maps include an overlay of the site plan required under section 3.5.4
 - interpretation of baseline data and broad implications for risk assessment, treatments and environmental outcomes
 - relevant technical reports attached as appendices.

3.8.4.1 Short range endemics and subterranean fauna

Short range endemic (SRE) species are defined as terrestrial and freshwater invertebrates that have naturally small distributions of less than 10,000 km². Within this distribution, the actual areas occupied may be small, discontinuous or fragmented.⁸

Subterranean fauna are defined as fauna that live their entire lives (obligate) below the surface of the earth. They are divided into two groups:

- stygofauna – aquatic and living in groundwater
- troglafauna – air-breathing and living in caves and voids.⁹

SRE species can be particularly important to consider as part of the baseline fauna surveys as they have the potential to be restricted to small spatial scales and are generally at a greater risk of changes in conservation status and local or taxon extinctions than other more widely distributed species.

DMP acknowledges that SRE and subterranean fauna will not be a significant issue for all Mining Proposals. However, in instances where there is the potential for impacts these must be appropriately addressed in the Mining Proposal risk assessment.

Further guidance on likely habitats for SRE and subterranean fauna and appropriate sampling techniques can be found within the EPA's guidelines, in particular:

- EPA Guidance Statement No. 20 – Sampling of Short Range Endemic Invertebrate Fauna for Environmental Impact Assessment in Western Australia
- Environmental Assessment Guideline No. 12 – Consideration of subterranean fauna in environmental impact assessment in Western Australia (EAG12).

⁸ Taken from EPA's "Environmental Assessment Guideline No. 12 Consideration of Subterranean Fauna in Environmental Impact Assessment in WA – June 2013"

⁹ Taken from EPA's "Environmental Assessment Guideline No. 12 Consideration of Subterranean Fauna in Environmental Impact Assessment in WA – June 2013"

Mining Proposal deliverables – Short range endemics and subterranean fauna

Proponents shall determine whether SRE species and/or subterranean fauna are likely to be present and whether appropriate field surveys are required (it is recommended that proponents use EPA Guidance Statement No. 20 and EAG12 to determine this).

Where SRE species and subterranean fauna are a relevant risk, information shall be provided in-line with the Mining Proposal deliverables for Biodiversity/Flora/Fauna/Ecosystem (section 3.8.4).

Any surveys that are undertaken must comply with the relevant EPA Guidelines.

3.8.5 Hydrology

Ground and surface water resources may have environmental values and beneficial uses. Protection of these values and uses relies on an understanding of the water resources and maintaining their quality and quantity. It is imperative that enough information is collected to understand the pre-existing hydrology within the project area. This will inform the risk assessment (including an assessment of relevant storm/flood events) and assist in the development of appropriate performance criteria (including closure criteria).

Mining Proposal deliverables – Hydrology

The Mining Proposal shall contain baseline information for all ground and surface water within the project area or potentially impacted by the project. This includes:

i. Surface Water

- a description of the catchment area(s), including a map identifying the project area in relation to the catchment(s)
- description of the surface hydrology of the project area and potentially affected downstream environment (eg. ephemeral creeks, permanent creeks/rivers, playa lakes, wetlands, water holes)
- a description of the environmental values and beneficial uses of surface water
- details of any surface water management areas that the project intersects or may impact
- the main water quality characteristics of the surface hydrology of the area
- a description of the flooding characteristics of the area. Where flooding presents a risk to the environmental management of the proposal (including post-closure), appropriate flood modelling and mapping will be required.

ii. Groundwater

- an overview of the regional and local hydrogeology and groundwater dynamics (flow directions, relative pressures/levels, interconnection, quality, recharge zones and size)
- a description of the environmental values (eg. groundwater dependent ecosystems) and beneficial uses of groundwater in the area
- details of any groundwater management areas that the project intersects or may impact
- the water quality characteristics of the groundwater resources. For projects with minimal interaction with groundwater, or where risks are considered negligible to low, the characterisation can be limited to broad indicators (eg. salinity and pH). Where risks are present above a low level, the characterisation must be more detailed and focus on the nature of the risks (eg. if acid and/or metalliferous drainage is a risk then baseline levels of relevant anions and cations may be appropriate). The characterisation of pre-existing conditions must be adequate to enable any mining impacts to be detected.

Where groundwater will be intercepted by the project the following information must be provided:

- a map of the inferred groundwater resources
- the water quality and pressure, recharge areas, aquitards, aquifer details, water gradient (include seasonal fluctuations if known), flow directions and rates and discharge areas for each aquifer potentially affected by mining activities
- a description of the interconnectivity between the ore body, water supply aquifers, dewatered aquifers and lateral, overlying and underlying aquifers and surface water
- interpretation of baseline data and broad implications for risk assessment and treatments
- relevant technical reports attached as appendices.

For further guidance refer to the 'Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000)', the Department of Water's 'Quality Protection Guidelines No. 1-11 for Mining and Mineral Processing' and the Department of Water's 'Western Australian water in mining guideline (May 2013).

3.8.6 Environmental threats and other factors

(i) Environmental threats

Environmental threats are identified risks that may further impact on environmental factors as a result of proposed mining activities (eg. weeds, pests, dieback, soil pathogens, wildfires, light, etc). For example, the proposal may impact flora and fauna through vegetation removal which could already be affected as a result of the presence of dieback. DMP requires that these threats are considered when undertaking the site specific risk assessment. The Baseline Data section of the Mining Proposal must identify environmental threats relevant to the Mining Proposal. These threats must be included as an influencing factor in the risk assessment.

Mining Proposal deliverables – Environmental threats

The Mining Proposal must contain:

- an explanation of the main environmental threats that are relevant to the Mining Proposal (eg. dieback, pathogens, weeds, feral animals, wildfires)
- Baseline data for those threats that are relevant to the proposal's environmental risk assessment.

(ii) Dust, noise, air quality

Dust, noise and other atmospheric emissions can impact on flora, fauna and other environmental factors. DMP acknowledges that dust, air and noise emissions from prescribed premises under Part V of the EP Act may be directly regulated by the Department of Environment Regulation (DER). Therefore, DMP expects the Mining Proposal to include baseline data for noise or air quality only in circumstances where these factors may impact on the other environmental factors listed in Table 1 (eg. noise impacts on native fauna, dust impacts on native vegetation).

DMP's assessment will only focus on dust, noise, air quality aspects which are not directly regulated under a works approval, licence or any other condition/regulation that applies under the EP Act (eg. Ministerial Condition, Environmental Protection (Noise) Regulations 1997).

For mine sites that are not a 'prescribed premises' under Part V of the EP Act, DMP would expect to see dust impacts to be considered in the environmental risk assessment and environmental outcomes.

Mining Proposal deliverables – Dust, noise, air quality

Where dust, noise or air quality may impact on the other environmental factors listed in Table 1 and is not directly regulated by DER, the Mining Proposal must include baseline data for noise, dust and/or air quality.

3.9 Environmental risk management

Mining Proposal requirement(s):

The following information must be included in a Mining Proposal:

- a risk assessment consistent with the requirements of this section of the guidelines, including details of pre and post-treated risk
- a description of the risk assessment criteria used as part of the risk assessment (see example Appendix J)
- detail and evaluation of the environmental risks including their sources, potential events, likelihood, consequence and risk analysis methods used to determine these levels
- a demonstration that the environmental impacts and risks are reduced to 'As Low as Reasonably Practicable' (ALARP) by applying environmental practices and technologies (treatments) best suited to the site characteristics, activity and location.

DMP considers that a suitable risk management framework includes the components outlined in Figure 1, section 1.1.

The risk management process is iterative and requires ongoing engagement with key stakeholders and regular monitoring and review throughout the life of mine and its closure to ensure continual improvement.

It is the proponent's responsibility to demonstrate that the environmental source of risk and impacts arising from the proposed activities are identified and can be managed to avoid, eliminate, control or mitigate environmental harm. The Australian standard AS/NZS ISO 31 0000: 2009 *Risk Management Principles and Guidelines* provides a guide for carrying out risk assessments and while this standard is suitable to use, DMP does not require certification. The Australian Government has also developed guidance on risk assessment and management specific to the mining industry through their "Leading Practice Sustainable Development Program for the Mining Industry – Risk Assessment and Management Handbook – May 2008".

The Mining Proposal must evaluate risks, outline the measures that will be used to treat risks (using a risk reduction hierarchy) and demonstrate that residual risks are ALARP and consistent with DMP's environmental objectives. This is to be achieved via the application of a risk management framework that demonstrates arrangements for designing, implementing, monitoring, reviewing and continually improving risk management. A Mining Proposal must include a risk assessment consistent with the requirements of this section of the guidelines.

3.9.1 ALARP 'as low as reasonably practicable'

DMP has a well-established practice of utilising the principle of ALARP in the environmental regulation of the petroleum industry. Due to the success of this, and for the purposes of consistency, proponents are required to apply ALARP to their risk assessment in a Mining Proposal. To reduce a risk to a level which is ALARP involves balancing reduction in risk against the time, trouble, difficulty and financial cost of achieving the reduction. This level represents the point at which the time, trouble, difficulty and financial cost of further reduction measures become unreasonably disproportionate to the additional risk reduction obtained.

The following definition must be used to determine whether a risk has been lowered to ALARP:

If a measure is practicable and it cannot be shown that the cost of the measure (in money, time and effort) is grossly disproportionate to the benefit gained; then the measure is considered reasonably practicable and should be implemented. The criterion is “reasonably practicable” not “reasonably affordable”: justifiable cost and effort is not determined by the budget constraints/viability of a project.

Treatments will change over time and proponents will need to continually improve environmental management to maintain ALARP risk levels. The use and maintenance of an Environmental Management System (EMS) is one way proponents can undertake a process of continuous improvement (see section 3.11 for further guidance on EMS).

Figure 4 details the relationship between risk and ALARP, whereby risks must be reduced to ALARP or acceptable regions for a Mining Proposal to be accepted.

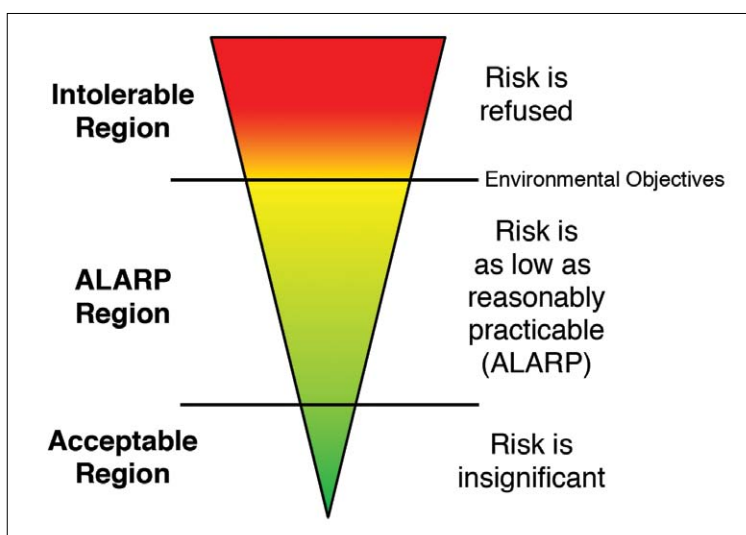


Figure 4: ALARP and risk

3.9.2 Defining risk assessment criteria

In order to provide clarity on the risk assessment process undertaken, the Mining Proposal must contain a description of the risk assessment criteria. This involves developing a risk matrix and a clear description of consequence and likelihood levels (see Appendix J for examples).

Consequence levels should be based on the scale of the activities or effects of a given impact on specific environmental values. They should also take into account the environmental sensitivity of the area in which the activity is taking place.

The likelihood level for a given impact may relate to the known frequency of such an event occurring, based on available industry data or a statistical review. Qualifying descriptors can also be used to separate different likelihood levels (eg. rare, unlikely, possible, likely, almost certain).

All descriptors used will need to be defined in the Mining Proposal. As a guide, an example risk matrix and corresponding descriptions of consequence and likelihood levels are included in Appendix J. These tables are provided as an example only.

3.9.3 Risk assessment

A risk assessment includes a process of risk identification and risk analysis/evaluation.

Risk identification

Proponents must demonstrate in the Mining Proposal that all the environmental sources of risk, the risk pathways, and any impacts likely to directly or indirectly arise from the proposed activities, have been systematically identified. Proponents should also consider risks arising during all phases of their mining operation (for example, construction, operation, temporary shutdowns, care and maintenance, decommissioning and closure). In addition proponents must consider risks that may arise from unexpected or emergency conditions (incidents), accidental or otherwise. The aim of this is to generate a comprehensive list of risks based on the activities proposed that might impact upon the environmental objectives.

DMP recommends proponents seek out and consider advice from experienced operators, specialists and relevant government agencies in order to identify all risks from the proposed activities. It is also recommended that proponents research and incorporate learnings from previous environmental incidents that have occurred from similar activities around Australia and the world.

The quality and accuracy of risk identification is inherently dependent on the quality and uncertainty of any relevant baseline data. Where there is insufficient data or uncertainty around the data and the risks of an activity are high, the precautionary principle outlined in Section 4A of the EP Act must be considered. DMP requires proponents to specifically identify activities that pose a high risk and have limited or uncertain baseline data and detail how they are implementing the precautionary principle to limit environmental harm. Proponents should aim to address uncertainty within baseline data before submitting a Mining Proposal. Where there is uncertainty in baseline data and reasonable measures to address this have not been undertaken, DMP may consider that the risk assessment is flawed and more information may be required.

Risk analysis/Risk evaluation

For every risk identified, an assessment of the likelihood, consequence and other attributing factors is required to determine the pre-treated level of risk using the defined risk assessment criteria. This analysis is required to be presented within the Mining Proposal (see Appendix K for example).

A risk evaluation must consider whether treatments are required to reduce risk to ALARP and to a level consistent with DMP's environmental objectives (refer to Table 1). In most circumstances a range of treatment options are likely to be available, unless the pre-treated risk is extremely low or negligible.

There are a number of methods via which a risk analysis/evaluation can be conducted. Therefore, DMP requires the Mining Proposal to include a statement about the risk analysis methodology used and why this method was considered most suitable.

Risk analysis is not a one off process and proponents will need to continuously analyse the risks posed by mining activities and update the risk assessments and treatment of these risks to ensure they are kept to an ALARP level. This forms part of a proponent's EMS (see section 3.11).

3.9.4 Risk treatment

The Mining Proposal must document all risk treatment measures applied to each identified risk. The treatment method will determine the residual (treated) risk level. The residual (treated) risk level must be evaluated to ensure it is meeting the principle of ALARP and is consistent with environmental objectives.

The Mining Proposal must include a risk assessment that evaluates the raw (untreated) risk and the residual (treated) risk (see Appendix K for example).

DMP recommends that the following hierarchy be used for treating risks (*please note examples are for illustrative purposes only and are not considered examples of what is reasonable in all circumstances*):

1. Where reasonably practicable, **eliminate** the risk. This can be done by removing or avoiding the activity that posed the risk. For example, changing activity envelopes to avoid all clearing of a declared rare flora population or changing pit designs to avoid disturbance of potentially acid forming material.
2. Reduce the risk by **substituting** a different activity which poses a lower risk. For example, backfilling of waste instead of creating an out of pit waste dump or substituting discharge of saline water to the environment with discharge to a lined evaporation pond.
3. **Control** the risk with an engineered solution. For example, adding a liner to a process water pond, having a specifically designed adverse materials management cell in a waste dump, or the use of automatic (instead of manual) shut-off valves.
4. **Mitigate** the risk using administrative procedures. For example, reducing speeds on mine roads, daily checks of a TSF or warning signals/signs.

Avoiding or eliminating the risk of environmental harm is considered the best treatment when practical. If the risk cannot be avoided consideration should be given to whether a different activity could be conducted altogether. If that is also not practical then the risk should be controlled/mitigated by either an engineered or administrative measure. Control/mitigation of the risk should never be considered as the first treatment option, as failure of the treatment may lead to environmental harm occurring. The residual risk of all activities must be consistent with DMP environmental objectives and be controlled at an acceptable level (to ALARP).

In some circumstances, there may be existing standards or practices that can be referenced in the risk treatment section (eg. from existing codes of practice, Australian Standards, government guidelines, etc.). These should be used in the risk treatment where applicable as they will generally be accepted by DMP. Proponents can also reference existing commitments or conditions imposed by other legislation in the risk treatment section. These will generally be accepted by DMP provided they meet the principle of ALARP and will achieve the department's environmental objectives.



Proponents may also be asked by DMP to explain the treatment options that were chosen and how they meet the principle of ALARP. This explanation may include whether any higher order treatment options were considered and rejected during the evaluation processes as the costs (in money, time or effort) were grossly disproportionate to the benefit (not reasonably practicable). It should be noted that over time the costs associated with some treatment options are likely to change and, therefore, treatments that were initially grossly disproportionate to the benefit may become reasonably practicable, or vice versa. What is critical from DMP's perspective is that the treatment that is applied will not result in an outcome that is inconsistent with the department's environmental objectives.

Environmental standards, codes and guidance

It is the proponent's responsibility to refer to relevant standards, guidance notes, codes of practice and other established best practice when describing the treatments proposed. When the risk is generally well understood by industry and DMP, the use of an industry standard may be all that is required for the risk treatment. When there are no relevant standards or the risks are new/emerging, proposed management strategies will need to be more detailed to provide DMP with confidence that the company understands the risk and has demonstrated that appropriate treatment can be implemented.

DMP recommends that the level of detail on treatment methods should be proportionate to the reduction in risk (from raw to residual). DMP will review the risk management with consideration to the robustness, transparency and appropriateness of the treatment options proposed.

3.10 Environmental outcomes and reporting

Mining Proposal requirements:

The following information must be included in a Mining Proposal:

- an outline of the site specific environmental outcomes relevant to the environmental factors that may be impacted by the proposed activity
- environmental performance criteria against each outcome to enable the outcomes to be measured, and to define limits for monitoring and environmental reporting.

The outcomes, performance criteria and monitoring must be outlined in a table similar to the example provided in Appendix L.

It is the proponent's responsibility to monitor mine site performance against the performance criteria specified in the Mining Proposal. Any breach of a performance criterion, or an incident which has caused, or has the potential to cause significant environmental harm, must be reported to DMP in accordance with specified timeframes.



Environmental outcomes are the acceptable level of impact that must not be exceeded or a level of protection/performance/result which must be achieved for the site to be considered compliant. The purpose of setting outcomes is to provide agreement between the proponent and DMP as to the level of environmental impact that is predicted and considered acceptable and to monitor performance of the site against these. These outcomes must be site specific, realistic and consistent with DMP's environmental objectives (refer to Table 1).

Environmental outcomes must be proposed by the proponent and will be agreed by DMP when the Mining Proposal is approved. The environmental risk assessment should be used to determine which environmental factors need to have site-specific environmental outcomes set.

DMP recommends that outcomes only need to be set for those risk pathways identified in the risk assessment that present a moderate to high risk (pre-treatment). While specific environmental outcomes do not need to be set for environmental aspects that present a low risk, it should be noted that it is expected that DMP's environmental objectives will be met for all environmental factors. DMP will be monitoring the environmental operation of mine sites and enforcement and compliance action can still be taken against issues that are not specifically covered by an environmental outcome listed in the approved Mining Proposal. As outlined in Appendix D, Mining Proposals need to be revised and resubmitted for approval if new or increased risks are identified during the life of the project.

DMP also recommends that the number of outcomes specified for each environmental factor should be proportionate to the potential risks to DMP's environmental objective. As a result, some environmental factors may have several specified outcomes and some may have none. For further guidance see the example in Appendix L.

The outcome should reflect what the proponent expects to achieve by implementing the proposed risk treatments. DMP's environmental objectives should be used as a reference to ensure the proposed outcomes are acceptable.

Reporting against the environmental outcomes will enable DMP to verify that the proposal is having an acceptable level of impact on the environment.

Proponents do not need to include environmental outcomes for environmental aspects that are directly regulated by another agency or legislation which is not administered by DMP (eg. Ministerial conditions issued under Part IV of the EP Act, or licence conditions issued under Part V of the EP Act). The Environmental Legislative Framework section of the Mining Proposal should clearly delineate to DMP which environmental aspects are being regulated by other legislation and have therefore not been duplicated in the environmental outcomes section of the Mining Proposal.

Closure outcomes are considered to be a sub-set of a project's environmental outcomes. Closure outcomes and their associated completion criteria should be outlined in the associated Mine Closure Plan and follow the relevant guidance from DMP's *Guidelines for Preparing Mine Closure Plans 2015*. The use of environmental outcomes and performance criteria within Mining Proposals is designed to work in the same fashion as closure objectives and completion criteria in Mine Closure Plans. There is no need to duplicate the relevant closure objectives and completion criteria for the 'Mine Closure' factor in the Mining Proposal as long as these are clearly outlined in the accompanying Mine Closure Plan.



Environmental performance criteria form the basis on which performance in achieving the agreed environmental outcomes is measured and reported to DMP. Performance criteria must be specific, measurable, achievable, realistic and time bound (SMART) and must consider site specific conditions.

In most circumstances, performance criteria should be outcome-based so that the environmental management required to achieve that outcome is not specified in the criteria. This is to enable environmental management to be adaptive and allow proponents flexibility in how they manage their risks to achieve the required environmental outcome. In situations where there is a long lag-time between environmental management actions and a potential impact (for example the management of materials with the potential to leach contaminants over the long-term) the performance criteria may include reference to specific management actions.

Specific monitoring is required for each performance criteria at an agreed schedule. Monitoring must be designed to be sensitive to early changes in the environmental conditions on site, so that corrective or contingency actions can be implemented well in advance of an environmental outcome being breached.

It is a proponent's responsibility to monitor their own environmental performance and continually improve or adapt their management to prevent or limit environmental impacts. It is recommended that consideration be given to establishing action trigger points within the monitoring program. These triggers will provide an early warning system that allows for additional management measures or contingency plans to be implemented before any environmental outcomes are breached. Depending on the environmental risk, these triggers may be outlined in the Mining Proposal or may form part of a proponent's internal procedures under their EMS.

3.10.1 Environmental reporting

Reporting on environmental performance to DMP is an important component of a risk and outcome-based regulatory framework. The proposed reporting requirements allow DMP to collect contemporary information on the environmental performance of mine sites and allocate time and resources effectively.

It is a proponent's responsibility to monitor the mine site's performance against the performance criteria specified in the Mining Proposal.

A reportable incident is classified as:

- an incident that breaches a performance criteria of the approved Mining Proposal
- an incident arising from the mining activity that has caused, or has the potential to cause, environmental harm.

Incident report – Mining Proposals will be subject to a standard condition¹⁰ requiring proponents to notify DMP of any reportable incident within 24 hours of detection. Failure to notify DMP of a reportable incident would be a breach of condition and the mining tenements would be subject to forfeiture action under the Mining Act.

¹⁰ This standard condition may be replaced with a regulation under the Mining Regulations 1981 at a future date.



Investigation report – Following the initial notification, DMP would require an investigation report be provided within a timeframe agreed with the department. This report will outline the details of the incident, explaining how it occurred, the impact on the environment and any remedial actions taken.

All other monitoring results and incidents are required to be recorded in line with the site's EMS (see section 3.11) and reported to DMP via the AER. The AER will include the results of all monitoring listed in the environmental outcomes table of the Mining Proposal. Additional information on the level of detail required to be provided to DMP in relation to monitoring results is provided in the AER guideline.

It is important to note that the reporting of incidents, whether it is a reportable incident or a minor incident reported in the AER, will not mean that DMP will automatically classify the proponent as a 'poor operator'. Minor incidents with no residual environmental impacts commonly occur on most mining operations. For minor incidents (ie. not reportable incidents), the proponent should be able to demonstrate it has a system in place to identify, manage and report these incidents and record the appropriate remedial actions to prevent re-occurrence and promote continuous improvement. This is a normal function of a proponent's environmental management system (see section 3.11). It will be more concerning to DMP if incidents occurred and weren't being appropriately identified, reported and acted upon and were then detected via an inspection or compliance review. In relation to reportable incidents, the proponent's response to these incidents and whether reporting obligations were met will be taken into account in any action taken by DMP in response to the reported incident.

3.11 Environmental Management System

Mining Proposal Requirements:

Proponents are required to have and maintain an EMS to ensure that environmental impacts are minimised. The EMS is a system of practices and procedures relating to:

- the identification and assessment of the risk of environmental harm occurring as a result of the carrying out of mining operations
- the implementation of reasonably practicable measures to avoid or minimise the risk of such environmental harm occurring or reduce such environmental harm if it occurs.

A Mining Proposal requires proponents to demonstrate an upfront assessment and identification of risk management measures (see section 3.9). Due to the long term nature of these activities and the potential for new risks to arise during operations, ongoing risk identification and monitoring of the success of the proposed management measures is required. Under proposed amendments to the Mining Act, proponents undertaking activities approved via a Mining Proposal will have an environmental duty to prevent and minimise harm to the environment.



Following approval of the Mining Proposal, DMP requires the risk management process to be maintained and managed throughout the life of the project via an appropriate EMS. A separate EMS is not required for each individual Environmental Group Site. Proponents can have an overarching EMS that is suitable for all of their sites provided it adequately addresses the specific procedures for the Environmental Group Site associated with the Mining Proposal.

Ongoing management can be achieved via an appropriate EMS. While DMP does not require certification of the system under the ISO 14001 Environmental Management System standard, this standard does provide useful guidance on the ongoing management of the risks and activities.

If the proponent chooses to implement a certified ISO 14001 EMS, no further information is required in the EMS section of the Mining Proposal other than a commitment that this will be implemented. Should proponents choose not to certify their system or implement an alternative EMS, an outline of this system must be explained in this section of the Mining Proposal. The description of the EMS in the Mining Proposal must cover the following components:

- management system design (broad description)
- risk identification throughout the life of the project
- implementing environmental management programs
- incorporating goals and targets, and legal obligations
- structure and responsibility
- training
- operational control (procedures)
- monitoring and management of performance
- non-compliances and corrective actions
- internal and external reporting of performance
- keeping records
- auditing of performance
- continuous improvement.

An illustration of the broad components of an EMS that meets the above requirements is provided in Appendix M.

It should be noted that the proposed amendments to the Mining Act will make it a requirement of all mine operators to maintain an appropriate EMS.

REFERENCES

Department of Mines and Petroleum (2015), Guide to the preparation of a design report for tailings storage facilities (TSFs), Resources Safety and Environment Divisions, Department of Mines and Petroleum.

Department of Mines and Petroleum (2013), Tailings storage facilities in Western Australia – code of practice, Resources Safety and Environment Divisions, Department of Mines and Petroleum

DITR (2006), *Community Engagement and Development*, Leading Practice Sustainable Development Program for the Mining Industry produced by the Department of Industry, Tourism and Resources, Canberra.

DITR (2008), *Risk Assessment and Management*, Leading Practice Sustainable Development Program for the Mining Industry produced by the Department of Industry, Tourism and Resources, Canberra.

Standards Australia (2009).AS/NZS ISO 31000:2009 Risk Management Principles and guidelines.

MCMPR (2005), Principles for Engagement with Communities and Stakeholders, Ministerial Council on Mineral and Petroleum Resources.

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APPENDIX A – DEFINITIONS AND ACRONYMS

When preparing the Mining Proposal it is suggested that the following definitions are used. If you require further clarification please contact your Regional Environmental Officer. The contacts for DMP Environmental Officers for particular mineral fields can be found on the Environmental Regional Inspectorate Map.

Activity	Elements of the organisation's activities or products or services that can interact with the environment. These include routine and non-routine activities.
Activity Envelope	An area within which all aspects of the Mining Proposal will occur.
Appreciable Land Degradation	Degradation sufficient to be readily perceived or estimated.
AER	Annual Environmental Report.
ALARP	As low as reasonably practicable.
Community	A group of people living in a particular area or region. In terms of mining activities, this refers to the inhabitants of immediate and surrounding areas who are affected by a mining activity (Ministerial Council on Mineral and Petroleum Resources (MCMPR, 2005). In accordance with Ministerial Council on Mineral and Petroleum Resources (MCMPR) <i>Principles for Engagement with Communities and Stakeholders</i> (2005), community can be the immediate or 'host' community which refers to those who are living in the immediate vicinity of the operation. It can also refer to the 'affected' community which refers to members of the community affected by a company's activities. The effects are most commonly social, economic and political.
Community and Stakeholder Strategy	The proposed course of action for community and stakeholder engagement.
Consequence	Outcome of an event affecting objectives.
Consultation	A process that permits and promotes the two-way flow of ideas and information. Effective consultation is based on principles of openness, transparency, integrity and mutual respect.
Decision Making Authority	A decision-making authority is a public authority with a statutory decision-making role in respect to a proposal. This can include another Minister, a State Government agency or a local government authority.
DER	Department of Environment Regulation
Disturbance Type	A feature created during mining or exploration activity as listed in Schedule 1 of the Mining Rehabilitation Fund Regulations 2013, eg. waste dumps, transport or service infrastructure corridor (haul roads, access roads), ROM pad, plant site, tailings storage facility, borrow pits, land (other than land under rehabilitation or rehabilitated land) that has been disturbed by exploration operations (eg. drill pads), waste dump or overburden stockpiles, Building (other than workshop) or camp site, etc.
Disturbed	Area where vegetation has been cleared and/or topsoil (surface cover) removed.

DMP	Department of Mines and Petroleum.
DoW	Department of Water.
DPAW	Department of Parks and Wildlife.
DSD	Department of State Development.
Earthworks	Reshaping, landscaping, capping, water/wind erosion control and rock armouring.
EARS	Environmental Assessment and Regulatory System.
Ecologically sustainable manner/ ecologically sustainable development	Using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained and the total quality of life, now and in the future, can be increased. The following principles are relevant to the definition: (a) decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations (b) if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation (c) the principle of inter-generational equity – that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations (d) the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making (e) improved valuation, pricing and incentive mechanisms should be promoted.
	Environmental impact assessment.
Engagement	The process by which relevant parties work collaboratively to build ongoing, mutually beneficial relationships.
Environment	environment means — (a) ecosystems and their constituent parts (b) natural physical and biological attributes of land, but does not include — (c) man-made structures or works on land (d) social, economic, heritage and cultural features of land.
Environmental Factor	A part of the environment that may be impacted by an activity (refer to Table 1).
Environmental Group Site	Environmental Group Site describes a grouping of individual tenements for the purposes of further distinguishing the operations which make up a particular Project. Multiple Environmental Group Sites can be created within one Project. Each Environmental Group Site will contain a separate set of tenements which collectively will make up all the tenements for the Project.
Environmental Harm	Environmental harm means adverse ecological effects on the environment.
Environmental Impact	Any change to the environment, whether adverse or beneficial, wholly or partially resulting from a proponent's activities.

Environmental Objectives	The related environmental objective for each factor is the desired goal that, if met, will indicate that the proposed activities are not expected to have a significant impact on that factor of the environment (refer to Table 1).
Environmental Outcome	Environmental outcome is the acceptable level of impact that must not be exceeded, or a level of protection/performance/result that must be achieved, for the mine site to be considered compliant.
Environmental Value	A beneficial use and/or an ecosystem health condition.
EPA	Environmental Protection Authority.
Interested parties	For the purposes of this document, the term ' <i>interested parties</i> ' may be used in exchange with ' <i>community and stakeholders</i> '.
Key Mine Activity	The activities referred to as a Key Mining Activity in Table 2 of these Guidelines.
Key Stakeholders	The term "key stakeholders" refers to post-mining land owners/managers and relevant regulators.
Level of Risk	Magnitude or a risk or combination of risks, expressed in terms of the combination of consequences and their likelihood.
Likelihood	Description of probability or frequency of an event occurring.
Life Of Mine	Expected duration of mining and processing operations.
Maintain	To keep in existence or continuance; preserve; retain. or To keep in a specified state, position, etc.
Management System	A system of practices and procedures relating to: - the identification and assessment of the risk of environmental harm occurring as a result of the carrying out of mining operations - the implementation of practicable measures to avoid or minimise the risk of such environmental harm occurring, or reduce such environmental harm if it occurs.
MCP	Mine Closure Plan.
Mineral Processing Facilities	Includes all processing facilities for ore treatment including crushing plants, grinding, vat leach, heap leach, dump leach and tailings disposal facilities.
Minimise	Limit the degree or magnitude of the adverse impact.
Mining Proposal	The instrument in which to obtain approval to undertake mining activities.
MoU	Memorandum of Understanding.
Miscellaneous Mine Activity	The activities referred to as a Miscellaneous Mining Activity in Table 2 of these Guidelines.
MRF	Mining Rehabilitation Fund.
NOI	Notice of Intent. This document outlined the proposed mining operations and measures to protect the environment including rehabilitation, in order to gain approval to mine. The NOI has been superseded by Mining Proposal.

OEPA	Office of the Environmental Protection Authority.
Performance Criteria	Performance criteria are measurable criteria that allow environmental outcomes to be measured.
Pits	All open excavations including active mineral rock, gravel, sand, clay, bauxite and salt-pan extraction areas.
Project	The total integrated mining operations in which a number of sites contribute to the overall operation to supply ore, processing facilities and disposal of waste products.
Problematic materials	Materials that have the potential to detrimentally impact on humans and the environment and require careful and appropriate management (eg. Potential Acid Forming (PAF) materials, radioactive materials, asbestiform materials, dispersive materials, arsenic etc.).
Rehabilitation	The return of disturbed land to a safe, stable, non-polluting/non-contaminating landform in an ecologically sustainable manner that is productive and/or self-sustaining consistent with the agreed post-mining land use.
Residual Risk	Risk remaining after risk treatment.
Risk	The chance of something happening that will have an impact on objectives. It is measured in terms of consequences and their likelihood of occurrence
Risk Analysis	Process to comprehend the nature of risk and to determine the level of risk.
Risk Assessment	Overall process for risk identification, risk analysis and risk evaluation.
Risk Identification	Process of finding, recognizing and describing risks.
Risk Management	Coordinated activities to direct and control an organization with regard to risk.
Risk Management Framework	Set of components that provide the foundations and organizational arrangements for designing, implementing, monitoring, reviewing and continually improving risk management.
Risk Treatment	Process to modify risk.
Source of Risk	Source of potential harm or situation with the potential to cause loss or adverse impact. These should also include sources which may only have potential unplanned interactions with the environment (ie. accidents/incidents).
Stakeholder	A person or representatives of an organisation that can affect, be affected by, or perceive themselves to be affected by, a decision or activity. A decision maker can be a stakeholder.
Tailings Storage Facility (TSF)	An area used to store and consolidate tailings and may include one or more tailings storage features.
Tenement	Land tenure granted under the Mining Act 1978 eg. Mining Lease, Exploration Licence, Prospecting Licence, Miscellaneous Licence and General Purpose Lease.
Waste Landforms	Includes all mullock and waste rock disposal areas (also called Overburden Storage Area, Waste Rock Landform, or Waste Rock Storage/or Area), low grade stockpiles and mineralised waste stockpiles.

APPENDIX B – REGULATORY AND ADMINISTRATIVE CONTEXT

This section provides an overview of the department's regulatory and administrative context relevant to Mining Proposals.

1. Department of Mines and Petroleum

DMP is the lead regulator and decision-making authority for resource development in Western Australia (WA) under the *Mining Act 1978* (the Mining Act). The department is responsible for the management of these resources to ensure that development occurs in a manner that is safe, environmentally acceptable and achieves community and stakeholder confidence. The Mining Act provides the regulatory framework for onshore exploration and mining activities in WA and outlines the requirements for Mining Proposals.

DMP is also the primary regulator of mine safety under the *Mines Safety and Inspection Act 1994*. For mines where radioactive materials may be an issue (for example uranium or mineral sands mines), management of radioactive materials will also be regulated by DMP, under Part 16 of the Mines Safety and Inspection Regulations 1995, and by the Radiological Council, under the provisions of the *Radiation Safety Act 1975*.

2. Mining Proposals and Mine Closure Plans

The 2010 amendments to the Mining Act require a Mine Closure Plan to be submitted to DMP for assessment and approval as part of Mining Proposal applications. Mining Proposals drafted in accordance with these guidelines must include a Mine Closure Plan prepared in accordance with DMP's *Guidelines for Preparing Mine Closure Plans 2015*, available on the [DMP website](#).

Mining Proposals that include tailings storage facilities must include the relevant design reports outlined in DMP's *Guide to the preparation of a design report for tailings storage facilities (TSF)*, August 2015.

3. Annual Environmental Reports

Standard tenement conditions currently require an Annual Environmental Report (AER) to be submitted for sites with approved Mining Proposals. These guidelines will not alter this requirement, however the type of information required to be reported will change to reflect the environmental outcomes and reporting framework established by the proponent approved in the Mining Proposal (see section 3.10). Guidelines for the submission of an AER are available on DMP's website. The AER guidelines will be updated as required to reflect the requirements of these Mining Proposal guidelines.

4. Mining Rehabilitation Fund

The Mining Rehabilitation Fund (MRF) is a pooled fund that is used to rehabilitate abandoned mine sites in Western Australia. Interest earned on fund contributions will be able to be spent on the rehabilitation of legacy abandoned mines.

The *Mining Rehabilitation Fund Act 2012*, which provides the framework for the MRF, was enacted in 2012. All tenement holders operating on Mining Act tenure (with the exception of tenements covered by State Agreements not listed in the regulations), are required to report disturbance data and contribute annually to the fund. Tenements with a rehabilitation liability estimate below \$50,000 will report disturbance data but will not be required to contribute to the fund.

DMP will reserve the right to ensure that a proponent has no outstanding MRF payments prior to approving a Mining Proposal.

5. Unconditional Performance Bonds

The Minister for Mines and Petroleum has the ability to require unconditional performance bonds under the Mining Act. It is intended that unconditional performance bonds will not be required in the majority of cases. DMP will impose unconditional performance bonds on tenements where it considers that there is a high risk of the rehabilitation liability reverting to the State. Examples of such circumstances are outlined in DMP's Administration of Mines Securities Information Sheet, available on the [DMP website](#).

6. Mining on public reserves and other lands

In some instances, consent for mining may be required for certain reserved lands and other lands under sections 23, 24 and 25 of the Mining Act (eg. for mining in a national park, nature reserve, timber reserve, water reserve, marine reserve, townsite and many other lands mentioned in this section of the Mining Act). Depending on the type of reserve or land, consent may be required from the Minister for Mines and Petroleum and the Ministers responsible for the affected reserves/lands, or from both Houses of Parliament.

In most circumstances, the Mining Proposal will also provide the basis for consideration of consent for mining on these lands by the Minister for Mines and Petroleum and the Ministers responsible for the affected reserves.

In circumstances where consent has already been granted for mining in the relevant reserve or land, this consent may have been subject to certain conditions that have been imposed on the tenement. In these instances, the Mining Proposal must be consistent with the conditions imposed.

7. Public availability of documents

Under the *Mining Legislation Amendment Act 2014*, DMP has the ability to make reviewed Mining Proposals publicly available where there is a regulation-making power enabling the release of information provided to the department. This authorises the copying, storage, making available for public inspection, release, publication and dissemination of information contained in a mining tenement document.

Proponents need to identify information that they consider is of a confidential nature, such as commercially sensitive information or intellectual property that should not be in a public document, and provide two separate electronic versions (one for assessment by DMP with input from other relevant government agencies and one which will be publicly available). DMP will not make any confidential information publicly available provided it is clearly identified as such.

Any request for confidential information will be subject to the Freedom of Information legislation. Further information about applications and lodgement under the *Freedom of Information Act 1992* is available on the [DMP website](#).

8. Small operations

Staff from DMP will be consulting with stakeholders to determine the best method of managing Mining Proposal approvals for 'small operations'. Any new proforma document(s) for 'small operations' will be developed in consultation with key stakeholders.

APPENDIX C – SUBMISSION AND ASSESSMENT

1. Background

These guidelines must be used by proponents when drafting a Mining Proposal. DMP reserves the right to reject any Mining Proposal that does not appear to have considered these guidelines, or if the information provided is inadequate or incorrect.

Mining Proposals should be tailored and proportionate to the:

- size and scope of the operation
- the impacts and risks posed by the activity type
- the characteristics of the receiving environment.

2. Pre-submission guidance

Before the submission of a Mining Proposal, DMP requires that effective stakeholder engagement has been undertaken (see section 3.7).

The consultation and scoping phase for a Mining Proposal is a critical step in project planning. During this phase, the proposed mining operation should be defined in terms of:

- location (geographic, existing land use, tenure, natural and social environment)
- activity (type of mining and associated infrastructure)
- scale (area of disturbance, tonnages mined, quantity and type of waste materials and materials suitable for rehabilitation)
- an initial assessment of the key environmental risks and impacts
- identification of any specific timing requirements for environmental investigations (eg. seasonal requirements for biological surveys)
- requirements for approvals under other legislation.

DMP encourages proponents to conduct scoping meetings with the department and other relevant agencies and stakeholders prior to the submission of a Mining Proposal. A template scoping document is provided in Appendix O.

Early engagement will facilitate a shared understanding of the key environmental risks and potential impacts relevant to the proposal. This will also allow any questions raised by DMP and other stakeholders to be addressed during the development of the Mining Proposal instead of during the assessment. This is more likely to result in an effective and efficient environmental assessment process with removal of regulatory duplication and inconsistencies and timely approvals.

3. Submission process

A Mining Proposal must be submitted via the Environmental Assessment and Regulatory System Online (EARS Online). As of 1 July 2015, the hardcopy submission of Mining Proposals is no longer accepted by DMP.

In order to submit a Mining Proposal via EARS Online, the user is required to register their details with DMP to obtain an 'EX' account number and password which will be used to access EARS Online. Individuals can register their details via the 'Registration' link provided on the EARS webpage:

(<http://www.dmp.wa.gov.au/Environmental-Assessment-and-1471.aspx>).

For further information regarding the registration process please consult the EARS webpage.

4. Online submissions

DMP is undertaking reforms to ensure all approvals and other interactions with proponents, customers and the public can be undertaken online. During this reform process, DMP aims to build an on-line submission process for Mining Proposals that allows the relevant information to be entered directly onto DMP's systems. This Guideline has been drafted with this future goal in mind. It is also the aim of DMP for this Guideline to be integrated into the future submission process so that a separate Guideline may not be required.

5. Assessment process

The assessment of a Mining Proposal includes a number of steps and often involves interaction with a range of government departments and stakeholders. A representation of the assessment process for Mining Proposals is provided in Figure C.1.

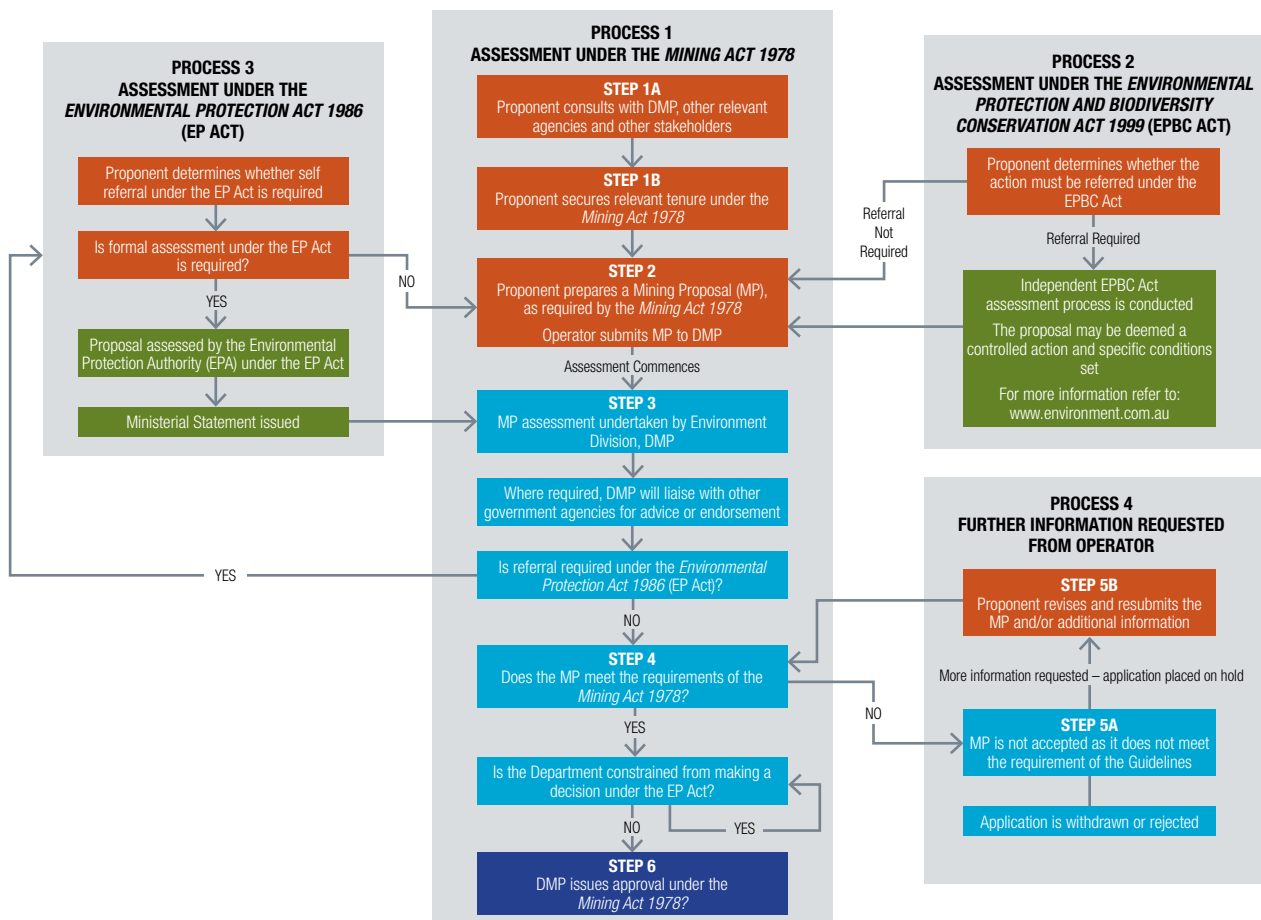


Figure C1: Schematic representation of the Mining Proposal assessment process ¹¹

¹¹ Note – the DMP assessment can run in parallel to the EP Act process, however DMP will be constrained from making a decision on the proposal until the Environment Minister has made a decision under Part IV of the EP Act.

6. Assessment timelines

Information on approval processes and assessment timelines relevant to resource development project is available on the [DMP website](#). The department's target timeframe for the assessment of Mining Proposals is to complete 80 per cent of decisions within 30 business days.

When a proponent is estimating the likely assessment timeframe, they need to consider the likelihood of DMP referring the proposal to another agency (see section 8 – *Other agency advice and referrals* below), or the possibility that DMP may request further information or clarification during the assessment. Whenever these events occur DMP's assessment timeline will go on hold.

7. DMP decision making

In deciding whether or not to approve a Mining Proposal DMP must have regard to the following:

- whether the proposal adequately describes the mining activity and the baseline environmental characteristics
- whether the proposal demonstrates that adequate stakeholder engagement has been undertaken
- whether an adequate environmental risk assessment has been undertaken and risks have been treated to an appropriate level (explained further in section 3.9)
- whether the proposed environmental outcomes are consistent with DMP's environmental objectives (see section 2 and 3.10)
- whether the proposal is consistent with tenement conditions
- whether the proposal is consistent with any requirements to obtain consent to mine on certain Crown, reserved, Commonwealth or private land under sections, 23, 24, 24A, 25, 26A or 29 of the Mining Act.

In the event that the proposal does not adequately demonstrate the above, further information or clarification may be sought or the proposal may be rejected.

8. Other agency advice and referrals

The assessment and approval processes for Mining Proposals often require advice or endorsement from other environmental regulators including the Environmental Protection Authority (Part IV of the *Environmental Protection Act 1986*), Department of Environment Regulation (administering Part V of the *Environmental Protection Act 1986* (EP Act) and the Contaminated Sites Act 2003), the Department of Parks and Wildlife (administering the *Wildlife Conservation Act 1950* and the *Conservation and Land Management Act 1984*) and the Department of Water (administering the *Rights in Water and Irrigation Act 1914*, *Metropolitan Water Supply Sewerage and Drainage Act 1909*, *Country Areas Water Supply Act 1947*, *Waterways Conservation Act 1976*, *Water Agencies (Powers) Act 1984* and *Water Services Act 2012*). Advice or endorsement from other agencies will be sought on a case-by-case basis and/or in accordance with relevant inter-departmental agreements. Further details are provided below.

Where possible, DMP assesses Mining Proposals in parallel with other environmental approvals. Further information on when parallel processing is possible can be found in the policy titled 'Parallel processing of environmental approvals' available on DMP's website.

8.1 The Environmental Protection Authority

The Environmental Protection Authority (EPA) is a statutory authority established pursuant to the EP Act. One of its functions is to conduct Environmental Impact Assessments (EIA) of significant proposals in Western Australia in accordance with Part IV of this Act. Where a Mining Proposal appears to be a significant proposal under Part IV of the EP Act, DMP is required to formally refer it to the EPA. The EPA will then make a decision as to whether the proposal requires a formal EIA. To expedite this process, proponents may choose to refer a proposal directly to the EPA.

The referral process is administrated by the Memorandum of Understanding (MoU) for Collaborative Agreements between the DMP and the Office of the Environmental Protection Authority (OEPA) dated February 2016. There are a number of triggers outlined in Schedules 2 and 3 of the (MoU) that require DMP to either liaise with OEPA or refer activities to the EPA in accordance with Section 38(5) of the EP Act. A copy of the MoU can be found on the [DMP website](#) and proponents are encouraged to liaise with OEPA early in the planning phase of all projects to determine if referral will be required.

It is recommended that proponents refer a proposal directly to the EPA if it meets the referral triggers of the DMP-EPA MoU. Proponents should consult with the EPA prior to referring the proposal. Further guidance is available on the EPA website www.epa.wa.gov.au.

DMP assessment can run in parallel to the EP Act process however, DMP will be constrained from making a decision on the proposal until the Minister for the Environment has made a decision under Part IV of the EP Act. For further information refer to the Parallel Processing of Environmental Approvals guidance on the [DMP website](#).

DMP will not duplicate the environmental impact assessment of the key environmental factors that have been determined via the Part IV assessment process. The exception to this is when the EPA determines that the Mining Proposal and Mine Closure Plan assessment process will be able to address the assessment of that factor (eg. Rehabilitation and decommissioning). Additionally, DMP may need to ensure the closure outcomes and completion criteria in a Mine Closure Plan have the necessary detail for any environmental factors that have been previously assessed by the EPA.

8.2 Native Vegetation Clearing Permits

Clearing undertaken for a Mining Proposal currently requires a native vegetation clearing permit (NVCP) under Part V of the EP Act unless it meets one of the exemptions listed under this Act. DMP has been delegated to accept, assess and approve NVCP applications relating to mineral activities in Western Australia.

Amendments to the EP Act have been proposed that will allow for activities approved under the Mining Act (Mining Legislation Amendment Bill 2015) to be exempt from requiring a NVCP. Should this amendment be passed, DMP will update these guidelines and ensure that the clearing principles in the EP Act are specifically addressed in DMP's assessment and decision making process.

For further information on the submission and assessment of NVCPs please see the [DMP website](#).

8.3 Department of Water

The Department of Water (DoW) is the key regulator of water resources in Western Australia. Referrals to DoW are governed by the Administrative Agreement between DMP and DoW for mineral exploration and mining operations in water resource areas of Western Australia dated January 2016. This agreement is available on the [DMP website](#). In situations where the Administrative Agreement will require DMP to seek advice from DoW, proponents are encouraged to engage with DoW prior to the submission of the proposal. This is likely to result in a more timely review process by DoW.

8.4 Department of Parks and Wildlife

The Department of Parks and Wildlife (Parks and Wildlife) is responsible for administering the Wildlife Conservation Act 1950 and the *Conservation and Land Management Act 1984* (CALM Act).

Prior to submitting a Mining Proposal in a reserve or State Forest managed under the CALM Act, applicants should liaise with Parks and Wildlife about proposed mining activities, noting that the Minister responsible for the reserve (Minister for Environment) will ultimately consider the proposed mining via the consent process.

Parks and Wildlife is also responsible for the protection of flora and fauna including protected flora and fauna under the *Wildlife Conservation Act 1950*. In some circumstances, where the Mining Proposal poses risks to rare or threatened fauna, flora or other ecosystem values (such as threatened or priority ecological communities), DMP reserves the right to seek advice from Parks and Wildlife. In these circumstances, Parks and Wildlife is asked to provide its advice within 20 business days.

Proponents are encouraged to engage with Parks and Wildlife if the proposal affects land that is managed by Parks and Wildlife under the CALM Act or the proponent considers that there are significant conservation issues associated with their Mining Proposal. If suitable evidence of engagement is provided with the Mining Proposal, referral to Parks and Wildlife may not be required.

8.5 Department of Environment Regulation

The Department of Environment Regulation (DER) administers the works approvals and licences (or registration) required for the construction and operation of all prescribed premises under Part V of the EP Act. There are a number of prescribed premises described in the Environmental Protection Regulations 1987 that relate to mining activities. Proponents are encouraged to liaise the DER early in the planning stages of projects where a works approval may be required. For further information see the DER website.

Generally, the assessment of Mining Proposals and works approvals or licences can occur in parallel. DMP does not await the approval of a works approval or licence before making a decision on a relevant Mining Proposal.

8.6 Department of State Development

The Department of State Development (DSD) administers State Agreements projects. Some tenements under the Mining Act may be granted pursuant to a State Agreement and require the submission of a Mining Proposal. Proponents on these tenements should consult with DSD prior to submitting a Mining Proposal.

8.7 *Commonwealth Environment Protection and Biodiversity Conservation Act 1999*

The Mining Proposal assessment and approval process under the Mining Act is undertaken independent of any assessments by the Commonwealth under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act).

To reduce duplication in State and Commonwealth regulation, bilateral agreements between the Commonwealth Government and Western Australia for accreditation of certain State environmental assessment and approval processes have been, and continue to be, negotiated. See the Department of Environment website for more information.

APPENDIX D – REVISION AND VARIATION PROCESS

The intention of these guidelines is that there will be one Mining Proposal for a mine site (Environmental Group Site) which will be revised as required over the life of the mine.

The first Mining Proposal submitted under these new guidelines must follow the structure outlined in section 3 of these guidelines.

A Mining Proposal must be revised and resubmitted to DMP for assessment in the following circumstances:

- the proponent becomes aware that the risks associated with a mining activity have changed (or are going to change) and now pose a higher risk than detailed in the approved Mining Proposal
- the activities on site are going to change and the new activities pose new or increased risks which have not been detailed in the approved Mining Proposal
- the activities on site are going to change and the environmental outcomes agreed in the approved Mining Proposal will not be able to be achieved or need to be modified
- the activities on site are going to change and new disturbance is proposed outside the activity envelope detailed in the approved Mining Proposal (eg. a project expansion)¹²
- the activities on site are going to change and the approved aspects of any ‘Key Mine Activities’ detailed in the approved Mining Proposal needs to be altered (see section 3.5.3 and Appendix H)
- a new activity or change to an activity type is proposed (see activity types listed in section 3.5.3 and Appendix H).

DMP encourages early consultation to prevent proponents from making changes without appropriate approval. To assist this consultation, DMP has developed a ‘Proforma for Notification of Minor Changes to a Mining Proposal’ (see over page). This will allow proponents to detail proposed minor changes and seek confirmation from DMP that a revised Mining Proposal is not required. A draft form is provided over the page.

If DMP considers that the change does trigger the requirement for a revised Mining Proposal, the proponent will be requested to submit a revised Mining Proposal for assessment and approval.

¹² This is required to ensure tenement holders are compliant with the covenants and conditions of all leases/licences granted under the Mining Act, which requires ground disturbing activities to be approved in a Mining Proposal or Programme of Works.



To:

Team Leader Name: _____

Operations, Environment Division

Department of Mines and Petroleum

100 Plain Street, EAST PERTH WA 6004

This *proforma* is designed to allow proponents to notify Department of Mines and Petroleum (DMP) of minor changes to a Mining Proposal that they consider to not require approval via a revised Mining Proposal.

ENVIRONMENTAL GROUP SITE (EGS) DETAILS	
EGS Name	
EGS Code <i>Code is derived from the EARS2 system.</i>	
PROPONENT DETAILS	
Company or Individual Name	
Tenement Holder(s) (if different from above)	
MINING PROPOSAL DETAILS	
Registration ID <i>ID is derived from the EARS system.</i>	
MP date <i>Taken from MP Checklist</i>	

Details of proposed changes to the mine site: *(eg. minor changes to environmental management practices, environmental monitoring, location of infrastructure, etc.).*

Tenement details:

	Tenement	Tenement Holder
Tenements subject to the change <i>State 'all' if relevant to all tenements of the EGS</i>		

Checklist to confirm whether or not a revised Mining Proposal is required:

TRIGGERS FOR REVISED MP	Y/N	EXPLANATION
The new or modified activities pose a higher risk than detailed in the approved Mining Proposal		
The new or modified activities pose new or increased risks which have not been detailed in the approved Mining Proposal		
The environmental outcomes agreed in the approved Mining Proposal will not be able to be achieved or need to be modified		
New disturbance is proposed outside the activity envelope detailed in the approved Mining Proposal (eg. a project expansion)		
The aspects of any 'Key Mine Activities' detailed in the approved Mining Proposal needs to change (See section 3.5.3 and Appendix H of the MP Guidelines)		
A new activity or change to an activity type is proposed from that approved in the Mining Proposal (See section 3.5.3 and Appendix H of the MP Guidelines)		

Corporate Endorsement:

"I hereby certify that to the best of my knowledge, the information within this form is true and correct"

Name: _____

Signed: _____

Position: _____

Date: _____

APPENDIX E – MINING PROPOSAL CHECKLIST

A completed checklist must be submitted with every Mining Proposal (including each revised Mining Proposal).

Q No	Mining Proposal (MP) Checklist	Y/N/NA	Comments	Changes from previous Version (Y/N)	Page No.	Summary
1	Has the checklist been endorsed by a tenement holder(s) or a senior representative authorised by the tenement holder(s), such as a Registered Manager or Company Director?					
2	Are you the tenement holder of all tenements associated with the Mining Proposal /group site? Mining Proposals which have not been submitted by the tenement holder must include an authorisation from the tenement holder or an explanation of the company linkage to the tenement holder (eg. for subsidiary companies).					
3	For tenements with multiple tenement holders, have all of the other holders consented to this proposal being submitted? Mining Proposals which have not been submitted by the tenement holder must include an authorisation from the tenement holder or an explanation of the company linkage to the tenement holder (eg. for subsidiary companies).					
4	Have contact details for questions on the Mining Proposal been provided?					
5	Are all mining operations within granted tenement boundaries or does this Mining Proposal support a lease application?					
6	Is this the first Mining Proposal submitted for these tenements? If No , the version number of the revised Mining Proposal must be stated on the cover and a summary of changes included					
7	Have all tenement conditions been reviewed to ensure activities proposed in the Mining Proposal are in compliance?					
8	Has a Mine Closure Plan been provided? It is a requirement that every mining proposal include a mine closure plan.					

Q No	Mining Proposal (MP) Checklist	Y/N/NA	Comments	Changes from previous Version (Y/N)	Page No.	Summary
PUBLIC AVAILABILITY						
9	Are you aware that this Mining Proposal is publicly available?					
10	Is there any information in this Mining Proposal that should not be publicly available? If Yes , refer to Appendix B, section 7 of the guidelines for more information. Note: A non-confidential version of all mining proposals will be made available to the public					
11	If 'Yes' to Q10, has confidential information been submitted in a separate document?					
MINING PROPOSAL DETAILS						
12	Does the Mining Proposal cover page include: • Environmental Group Site name • Environmental Group Site code • company name (including telephone numbers and email addresses) • contact details • version number • date of submission.					
13	Has information regarding the Environmental Group Site (EGS) been provided in accordance with the requirements of Appendix G of the guidelines?					
14	Has a disturbance table been provided in accordance with the requirements of Appendix G of the guidelines?					
15	Has spatial data for all Mine Activity Types been provided in accordance with the specified properties and allowances (see section 3.5.3)?					
16	Has a site plan, consistent with all spatial data and activity details, been provided? The site plan must show existing and proposed activities and other relevant information including tenement boundaries and other land tenure (eg. Reserves and pastoral lease boundaries).					
17	Do you have and maintain an Environmental Management System?					

Q No	Mining Proposal (MP) Checklist	Y/N/NA	Comments	Changes from previous Version (Y/N)	Page No.	Summary
ENVIRONMENTAL LEGISLATIVE FRAMEWORK						
18	Does the Mining Proposal include a list of all relevant environmental approvals that have been sought or are required before the proposal may be implemented?					
19	Does the Mining Proposal trigger any criteria for referral to the EPA within the DMP/EPA Memorandum of Understanding?					
20	Has the Mining Proposal been referred to the EPA? If Yes , indicate date of referral in comments					
21	Has the proposal been deemed to not warrant formal assessment under Part IV of the EP Act, is currently under assessment by the EPA, or has been approved via a Ministerial Statement? If Yes, ensure details of Ministerial Statement, assessment level and/or assessment number are provided within the Mining Proposal					
22	Is a clearing permit required? If 'No' then explain why in space below					
23	If 'Yes' at Q22 then has a clearing permit been applied for?					
24	Is the Mining Proposal located on reserve land? If "Yes" state reserve types					
25	Is the Mining Proposal wholly or partially within Department of Parks and Wildlife (DPaW) managed areas?					
26	If 'Yes' at Q25 has DPaW been consulted?					
27	Will any threatened or protected flora and/or fauna be impacted by this proposal?					
28	Have the DAA/DPC 'Aboriginal Heritage Due Diligence Guidelines' been used to identify the risk of impacts to aboriginal heritage sites?					
29	If any aboriginal heritage sites will be impacted, has appropriate consent been sought under the <i>Aboriginal Heritage Act 1972</i> ?					

Q No	Mining Proposal (MP) Checklist	Y/N/NA	Comments	Changes from previous Version (Y/N)	Page No.	Summary
30	Does the Mining Proposal include a tailings storage facility? Mining Proposals that include tailings storage facilities must include the relevant design reports outlined in the DMP's <i>Guide to the preparation of a design report for tailings storage facilities (TSFs)</i> , August 2015.					
31	Does the Mining Proposal include the backfilling of mine voids? If Yes, the Mining Proposal must include a Sterilisation Report.					
32	Is the mining proposal located on pre-1899 Crown Grant lands? (not subject to the Mining Act)					
33	Has the construction of an airstrip been proposed? If Yes, indicate the date when Civil Aviation Safety Authority, Airservices Australia and the Local Government Authority were advised (in writing) of the proposal to construct an airstrip.					

Corporate endorsement:

I hereby certify that to the best of my knowledge, the information contained within this Mining Proposal and checklist is true and correct and addresses all the requirements of the Guidelines for Mining Proposals in Western Australia approved by the Director General of Mines.

Name: _____

Signed: _____

Position: _____

Date: _____

(NB: The corporate endorsement must be given by tenement holder(s) or a senior representative authorised by the tenement holder(s), such as a Registered Manager or Company Director)

APPENDIX F – PROJECTS & ENVIRONMENTAL GROUP SITES

1. Projects

A **Project** is a common term used to describe a mineral deposit identified in Western Australia. Often these deposits are linked to tenements granted under the Mining Act in order to further define their spatial extent. Projects are assigned a unique identifier known as a J-code.

The Geological Survey of Western Australia (GSWA) maintains a comprehensive database of mines, mineral deposits and prospects in Mines and Mineral Deposits (MINEDEX) System. The initial determination of Projects and their associated tenements was undertaken as part of the development of the EARS2 system. The original groupings were based on the information contained within MINEDEX and have been continually refined over time.

2. Environmental Group Sites

An Environmental Group Site refers to a grouping of individual tenements for the purposes of further distinguishing the operations which make up a particular Project. In most circumstances a Project only consists of one Environmental Group Site. However, in circumstances where the proponent wishes to distinguish between operations which make up a Project (generally because they are on spatially separated tenements), multiple Environmental Group Sites can be created within one Project. Each Environmental Group Site will contain a separate set of tenements which collectively will make up all the tenements for the Project.

An illustration showing the relationship between Projects, Environmental Group Sites and Tenements is provided below.

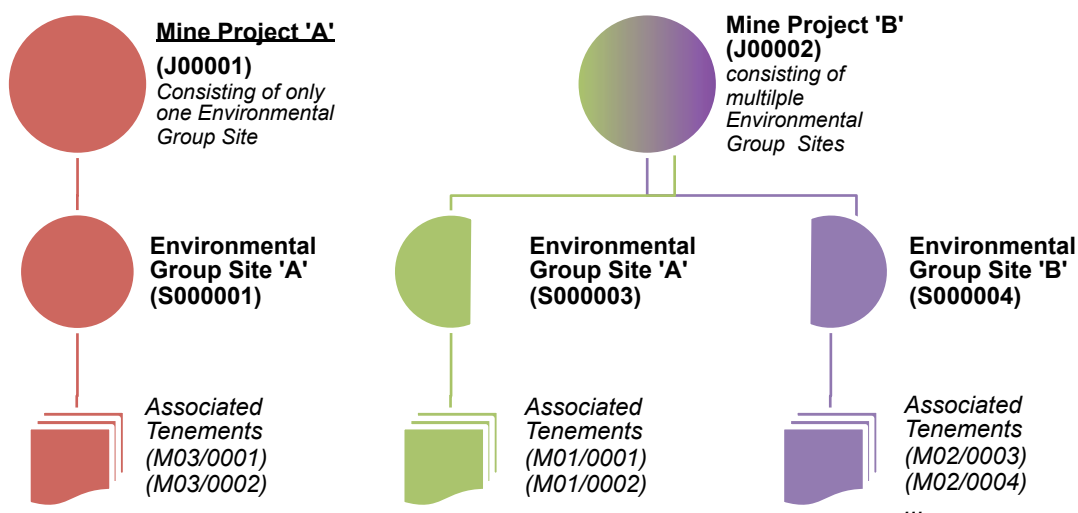


Figure F1: Tenement Grouping Relationship (Projects, Environmental Group Sites, Tenements)

If the groupings listed in EARS2 are believed to be incorrect, users should contact the Department via EARS Manager (EARSManager@dmp.wa.gov.au) with a request and reason for change.

APPENDIX G – ENVIRONMENTAL GROUP SITE DETAILS

The 'Environmental Group Site' details section is intended to capture and display information specific to the mine site (Environmental Group Site) for which a Mining Proposal is being lodged. The information is required to be submitted using the table below.¹³

 Government of Western Australia Department of Mines and Petroleum		Environmental Group Site (EGS) Details	
SITE DETAILS			
EGS Name ¹⁴			
EGS Code <i>Code is derived from the EARS2 system. (Leave blank if new project)</i>			
Description of Operation	Eg. Basic Raw Material Extraction/Open Cut Mine Underground Mine/Strip Mining		
Mine Status	Yet to commence/Construction/Operation/Care and Maintenance/Decommissioning/Relinquished		
Commodity mined	Eg. Gold, Iron Ore, Nickel, Granite, Construction Sand, Limestone, etc.		
Project commencement date			
Estimated completion date of the project			
Tenement Details	Tenement	Tenement Holder	
PROPONENT DETAILS			
Company or Individual Name			
ACN/ABN:			
Address			
Postal Address			

¹³ DMP is committed to developing enhanced online systems for lodging Mining Proposals and other applications. The aim will be for the EGS and Activity details of a Mining Proposal to be provided within the lodgement system, with data to be auto-populated where possible. This functionality will be developed in due course, however, in the meantime, proponents will need to use the tables provided in Appendices G & H.

¹⁴ If the project has been assessed by the EPA, use the same project name as that stated in the 'Key Proposal Characteristics Table' included in the EPA assessment documents.

Key Contact Representative <i>Key contact for any enquires regarding the operation of the mine site. This may be different from the key contact associated with the Mining Proposal</i>	Name:	
	Position	
	Phone Number	
	Email	

ACTIVITIES APPROVED¹⁵

Mine Activity	Mine Activity Reference	Tenement	Current Area of Activity (Ha)	Total Approved Area (Ha)
Tailings/residue storage facility	TSF	MXX/XXXX	8.00	18.00
Waste Dump/Overburden Storage	Waste Dump – West	MXX/XXXX	50.00	50.00
Plant site	Plant	MXX/XXXX	5.00	5.00
Mining Void (>5m in depth)	Pit	MXX/XXXX	8.00	8.00
Miscellaneous mine activities	Roads	MXX/XXXX	2.50	2.50
	Landfill	MXX/XXXX	2.50	2.50
		MXX/XXXX	3.00	3.00
	Fuel storage facility	MXX/XXXX	1.60	1.60
TOTAL AREA FOR MINE SITE			82.60	92.60

¹⁵ For new mine sites, this will be blank. For existing mines, this can be taken from latest MRF or AER submission.

APPENDIX H – ACTIVITY DETAILS

The Activity Details section of the Mining Proposal must accurately and concisely record the individual activities for which the proponent is seeking approval. Details regarding the proposal must be submitted using the table below.¹⁶

Table H1: Activity Details

 Government of Western Australia Department of Mines and Petroleum		Mining Proposal Submission Activity Details	
Proposal Information <i>(available for public viewing)</i>			
Proposal Summary		<i>Brief summary of the activities which constitute this proposal (ie. new activities, amendment to existing operations etc.).</i>	
Mine Activities approval is being sought for <i>(available for public viewing)</i> <i>Only include Mine Activities which are being proposed or amended within the below table. Previously approved Mine Activities are to be displayed in the Environmental Group Site Details Section of a Mining Proposal.</i>			

Tenement	Activity Category	Mine Activity Reference	Current Area of Activity (Ha)	TOTAL Current Approved Area (Ha)	Proposed Change (Ha)	New Total Approved Area (Ha)
Key Mine Activities						
MXX/XXXX	Tailings or residue storage facility (class 1)	TSF1	10.00	20.00	+5.00	25.00
	Waste dump or overburden stockpile (class 1)	Waste Dump – West				
	Heap or vat leach facility	Heap Leach 1				
	Evaporation pond	Evaporation Pond 1				
	Dam – saline water or process liquor	Dam 1				
	Tailings or residue storage facility (class 2)	TSF2				
	Waste dump or overburden stockpile (class 2)	Waste Dump – East				

¹⁶ DMP is committed to developing enhanced online systems for lodging Mining Proposals and other applications. The aim will be for the EGS and Activity details of a Mining Proposal to be provided within the lodgement system with data to be auto-populated where possible. This functionality will be developed in due course, however, in the meantime, proponents will need to use the tables provided in Appendices G & H.

Tenement	Activity Category	Mine Activity Reference	Current Area of Activity (Ha)	TOTAL Current Approved Area (Ha)	Proposed Change (Ha)	New Total Approved Area (Ha)
	Low-grade ore stockpile (class 1)	Low Grade Stockpile 1				
	Plant site	Plant				
	Mining void (depth greater than 5m – below ground water)	Tyler's Pit				
	Mining void (depth greater than 5m – above groundwater)	Pit 2				
	Run-of-mine pad	ROM				
Miscellaneous Mine Activities						
	Fuel storage facility	Fuel Storage	Footprints not required for each miscellaneous activity type – see section 3.5.1 of the Guidelines			
	Workshop	Tony's Workshop				
	Landfill site	Landfill				
	Diversion channel or drain	Drain				
	Dam – fresh water	Dam2				
	Low-grade ore stockpile (class 2)	Low Grade Stockpile 2				
	Sewage pond	Sewage Pond				
	Building (other than workshop) or camp site	Office buildings				
	Transport or service infrastructure corridor	All roads, powerlines and service corridors.				
	Airstrip	Airstrip				
	Laydown or hardstand area	Laydown				
	Core yard	Core yard				
	Borrow pit or shallow surface excavation	Borrow Pit				

Tenement	Activity Category	Mine Activity Reference	Current Area of Activity (Ha)	TOTAL Current Approved Area (Ha)	Proposed Change (Ha)	New Total Approved Area (Ha)
	Borefield	Borefield				
	Processing equipment or stockpile associated with basic raw material extraction	Stockpile1				
	Land that is cleared of vegetation (other cleared land)	Other Cleared Land				
	Topsoil stockpile	Topsoil stockpile				
	Miscellaneous Mine Activity Area		10.00	20.00	+5.00	25.00
	TOTAL TENEMENT ACTIVITY AREA		60.00	80.00	25.00	115.00
	Duplicate above table for each tenement for the proposal					
	TOTAL MINE ACTIVITY AREA¹⁷		60.00	80.00	25.00	115.00

¹⁷ Include total combined area of all activities on all tenements. This total may be within a larger disturbance envelope (see section 3.5.1).

Table H2: Further required information required for Key Mine Activities

Tailings or residue storage facility ¹⁸			
Mine Activity Reference	Eg. TSF1		
Area	25 Ha (increase of 5 ha proposed under this proposal)		
Area per tenement	MXX/XXXX – 25ha		
Design	Design (Eg. Paddock, Cross-valley, In-pit)		
	Max. Height		
	Number of Cells		
	Construction Method (Eg. Upstream/Downstream/Centreline raising)		
	Discharge Method (Eg. perimeter, central, single point)		
	Lining (Eg. None, Engineered Soils/Earth, HDPE)		
Material Characteristics	Fibrous minerals	☐ – Yes ☐ – No	<i>Details</i>
	Radioactive material	☐ – Yes ☐ – No	<i>Details</i>
	Materials capable of generating acid and metalliferous drainage, including neutral drainage and saline drainage	☐ – Yes ☐ – No	<i>Details</i>
	Highly erodible material that is capable of compromising the structure of the storage facility.	☐ – Yes ☐ – No	<i>Details</i>
Waste dump or overburden stockpile			
Mine Activity Reference	Eg. Waste Dump – West		
Area	60 Ha (increase of 10 ha proposed under this proposal)		
Area per tenement	MXX/XXXX – 60ha		
Design	Max. Height		
Material Characteristics	Fibrous minerals	☐ – Yes ☐ – No	<i>Details</i>
	Radioactive material	☐ – Yes ☐ – No	<i>Details</i>
	Materials capable of generating acid and/or metalliferous drainage, including neutral drainage and saline drainage	☐ – Yes ☐ – No	<i>Details</i>
	Highly erodible material that is capable of compromising the structure of the waste dump.	☐ – Yes ☐ – No	<i>Details</i>

¹⁸ Mining Proposals that include tailings storage facilities must include the relevant design reports outlined in DMP's Guide to the preparation of a design report for tailings storage facilities (TSFs), August 2015.

Heap or vat leach facility			
Mine Activity Reference	Eg. Heap Leach 1		
Area	25 Ha (increase of 5 ha proposed under this proposal)		
Area per tenement	MXX/XXXX – 25ha		
Design	Type/Design		
	Max. Height		
	Liner type (Eg. HDPE)		
Process Characteristics	Process Chemicals used		
Material Characteristics	Fibrous minerals	☐ – Yes ☐ – No	<i>Details</i>
	Radioactive material	☐ – Yes ☐ – No	<i>Details</i>
	Materials capable of generating acid and/or metalliferous drainage, including neutral drainage and saline drainage	☐ – Yes ☐ – No	<i>Details</i>
	Highly erodible material that is capable of compromising the structure of the heap/vat leach.	☐ – Yes ☐ – No	<i>Details</i>

Evaporation Pond	
Mine Activity Reference	Eg. Evaporation Pond 1
Area	25 Ha (increase of 5 ha proposed under this proposal)
Area per tenement	MXX/XXXX – 25ha
Design	Height and/or depth
	Construction Method (eg. above ground, below ground)
	Liner (Eg. None, Engineered Soils/Earth, HDPE)
Material Characteristics	ie. what is stored (eg. process water, dewater, saline water).

Dam – Saline Water or Process Liquor	
Mine Activity Reference	Eg. Dam 1 – Saline Water
Area	25 Ha (increase of 5 ha proposed under this proposal)
Area per tenement	MXX/XXXX – 25ha
Design	Height and/or depth
	Construction Method (eg. above ground, below ground)
	Liner (Eg. None, Engineered Soils/Earth, HDPE)
Material Characteristics	ie. what is stored (eg. process liquor, saline water).

Mining void			
Mine Activity Reference	Eg. Tyler's Pit		
Area	60 Ha (increase of 10 ha proposed under this proposal)		
Area per tenement	MXX/XXXX – 60ha		
Design	Type/Design (eg. open pit, underground, box cut)		
	Depth		
Material Characteristics	Fibrous minerals	☐ – Yes ☐ – No	<i>Details</i>
	Radioactive material	☐ – Yes ☐ – No	<i>Details</i>
	Materials capable of generating acid and metalliferous drainage, including neutral drainage and saline drainage, within pit walls or underground workings	☐ – Yes ☐ – No	<i>Details</i>
	Highly erodible material that is capable of compromising the long-term stability of the pit or underground workings	☐ – Yes ☐ – No	<i>Details</i>

Low-Grade Ore Stockpile (class 1)			
Mine Activity Reference	Eg. Low Grade Stockpile 1		
Area	10 Ha (increase of 10 ha proposed under this proposal)		
Area per tenement	MXX/XXXX – 10ha		
Design	Max. Height		
Material Characteristics	Fibrous minerals	☐ – Yes ☐ – No	<i>Details</i>
	Radioactive material	☐ – Yes ☐ – No	<i>Details</i>
	Materials capable of generating acid and/or metalliferous drainage, including neutral drainage and saline drainage	☐ – Yes ☐ – No	<i>Details</i>
	Highly erodible material	☐ – Yes ☐ – No	<i>Details</i>

Plant Site	
Mine Activity Reference	Eg. Plant
Area	2.6 Ha (increase of 0.6 ha proposed under this proposal)
Area per tenement	MXX/XXXX – 2.6ha
Type/ Design	

Run-of-mine Pad	
Mine Activity Reference	Eg. ROM
Area	1 Ha (increase of 0.5 ha proposed under this proposal)
Area per tenement	MXX/XXXX – 1ha
Material Characteristics	

APPENDIX I – DEVELOPING A STAKEHOLDER ENGAGEMENT STRATEGY

DMP requires proponents to undertake and demonstrate appropriate and effective community and stakeholder engagement.

In order to satisfy DMP that sufficient community and stakeholder engagement has been undertaken, proponents must demonstrate that the principles of stakeholder engagement: Communication, transparency, collaboration, inclusiveness and integrity, have been addressed.

DMP does not intend to prescribe the approach or strategy for engagement and proponents are encouraged to use a range of styles that they determine appropriate through different stages of the process, or when certain issues need to be addressed.

This guidance provides a framework that encompasses the principles of stakeholder engagement. It aims to assist proponents with the following:

- identification of priority periods for consultation
- identification of community and stakeholders
- development of an engagement strategy.

1. Priority periods of consultation

Stakeholder engagement is a continuous process that must be conducted throughout the life of mine – from mine planning through to relinquishment.

During the mine planning process and prior to submission of the Mining Proposal, DMP requires proponents to engage with the community and stakeholders:

- during the planning and risk assessment process¹⁹
- while determining environment outcomes.

Ongoing community and stakeholder engagement during construction and operations will be required for the following components of the project:

- on high risk activities (as determined by the risk assessment), as required
- prior to any major changes to proposed activities
- on any other new area of concern identified by stakeholders.

Although this guideline specifically addresses community and stakeholder engagement for mine planning and operations, engagement for mine closure must be integrated throughout the process. Community and stakeholder engagement for mine closure is described in the *DMP Guidelines for Preparing Mine Closure Plans 2015*.

¹⁹ Further information on Stakeholder Engagement in the context of Risk Assessment can be found in the Standards Australia (2009) – AS/NZS ISO 31000:2009 Risk Management Principles and Guidelines.

2. Identification of stakeholders and interested parties

The core principle of inclusiveness is satisfied through the identification of stakeholders and interested parties, including the community.

A formal stakeholder identification process should be undertaken early in the planning stage and regularly reviewed as stakeholders may change as the mine life progresses.

For the purpose of this paper, the term stakeholders includes both internal and external parties who are likely to affect, be affected, or have an interest in mine activities and outcomes.

The **external stakeholders** typically include:

- Government (such as regulatory agencies and local authorities)
- land owners/managers (such as private land holders, indigenous/traditional land owners, lease holders, Pastoral Lands Board, State land managers)
- local community members or groups
- interested Non-Government Organisations (NGOs)
- adjacent landholders
- downstream (or down-gradient) users of surface or groundwater resources.

Information in the Mining Proposal is only required to focus on information relating to engagement with external stakeholders. Engagement with internal stakeholders is important, however records of this are more relevant to a proponent's EMS rather than the Mining Proposal.

3. Targeted community and stakeholder engagement strategy

Proponents are responsible for developing their own targeted engagement strategy. A framework for developing an engagement strategy is described below. By following this framework, the principles of communication, transparency and collaboration will be met.

DMP does not intend to prescribe the approach or strategy for engagement and proponents are encouraged to use a range of styles that they determine appropriate through different stages of the process, or when certain issues need to be addressed ²⁰.

It is recognised that various factors such as type, scale and location of activities will determine the most appropriate engagement strategy to be implemented and that the process of engagement is likely to be modified according to changes in mining activities and the needs of the interested parties.

²⁰ For further information, the International Association of Public Participation (IAP2) has developed a public participation spectrum which includes: *informing, consulting, involving, collaborating, and empowering*. For further guidance, refer to the *Community Engagement and Development*, Leading Practice Sustainable Development Program for the Mining Industry produced by the Department of Industry, Tourism and Resources, Canberra. (DITR 2006) and AA1000 Stakeholder Engagement Standard

3.1.1 Scope of the targeted community and stakeholder engagement strategy

Effective engagement strategies are open, transparent and mutually beneficial to both the proponent and interested parties. In order to facilitate effective engagement, it is critical that all parties articulate and understand:

- objectives of the engagement process
- objectives of the proponent
- objectives of the interested parties.

By identifying the objectives of all parties involved as early in the process as possible, a clearer pathway for the scope of the engagement strategy will be established.

Limitations and boundaries (such as timeframes, non-negotiable issues, resources and modes of communication) must also be articulated to ensure that expectations are realistic and accurate.

It is important that all interested parties have their interests and concerns considered and, where appropriate, addressed. An effective consultation process will also provide opportunity for feedback on the response or proposed action by the proponent.

A review of the scope may be required regularly as new 'interested parties' are identified and concerns/issues change with the progression of the mine life.

3.1.2 Methods of communication

Effective community and stakeholder engagement requires that communication is symmetric (both parties are equal in the process) and reciprocal.

To promote symmetrical and reciprocal communication, the lines of communication must be clearly defined and articulated as early on in the process as possible. For effective communication to be achieved the needs and characteristics of the interested parties must be considered and communication must be:

- accessible – consideration to minority and marginalised groups and geographic restrictions
- appropriate – the nature of the information and the delivery of information must be culturally, technically and logistically appropriate
- respectful – people must be treated honestly, fairly and without discrimination.

3.1.3 Adequate resourcing

It is important that resourcing for engagement is understood and considered early in the planning process and detailed in the stakeholder engagement strategy. Resources may include financial, human and technological support and can also include stakeholder-related expenses.

3.1.4 Timeliness

Ongoing and frequent engagement is an important mechanism for building relationships with both community and stakeholders. In addition, each phase of the mine life brings with it different challenges which need to be considered in the engagement process.

In order for interested parties to effectively receive, review and respond to information, adequate time must be allowed for by the proponent when planning and implementing the engagement strategy.

Sufficient, realistic and clear timeframes for feedback and response must be established between the parties.

3.1.5 Documentation

As a component of the strategy, certain aspects of the engagement process should be documented to facilitate openness and transparency during the process. Based on the

Ministerial Council on Mineral and Petroleum Resources (MCMPR) *Principles for Engagement with Communities and Stakeholders* (2005), it is necessary to maintain documentation for:

- the engagement process undertaken
- objections/claims made by interested parties
- assessment of merit of objection or claims about activities undertaken by the proponent
- response provided by the proponent to the interested parties (including any mitigation or control measures to address concerns)
- the outcomes of meetings and decisions.

This documentation described above is separate to regulatory reporting requirements. Proposed reporting requirements for the purposes of the Mining Proposal and ongoing regulatory reporting are described in section 3.10 of the guidelines.

4. Evaluation

In order to measure the effectiveness of stakeholder and community engagement, proponents should undertake an evaluation of their engagement strategy. In most cases, the overall purpose of evaluation is to test whether the engagement activities has met its objectives. The end of each 'priority periods of consultation' may be an appropriate time for this to occur.

Table I1: Stakeholder Engagement Register

Safe Hands Mining – Stakeholder Engagement Register 2015					
Date	Description of Engagement	Stakeholders	Stakeholder comments/ issue	Proponent Response and/or resolution	Stakeholder Response
2010 – ongoing	Quarterly meetings	Traditional owners	Concern that water in a nearby spring may be being contaminated with lead	Identifying and securing lead contaminated materials. Monitoring quality and quantity of the spring water. Remedial action as required. Health testing and keeping the traditional owners informed	Acceptable
date	Meeting to discuss potential post-mining land uses	Pastoralist neighbour	Concerns about any hole or pit to be left behind after mining	Will include in closure design and provision practical measures to make safe (to human and animal) any hole or pit left after mining	Acceptable
2010 – ongoing	Periodic meetings to discuss post-mining opportunities	Local Shire	Ongoing relationship with regular communication to explore potential uses of rehabilitated mine feature or infrastructure to be left after mining that would be of benefit to community	Continued open dialogue	N/A

APPENDIX J – EXAMPLE RISK CRITERIA

Below is an example Risk Matrix and corresponding descriptions of consequence and likelihood levels.

Table J1: Example likelihood table

DESCRIPTOR		EXPECTED FREQUENCY	PROBABILITY Select most relevant to the activity / risk (e.g. Probability of occurrence within lifetime of the project or Probability %)		
1	Rare	Once in 15 years	Highly unlikely, but it may occur in exceptional circumstances.	0 – 10%	0.0001
2	Unlikely	At least once in 10 years	Not expected, but there's a slight possibility it may occur at some time.	11 – 40%	0.001
3	Possible	At least once in 3 years	The event might occur at some time as there is a history of infrequent occurrence of similar issues with similar projects/activities.	41 – 60%	0.01
4	Likely	At least once per year	There is a strong possibility the event will occur as there is a history of frequent occurrence with similar projects/activities.	61 – 90%	0.1
5	Almost Certain	More than once per year	The event is expected to occur at some time as there is a history of continuous occurrence with similar projects/activities.	91 – 100%	1

Table J2: Example consequence table

Environmental factor	Insignificant	Minor	Moderate	Major	Severe
Biodiversity/ Flora/Fauna/ Ecosystem	None or insignificant impact to ecosystem component (physical, chemical or biological) expected with no effect on ecosystem function*.	- Moderate to minor impact to ecosystem component (physical, chemical or biological) - Minor off-site impacts at a local scale*.	- Minor and short-term impact to high value or sensitive ecosystem expected - Off-site impacts at a local scale*.	- Long-term impact to significant high value or sensitive ecosystem expected - Long-term impact on a wide scale - Adverse impact to a listed species expected*.	- Irreversible impact to significant high value or sensitive ecosystem expected - Irreversible and significant impact on a wide scale - Total loss of a threatened species expected*.

Environmental factor	Insignificant	Minor	Moderate	Major	Severe
	*Site specific quantitative measures can be useful. For example: <i>Alteration or disturbance to an isolated area that is unlikely to affect the habitat, species or ecosystem.</i>	*Site specific quantitative measures can be useful. For example: <i>Alteration or disturbance to less than 5% of a habitat, species or ecosystem resulting in a minor, recoverable impact within 1 year.</i>	*Site specific quantitative measures can be useful. For example: <i>Alteration or disturbance to 5-30% of a habitat, species or ecosystem resulting in a moderate, recoverable impact within 1-2 years.</i>	*Site specific quantitative measures can be useful. For example: <i>Alteration or disturbance to 30-70% of a habitat, species or ecosystem resulting in a major, recoverable impact within 3-10 years.</i>	*Site specific quantitative measures can be useful. For example: <i>Alteration or disturbance to more than 70% of a habitat, species or ecosystem resulting in a extinction or permanent changes, recovery if possible greater than 10 years.</i>
Water Resources	Low impact to isolated area without affecting any use of the water.	Contained low impact with negligible effect on the use of the water.	Uncontained impact that will materially affect the use of the water, but able to be rectified in short-term.	Extensive hazardous impact requiring long-term rectification.	Uncontained hazardous impact with residual effect.
Land Degradation	Negligible impact to isolated area.	Contained low impact, not impacting on any environmental value.	Uncontained impact, able to be rectified in short-term without causing pollution or contamination.	Extensive hazardous impact requiring long-term rectification.	Uncontained hazardous impact with residual effect.
Air Quality	No detectable impact.	Contained low impact not impacting on any environmental value.	Uncontained impact that will materially affect an environmental value, but able to be rectified in short-term.	Extensive hazardous impact on an environmental value requiring long-term rectification.	Uncontained hazardous impact with residual effect.
Mine Closure	Site is safe, stable a non-polluting and post mining land use is not adversely affected.	The site is safe, all major landforms are stable, and any stability or pollution issues are contained and require no residual management. Post-mining land use is not adversely affected.	The site is safe, and any stability or pollution issues require minor, ongoing maintenance by end land-user	The site cannot be considered safe, stable or non-polluting without long-term management or intervention. Agreed end land-use cannot proceed without ongoing management.	The site is unsafe, unstable and/ or causing pollution or contamination that will cause an ongoing residual affect. The post-mining land use cannot be achieved.



Table J3: Example risk matrix

RISK MATRIX						
		CONSEQUENCE				
		Insignificant	Minor	Moderate	Major	Severe
LIKELIHOOD	Rare	Low	Low	Low	Moderate	Moderate
	Unlikely	Low	Low	Moderate	Moderate	High
	Possible	Low	Moderate	Moderate	High	High
	Likely	Low	Moderate	High	Extreme	Extreme
	Almost Certain	Low	High	High	Extreme	Extreme

APPENDIX K – EXAMPLE RISK ASSESSMENT

Phase	Date	Risk Pathway	Likelihood	Consequence	Risk	Treatment	Likelihood	Consequence	Treated risk
Commissioning	1/1/2015	Clearing of Threatened Ecological Community (TEC) resulting in reduction of threatened species.	Likely	Major	Extreme	Alter mine plan to avoid all clearing of TEC.	Unlikely	Major	Moderate
Operation/Closure	2/1/2015	Inappropriate placement of waste materials causing unstable landforms.	Possible	Major	High	Develop and maintain a materials handling plan using materials characterisation information.	Unlikely	Major	Moderate
Closure	21/1/2015	Incomplete rehabilitation reducing overall biodiversity of the region.	Possible	Moderate	Moderate	Develop, implement and maintain a rehabilitation plan. Develop a ground disturbance permit process to ensure sufficient materials for closure.	Unlikely	Minor	Low
Operation/Closure	21/1/2015	Flooding removing topsoil and diminishing rehabilitation success.	Unlikely	Major	Moderate	Develop, implement and maintain a surface water management regime suitable for the life of mine.	Unlikely	Minor	Low

APPENDIX L – EXAMPLE ENVIRONMENTAL OUTCOMES, PERFORMANCE CRITERIA AND MONITORING

Broad examples of environmental outcomes, performance criteria and monitoring

Environmental Factor	DMP Objective	Risk Pathways	Environmental Outcome	Performance Criteria ²¹	Monitoring
Biodiversity/Flora/ Fauna/ Ecosystem	To maintain representation, diversity, viability and ecological function at the species, population and community level.	Clearing and loss of habitat, dewatering, invasive pest introduction, pit lakes.	No impact to vegetation beyond the mine disturbance boundary.	No clearing beyond mine disturbance boundary.	Quarterly survey of disturbance areas.
			Native fauna impacts minimised within mine disturbance boundary and avoided outside of mine disturbance boundary.	No death of native fauna of conservation significance through entrapment in mine facilities.	Daily TSF and evaporation pond checks. Daily checks of all open trenches.

²¹ These performance criteria are only intended as generic examples, and are not to be used as examples of what is acceptable across WA. Specific criteria must be based on the existing environmental conditions on site, and usually refer to baseline conditions, analogue sites or environmental standards/guidelines.

Environmental Factor	DMP Objective	Risk Pathways	Environmental Outcome	Performance Criteria ²²	Monitoring
Water Resources	To maintain the hydrological regimes and quality of groundwater and surface water so that existing and potential uses, including ecosystem maintenance, are protected.	Blocking and diverting of surface water flows, contamination of ground and surface water, potential pit lakes.	Water quality and quantity downstream of the mine disturbance boundary is maintained within the range of variance of pre-mining background levels.	Water quality (TDS, pH and presence/absence of hydrocarbons) is within 10% of background levels when measured at 500m downstream from mine disturbance boundary (Surface water monitoring points X, Y, Z shown on Map A). Groundwater level change less than 1m (maximum level of pre-mining natural variance) beyond mine disturbance boundary (bores X, Y and Z shown on Map A).	Monthly sampling at surface water monitoring points X, Y, Z, when there is water flow. Regional groundwater levels monitored quarterly.

²² These performance criteria are only intended as generic examples, and are not to be used as examples of what is acceptable across WA. Specific criteria must be based on the existing environmental conditions on site, and usually refer to baseline conditions, analogue sites or environmental standards/guidelines.

Environmental Factor	DMP Objective	Risk Pathways	Environmental Outcome	Performance Criteria ²³	Monitoring
Landforms	Mining will not result in appreciable land degradation or the contamination or pollution of soils.	Hydrocarbon contamination, erosion, loss of topsoil, unstable manmade landforms.	Contamination of land minimised, and actively remediated if occurs.	No hydrocarbon spills greater than 50 litres. Any hydrocarbon spills remediated so that there is no residual impact from the spill.	Site spills reporting, remediation and auditing procedure.
			All mine areas and landforms are non-polluting.	Groundwater quality within 10% of background levels (groundwater monitoring points X, Y, Z shown on Map A). No problematic material present on outer mine landform surfaces. Water quality (TDS, pH and presence/absence of hydrocarbons) is within 10% of background levels when measured at 500m downstream from mine disturbance boundary (Surface water monitoring points X, Y, Z shown on Map A).	Quarterly groundwater monitoring program. Visual assessment followed by targeted soil testing of any areas of concern. Monthly sampling at surface water monitoring points X, Y, Z, when there is water flow.
			Landform stability is appropriate for the stage of mine life.	No erosion or sediment discharge noted outside the mine disturbance boundary. No impacts (sediment smothering, loss of topsoil, sink holes etc.) outside the mine disturbance boundary from unstable mine landforms.	Quarterly survey of disturbance areas. Annual erosion and stability survey of mine landforms.

²³ These performance criteria are only intended as generic examples and are not be used as examples of what is acceptable across WA. Specific criteria must be based on the existing environmental conditions on site and usually refer to baseline conditions, analogue sites or environmental standards/guidelines.

Environmental Factor	DMP Objective	Risk Pathways	Environmental Outcome	Performance Criteria ²⁴	Monitoring
Mine Closure	Mines are closed in a manner to make them (physically) safe to humans and animals, (geo-technically) stable, (geo-chemically) non-polluting/non-contaminating, and capable of sustaining an agreed post-mining land use without unacceptable liability to the State.	Poor planning, inappropriate handling of mine materials, poor placement of mine waste, contamination during operations, Lack of topsoil.	*closure objectives.	*closure criteria.	*detailed in Mine Closure Plan.

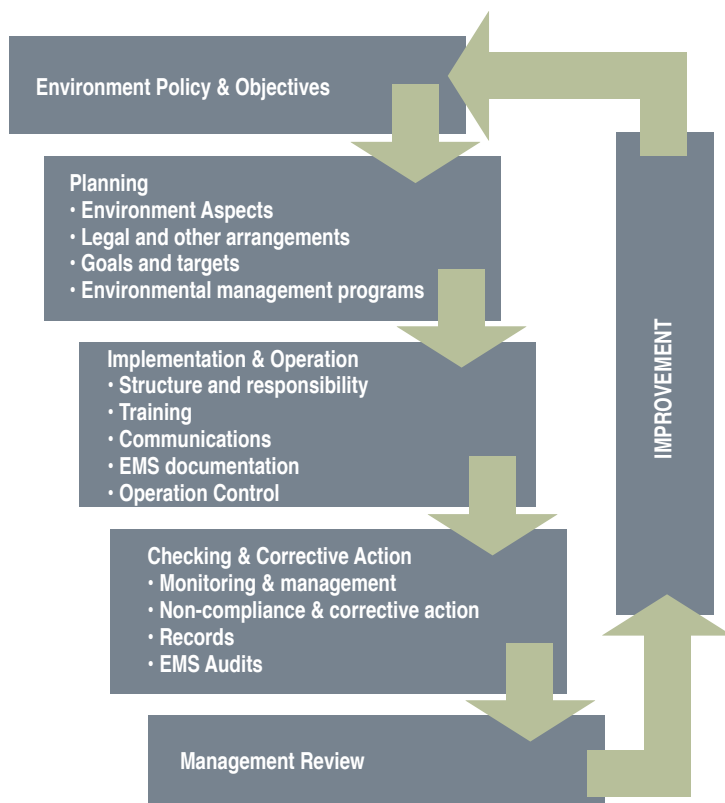
²⁴ These performance criteria are only intended as generic examples and are not be used as examples of what is acceptable across WA. Specific criteria must be based on the existing environmental conditions on site, and usually refer to baseline conditions, analogue sites or environmental standards/guidelines.

Broad examples of environmental outcomes, performance criteria and monitoring for a proposal within a sensitive environment

Environmental Factor	DMP Objective	Risk Pathways	Environmental Outcome	Performance Criteria ²⁵	Monitoring
Biodiversity / Flora / Fauna / Ecosystem	To maintain representation, diversity, viability and ecological function at the species, population and community level.	Clearing and loss of habitat, dewatering, invasive pest introduction, pit lakes.	Adverse impacts to TEC as a result of mining activities are avoided.	0% of TEC is cleared. No change in water level at bores X, Y, Z (located at the edge of TEC closest to mine) beyond the background variance of 'X' metres, due to mining activities. No introduction of new weeds species across the minesite activity envelope. No change in water level at bores X, Y, Z beyond the background variance of 'X' metres, due to mining activities. Less than 10% reduction in vegetation cover and health in areas of groundwater dependent vegetation within drawdown areas when compared to pre-mining condition.	Quarterly survey of disturbance areas. Monthly regional groundwater levels. Monthly weed surveys. Quarterly vegetation health survey of groundwater dependent ecosystem within 1km of mine.

²⁵ These performance criteria are only intended as generic examples, and are not be used as examples of what is acceptable across WA. Specific criteria must be based on the existing environmental conditions on site, and usually refer to baseline conditions, analogue sites or environmental standards/guidelines.

APPENDIX M – EXAMPLE ENVIRONMENTAL MANAGEMENT SYSTEM



Environmental Management Systems (EMS)



APPENDIX N – ADDRESSING NATIVE VEGETATION CLEARING PRINCIPLES VIA A MINING PROPOSAL

Amendments to the *Environmental Protection Act 1986 (EP Act)* and *Mining Act 1978 (Mining Act)* have been proposed which will provide an exemption from the requirement to obtain a Native Vegetation Clearing Permit for activities approved under the Mining Act²⁶. If these proposed legislative changes are agreed, the Clearing Principles will be considered during the assessment of a Mining Proposal.

This paper explains how the Clearing Principles would be addressed via the Mining Proposal process.

The baseline environmental data section of the guidelines has been written to consider the information required to assess the impacts of clearing against the Clearing Principles (Table N1). Incorporating the Clearing Principles into Mining Proposal assessments will not require any changes to the manner in which baseline environmental data is presented in Mining Proposals.

The new environmental objectives have considered, and are based upon, the Clearing Principles. Table N2 shows the relationship between the environmental objectives and the Clearing Principles. Principle H is not directly considered by the environmental objectives but would most appropriately be addressed in the Stakeholder Engagement section of the Mining Proposal, as any vestee or manager of conservation estate would be a key stakeholder. Sections 23, 24 and 25 of the Mining Act also provide protection for reserved lands (see Appendix B).

Clearing activities will be a common risk pathway identified within a risk assessment. The Clearing Principles are an appropriate starting point when considering the risks of vegetation clearing (see Table N3 for examples).

The proponent can choose to undertake their own assessment of the proposed activities against the clearing principles. This should be attached as a separate appendix to the Mining Proposal. It is important to note that this will only be used as information by DMP and will not necessarily reflect the outcome of the department's assessment against the Clearing Principles.

²⁶ See the Mining Legislation Amendment Bill 2015.

Table N1: EP Act Clearing Principles

Principle (a) Native vegetation should not be cleared if it comprises a high level of biological diversity.
Principle (b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.
Principle (c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.
Principle (d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.
Principle (e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.
Principle (f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.
Principle (g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.
Principle (h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.
Principle (i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.
Principle (j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Table N2: Relationship of Clearing Principles and objectives

Environmental Factor	Objective	Clearing Principle
Biodiversity/Flora/Fauna/ Ecosystem	To maintain representation, diversity, viability and ecological function at the species, population and community level.	A, B, C, D, E, F
Water Resources	To maintain the hydrological regimes, quality and quantity of groundwater and surface water to the extent that existing and potential uses, including ecosystem maintenance, are protected.	I, J
Landforms	Mining will not result in appreciable land degradation ²⁷ or the contamination or pollution of the land.	G
Mine Closure	Mines are closed in a manner to make them (physically) safe to humans and animals, (geo-technically) stable, (geo-chemically) non-polluting/non-contaminating and capable of sustaining an agreed post-mining land use, and without unacceptable liability to the State.	

Table N3: Potential risks of clearing activities

Phase	Date	Risk Pathway	Likelihood	Consequence	Risk
Commissioning	1/1/2015	Clearing of TEC resulting in reduction of threatened ecosystems	Likely	Major	Extreme
Commissioning	1/1/2015	Clearing of riparian vegetation resulting in degradation of watercourse	Likely	Minor	Moderate
Commissioning	1/1/2015	Clearing of remnant resulting in ecological linkage being severed.	Possible	Major	High
Commissioning	1/1/2015	Clearing of vegetation resulting in a change to groundwater quality	Rare	Major	Moderate

²⁷ The term 'appreciable land degradation' is taken from the clearing principles outlined in Schedule 5 of the Environmental Protection Act 1986, with further guidance provided in "A guide to the assessment of applications to clear native vegetation" available on DER's website.

APPENDIX O – MINING PROPOSAL SCOPING DOCUMENT TEMPLATE

Mining Proposal Scoping Document²⁹

The purpose of a Mining Proposal Scoping Document (MPSD) is to:

- provide a framework for pre-consultation with DMP to agree on the scope and key aspects of the Mining Proposal
- delineate regulatory agency responsibilities
- identify issues that are to be addressed prior to submission of the Mining Proposal and/or required studies/work that need to be carried out.

1. The proposal



Government of **Western Australia**
Department of **Mines and Petroleum**

Key Proposal Characteristics²⁹

Summary of proposal

Proposal title	[Emily Gold Mine]
Proponent name	[Safe Hands Mining Pty Ltd]
Short description	[This proposal is to mine ore from Emily deposit, 25 km north of the town of Coolgardie Western Australia, including the construction of associated mine infrastructure (plant, offices, workshop, accommodation and roads), construct a waste rock landform and discharge waste to a Tailings Storage facility.]

Physical elements

Element ³⁰	Location	Proposed extent
Mining void (depth greater than 5m – below ground water)	[Attached Figure]	[Up to 33 ha in area. Up to 80m depth.]
Waste dump or overburden stockpile (class 1)	[Attached Figure]	[Up to 60 ha in area. Max height of 35m. Potential for acid-forming material.]
Plant site	[Attached Figure]	[Up to 8 ha in area. CIP gold extraction.]
Tailings or residue storage facility (class 1)	[Attached Figure]	[Up to 25 ha in area. Paddock-style, 2 cells, perimeter discharge, max height of 15m. Up-stream lifts. Potential for acid-forming material.]
Run-of-mine pad	[Attached Figure]	[Up to 18 ha in area]
Miscellaneous mine activities	[Attached Figure]	[Up to 100 ha in area. Includes fuel storage facility, workshop, landfill, accommodation village, airstrip, laydown area.]

²⁸ See DMP website for blank template. This template can be drafted prior to a meeting and then modified/completed following the meeting.

²⁹ This table is aligned with the Key Characteristics Table from the EPA's EAG1 – Defining the key characteristics of a proposal. Hence you can copy the table across from any existing EPA assessment documents.

³⁰ Use activity categories from Table 2 of Mining Proposal Guidelines (same as MRF categories).

Operational elements³¹

Element	Location	Proposed extent
Dewatering	[Attached Figure]	[Pit dewatering up to 0.5 GL per year. Temporary storage and then used for processing and dust suppression. No discharge to environment.]
Ore processing	[Attached process flow diagram]	[Up to 500,000 tonnes of ore processed per year]
Ore processing (waste)	[Attached process flow diagram] [Attached Figure]	[Up to 300,000 tonnes of tailings produced per year]

The purpose of this section is to discuss how the project will impact on the environmental factors and what further work will be undertaken.

2. Consideration of environmental factors and scope of work

DMP's principal objective for environmental regulation is:

Resource industry activities are designed, operated, closed, decommissioned and rehabilitated in an ecologically sustainable manner, consistent with agreed environmental outcomes and end land-uses without unacceptable liability to the State.

DMP's environmental objectives:

Environmental factor	Objective
Biodiversity/Flora/Fauna/ Ecosystem	To maintain representation, diversity, viability and ecological function at the species, population and community level.
Water resources	To maintain the hydrological regimes, quality and quantity of groundwater and surface water to the extent that existing and potential uses, including ecosystem maintenance, are protected.
Landforms	Mining will not result in appreciable land degradation, or the contamination or pollution of the land.
Mine closure	Mines are closed in a manner to make them (physically) safe to humans and animals, (geo-technically) stable, (geo-chemically) non-polluting/ non-contaminating, and capable of sustaining an agreed post-mining land use, and without unacceptable liability to the State.

³¹ Include any operational elements that aren't clearly explained by the list of physical elements



Environmental Factors	Studies undertaken/proposed	Comments
Biodiversity/Flora/Fauna/ Ecosystem	[Level 2 flora and fauna surveys, stygo fauna survey.]	[Two priority flora species identified – <i>Acacia westerosii</i> , <i>Eucalyptus pawneeus</i> .] [Threatened fauna habitat present, none identified in targeted surveys.] [Karsten Ranges PEC in proximity, however not directly impacted.] [Stygo fauna survey still to be completed.]
Water resources	[Hydrogeological study] [Hydrological study – surface] [Flood mapping]	[Pit dewatering up to 0.5 GL per year required. Groundwater is saline – 30,000mg/l TDS.] [No major drainage lines impacted.] [1 in 100 year ARI flood mapping to be undertaken.]
Landforms	[Physical and chemical characterisation of waste] [Soils survey] [Erosion modelling]	[Approx. 8% of waste rock is potentially acid forming (PAF). Tailings has PAF material but should be adequately buffered by the net neutralising capacity of the tailings.] [Lateritic materials suitable as rehabilitation material. Competent fresh rock available for TSF construction and rock armouring. Oxide zone wastes present risks to rehabilitation – erodible and dispersive.] [Topsoil and subsoils are nutrient poor, and can be dispersive, however suitable as rehabilitation material if used appropriately.] [Erosion modelling to be completed to predict levels of erosion from waste rock landform and tailings embankments.]
Mine closure	[Closure designs] [Rehabilitation trials]	[TSF closure design – store and release cover. Waste rock landform closure design – bench and berm, 14 degree slopes, contain drainage on top surface and berms, combined topsoil/rock mulch.] [Rehabilitation trials proposed.]

3. Stakeholder engagement

The purpose of this section is to outline what stakeholder engagement has been undertaken, what further engagement is proposed and how this has affected the proposal.

TC Mining – Stakeholder Engagement Register 2015					
Date	Description of Engagement	Stakeholders	Stakeholder comments/ issue	Proponent Response and/or resolution	Stakeholder Response
2010 – ongoing	[Quarterly meetings]	[Traditional owners]	[Concern that water in a nearby spring may be being contaminated with lead]	[Identifying and securing lead contaminated materials. Monitoring quality and quantity of the spring water. Remedial action as required. Health testing and keeping the traditional owners informed]	[Acceptable]
12 July 2015	[Meeting to discuss potential post-mining land uses]	[Pastoralist neighbour]	[Concerns about any hole or pit to be left behind after mining]	[Will include in closure design and provision practical measures to make safe (to human and animal) any hole or pit left after mining]	[Acceptable]
2010 – ongoing	[Periodic meetings to discuss post-mining opportunities]	[Local Shire]	[Ongoing relationship with regular communication to explore potential uses of rehabilitated mine feature or infrastructure to be left after mining that would be of benefit to community]	[Continued open dialogue]	[N/A]

Stakeholder engagement to date indicates the post-mining land use will be: [insert land use eg. pastoral, conservation.]

4. Environmental Legislative Framework

The purpose of this section is to outline what other environmental approvals (or other relevant approvals) have been granted or will be applicable and what aspects of the proposal they will regulate.

Relevant legislation	Environmental factor regulated/affected	Relevant approval/requirement
<i>Environmental Protection and Biodiversity Conservation Act 1999</i>	Biodiversity/Flora/Fauna/Ecosystem: Impacts to <i>Leipoa ocellata</i> (Malleefowl) and <i>Liopholis kintorei</i> (Great Desert Skink).	Controlled action – listed threatened species.
<i>Environmental Protection Act 1986</i>	Key environmental factors ³² assessed via EPA assessment under Part IV: Flora and vegetation Terrestrial fauna Hydrological processes Terrestrial environmental quality Inland waters environmental quality Rehabilitation and closure.	Ministerial approval under Part IV of the <i>Environmental Protection Act 1986</i> . Conditions set in Ministerial Statement.
<i>Environmental Protection Act 1986</i> Prescribed premises categories ³³ : • (5) Processing or beneficiation of metallic or non-metallic ore • (6) Mine dewatering; • (12) Screening etc. of material • (31) Chemical Manufacturing • (44) Metals Smelting or Refining • (54) Sewage facility • (64) Class II or III putrescible landfill site • (84) Electric power generation	Water Resources (pollution) Landforms	Works approval and licence/registration under Part V.
<i>Rights in Water and Irrigation Act 1914</i>	Water resources	5C licence to take 0.5ML/year of groundwater within the Goldfields Groundwater Management Area 26D licence to construct 8 bores within the Goldfields Groundwater Management Area.
<i>Aboriginal Heritage Act 1972</i>	Aboriginal heritage	Section 18 Consent to certain uses.

Attachment 1 – Regional location

Attachment 2 – Proposed site plan

Attachment 3 – Proposed disturbance envelope

Attachment 4 – Processing flow diagram

³² See the Environmental Protection Authority EAG 8 'Environmental Assessment Guideline for Environmental principles, factors and objectives'.

³³ See Schedule 1 of the Environmental Protection Regulations 1987.

A series of thin, light green wavy lines that sweep across the lower half of the page, creating a sense of movement and depth.

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