

Mining Management Plan Structure Guide for Care and Maintenance Operations

This Advisory Note outlines statutory environmental management requirements during care and maintenance operations. When a mine site is placed under Care and Maintenance (C&M), ongoing environmental obligations are required to be met to ensure compliance under the *Mining Management Act* (MMA).

A C&M Plan is required when an operator plans to temporarily suspend mining operations (this may be for a variety of reasons). The C&M status of a mining site is not a permanent fixture. If mining operations are to cease permanently, a closure plan must be submitted to the Department of Primary Industry and Resources (DPIR).

When a mining site is planned to enter C&M status, a C&M Plan must be developed. The C&M Plan must establish the status of all landforms and infrastructure with respect to the environmental risk of each aspect during the expected period of C&M and the environmental management strategies and activities planned to manage/minimise the environmental impacts.

Once the C&M Plan is developed it should be submitted to the DPIR and lodged as an amendment to the Mining Management Plan (MMP) for approval. The C&M Plan requires detailed information regarding the management of water, weeds, feral animals, dust and fire management and other aspects as outlined in this structure guide.

Instructions on the use of this document:

An Authorisation for C&M Activities can only be issued on the completion and acceptance of an MMP.

An MMP is required for new projects, on an annual basis for existing projects, when operations or activities change or when changes are made to the environmental systems.

This Advisory Note contains instructions and some examples of environmental management issues for consideration in the preparation of a C&M MMP.

Each section contains examples of issues which may be relevant to a C&M operation. The operator must assess environmental impacts which are relevant to their site, and any other factors which may need consideration in addition to the examples provided.

Commitments to continuous improvement must have clearly defined and measurable objectives with a planned date for completion and assigned person responsible for completion.

This Advisory Note is not to be taken as a definitive response to the DPIR reporting requirements but must be utilised by operators as a basis to the development of a PROJECT-SPECIFIC MMP that incorporates a program of environmental management and a commitment to continuous improvement.

Care and Maintenance Operations Mining Management Plan

Include the following details on the title page:

- Operator Name
- Project Name
- Authorisation Number
- MMP Reporting Year
- Date
- Document Distribution List

The MMP must be endorsed by a senior representative of the company who has the appropriate level of delegation.

	Author	Reviewed by	Approved by
Date			
Name			
Signature			

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AMENDMENTS

As per Section 41(3) of the *Mining Management Act*, an MMP reviewed and amended under Section 41(1)(a) is to clearly identify amendments made. These changes can be outlined in a table, as per the example below.

Section	Amendment
<i>Section 1.1 - Organisational Structure / Chart</i>	<i>Updated to reflect staff changes.</i>
<i>Section 2.0 - Project Details</i>	<i>Additional title to be included in Authorisation.</i>
<i>Section 4.6 - Identification of Environmental Aspects and Impacts</i>	<i>A new potential impact identified, as a result of change in procedure/process.</i>

1.0 OPERATOR DETAILS

Provide operator details including:

- Name of operator or company (as per Australian Securities and Investment Commission (ASIC) (if applicable);
- Key contacts (i.e. Site Manager, Environmental Manager);
- Postal and street address; and,
- Phone/fax/email contact details.

1.1 Organisational Structure

This section must include an organisational structure chart or particulars of the organisations' structure, as per Section 40(2)(d) of the *Mining Management Act*. The chart must include the names of the person filling the assigned roles (see example below).

Indicate who is responsible for environmental management of the care and maintenance program on site.



Figure 1. Exploration operator organisational structure

1.2 Workforce

Provide details of the on-site workforce such as:

- Numbers to be on-site;
- Number of contractors;
- Any relevant socio-economic aspects e.g. source of labour, contractors/employees;
- Work descriptions; and
- Accommodation.

2.0 PROJECT DETAILS

Provide details of the Project including:

- Authorisation Number;
- Project name;
- Location in context of distance to nearest town/major features/roads;
- Mining interest/s (i.e. titles); and
- Title holder/s.

NOTE: If the operator is not the title holder, a Nomination of Operator form must be completed by the titleholder, appointing the operator for the site, as per requirement under section 10 of the *Mining Management Act*.

Details of how to access the site must be provided. If track files exist, these should also be provided.

Location maps and site plans

Legible and detailed maps and site diagrams must be provided which show the location and access to the mining site. Information regarding the following must be included where applicable:

- Background imagery of 1:250K topography or satellite image;
- Labelled mining title boundaries and pastoral lease boundaries;
- Site access;
- Infrastructure (site office, workshops, plant) locations;
- Pit locations;
- Waste rock dump locations;
- Tailings storage facility locations;
- Rehabilitated areas;
- Hydrocarbon/hazardous chemical storage area/s;
- Townships and communities;
- Major roads;
- Minor roads, tracks and haul roads;
- Easements – above and below ground electrical cables, gas pipelines, water pipelines, telephone cables;
- Major and minor waterways;
- Existing topographic features;
- Environmentally sensitive areas (e.g. Sites of Conservation Significance);
- Protected Areas (National Parks and Reserves); and
- Cultural / heritage zones (AAPA restricted areas and No-Go zones).

NOTE: All maps must include a scale, date of drawing, orientation (i.e. North point), contours and be able to be overlaid on the previous site plan.

3.0 PREVIOUS ACTIVITIES AND CURRENT STATUS

This section must outline the history of previous site activities that are to be accounted within the MMP (e.g. any previous mining/exploration, any rehabilitation completed by previous or current operator, and any other site disturbances which have been authorised by the Department). A summary of any historical mining or exploration carried out in the area should also be provided in this section.

The MMP is a backward and forward looking document for ongoing operations and must provide details of previous mining/exploration activities carried out in the last twelve (12) months under the current Authorisation. This information may be included in the form of a table and must as a minimum include:

- Total amount of production during the last twelve months;
- Total amount proposed for extraction in the last MMP;
- Total area cleared/disturbed during the last twelve months;
- Total area proposed for clearing in the last MMP; and
- Total area under remediation.

3.1 Work Program

This section should specify the care and maintenance activities to be conducted during the MMP period. A plan and schedule of proposed works (with specified targets and timeframes) should be provided here. This should reflect commitments made in the Operator's Environmental Management Plans and should address activities including, but not limited to, monitoring, weed and feral animal control, repair and maintenance of erosion control works, etc. Personnel responsible for each task should also be specified.

4.0 CURRENT PROJECT SITE CONDITIONS

This information is required to allow DPIR to gain an understanding of the current site conditions, to accurately assess risks and have confidence that the operator understands the potential impacts that the proposed activities may have on the existing environment. Maps at appropriate scales may also be used to illustrate current site conditions.

Information that must be provided in this section includes:

- Geology (i.e. outline of ore resource, soil description and geological characterisation of the area);
- Hydrology (i.e. surface water flows onto and out of the site area, surface and groundwater quality, groundwater occurrence locally, and location of bores);
- Flora and Fauna:
 - Potential for and identification of any state and or commonwealth listed threatened species;
 - Description of any feral animals and weed species at the site;
 - Outline of flora and fauna native to the area;
 - Any flora and fauna of cultural significance.
- Information may be sourced from the Department of Environment and Natural Resources (<https://denr.nt.gov.au/> or <http://www.ntinfontet.org.au/infontet2/>) or from the Commonwealth Department of the Environment and Energy for matters of national significance in the Protected Matters Search Tool (www.environment.gov.au/epbc/protect/index.html);
- Land use (e.g. pastoral, traditional Aboriginal ownership, parks and reserves, mining, communities and townships);
- Aboriginal and Heritage sites (i.e. identification of Aboriginal and/or heritage sites that may be impacted by the mining activities). This information can be supported by documentation such as results of an inspection of the:
 - Register of Sacred Sites maintained by the Aboriginal Areas Protection Authority (AAPA);
 - Northern Territory Heritage Register maintained by the Department of Tourism and Culture.

The results of desktop studies should be summarised and referenced in relevant sections of the MMP to demonstrate understanding of the material. The reports may be attached to the MMP as supporting documentation.

If information is not available for the project area you may be required to perform specialised surveys (i.e. Geological, Hydrological, Fauna/Flora, Aboriginal and or Heritage Surveys). If unsure, please contact the Department for advice.

5.0 ENVIRONMENTAL MANAGEMENT SYSTEM

Companies with a structured Environmental Management System (EMS) and Environmental Management Plan (EMP) should attach these documents as appendices to the MMP as supporting documentation. Provide a reference to the relevant section of the EMS for each section as appropriate. All EMPs and EMSs must be specific to the project.

5.1 Environmental Policy and Responsibilities

The company's environmental policies and commitments must be outlined in this section.

- What targets have been set for environmental performance?
- Who is the person responsible for implementing environmental management?

Provide a copy of the company's Environmental Policy. This statement must be signed by the appropriate authority to demonstrate a top-down approach to environmental management on site.

5.2 Statutory and Non-Statutory Requirements

Operators must be aware that they have statutory requirements under legislation other than the *Mining Management Act*, *Mineral Titles Act* and *Mining Management Regulations*. Operators must make themselves aware of all relevant legislation and requirements.

Specific requirements under other legislation may involve weeds, flora and fauna, native title and sacred sites, heritage, health and safety, radioactive materials etc.

Include a summary of any non-statutory requirements or agreements (e.g. land use agreements, pastoral agreements, pre-eminent practices and agreements with other Authorised operators on site if relevant).

5.3 Identified Stakeholders and Consultation

This section must include the following a list of all interested parties and stakeholders that have been consulted. This may include, but is not limited to:

- Lease owner
 - Land owner
 - Land/pastoral Manager
 - Land claimants (Native Title)
 - Land Council representing the Traditional Owners for the country
 - Neighbours and communities
 - Tenement manager
 - Government departments
 - Shareholders
- Name and title of persons consulted and issues discussed. Include any specific concerns raised during consultation, actions taken to address them and the current status of these matters.
 - An outline of the ongoing arrangements and consultation process undertaken with the underlying landowners and managers and other interested stakeholders, to ensure they are informed and that their concerns are taken into account.

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- Evidence that two-way stakeholder communication has been carried out with the managers of pastoral leases at application stage and after grant, informing them of intended activities. This must be undertaken each year or when activities change.
- Details of the plan and arrangements for maintaining the communications process throughout the life of the MMP.
- Details of agreement reached with the land managers regarding access to the pastoral property and specific requirements of the land owners and managers.

Exploration and mining activities on Aboriginal Freehold Land is subject to the *Aboriginal Land Rights (Northern Territory) Act (1976)*. The dates and locations of Land Council facilitated consultation meetings with the Traditional Owners and outcomes of the meeting(s) should be provided.

5.4 Induction and Training

Include the following information:

- Overview of environmental training and education process (e.g. Induction, tool box meetings etc.);
- Outline of environmental issues covered in the induction; and,
- Any additional training required or carried out (e.g. weed identification, radioactive materials handling, emergency response training, etc.).

5.5 Identification of Environmental Aspects and Impacts

This section must identify environmental aspects and impacts associated with the site and proposed activities, as defined by ISO14001:2015:

- Environmental aspects are the elements of an organisation's activities and, products and services that interact or can interact with the environment (i.e. drilling, clearing, mining, stockpiling, ground water extraction, fuel storage, vehicles and machinery, etc.)
- Environmental impacts are any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's environmental aspects.

A risk assessment of the potential and actual impacts must be conducted and management measures identified used to prevent and remediate impacts (including monitoring and inspections) associated with the various environmental aspects. As a minimum, this section must address the management of:

- Surface water
- Groundwater
- Invasive species
- Flora and fauna
- Hydrocarbons and hazardous materials
- Waste
- Noise and air quality
- Cultural and heritage sites

The risk rating for identified impacts is of the initial risk, prior to application of control measures.

5.6 Environmental Audits and Inspections

Environmental audits and inspections are required to be carried out at regular intervals to assess the company's environmental performance at the site.

Describe what audits or inspections are carried out and timeframes.

5.7 Environmental Monitoring

Describe all ongoing monitoring programs for the site and timeframes for undertaking these programs. As a minimum the following must be monitored at the site:

- Surface water
- Groundwater
- Invasive species
- Flora and fauna
- Hydrocarbons and hazardous materials
- Waste
- Noise and air quality
- Cultural and heritage sites (if applicable)
- Erosion and sediment control

This section must include:

- A description of monitoring technique and frequency of the monitoring program
- The audit and inspection technique and frequency where appropriate

5.8 Environmental Performance

5.8.1 Objectives and Targets

This section must describe **environmental performance objectives** and how the environmental performance objectives will be achieved.

Performance objectives are a list of goals, targets or proposed improvements to environmental management on site. The objectives should include a measurable outcome (i.e. meeting a specific level), the time frame in which it will be completed (i.e. by when) and the person responsible for ensuring it is completed (i.e. a specific person).

5.8.2 Performance Reporting

This section must include the **findings of all monitoring and audit/inspection programs undertaken** during the reporting period and progress made against objectives and targets identified in Section 5.8.1. A discussion of any results must be included and corrective actions proposed where relevant.

This information will assist in determining the effectiveness of the environmental management systems implemented for the site and form the basis for discussion about potential improvements.

Describe any changes made to management systems as a result of audit, inspection or monitoring findings.

5.9 Emergency Procedures and Incident Reporting

Outline the procedures followed in the event of an environmental emergency and how incidents are reported. Specifically:

- Detail any environmental emergency procedures that have been developed (e.g. hydrocarbon spills);
- Provide an overview of the management actions in response to environmental incidents and identified hazards. Formal procedures may be attached as an appendix to this plan; and
- Describe the company's internal and external incident reporting procedure and records management.
- **All environmental incidents must be recorded in a site register and reported to the Chief Executive of DPIR pursuant to Section 29 of the MMA.**

5.10 Environmental Management Plans (EMP)

The EMP's should include the detailed mitigation and control measures to be used to prevent or minimise environmental impacts identified from the risk assessment process.

Environmental management plans for the higher risk aspects (prior to the application of controls) requiring management must be included in the MMP. The low risks identified and managed by procedures should be available for review on request.

Depending on the risk assessment process, EMP's may include, but are not limited to:

- Water Management Plan
- Soil and Land Management Plan
- Native Flora and Fauna Management Plan
- Pest and Weed Management Plan
- Air Quality Management Plan
- Noise and Vibration Management Plan
- Waste (domestic and industrial) Management Plan
- Hazardous Material Management Plan
- Waste Rock Management Plan
- Tailings/Residue Management Plan
- Erosion and Sediment Control Management Plan
- Cultural Heritage Management Plan
- Socio-Economic Management Plan

6.0 CLOSURE PLAN

In order to protect the environment throughout all stages of the project, the Operator of the site must plan for closure. The Closure Plan:

- Shall be approved in conjunction with the Mining Management Plan (C&M) submitted for the operation and must demonstrate that agreement, for an appropriate post mining final land use, has been reached with all relevant stakeholders;
- Shall be updated whenever significant changes are made to the scope of the operation and no less than every three years during the life of operation. An updated plan must be produced two years prior to planned closure.
- Must address both unplanned closure within the life of the MMP and planned closure at the end of the operational life of the mining site.
- Must comply with the current Northern Territory *Mine Closure Guidelines* (still under construction). Operators are advised to view the *WA Guidelines for Preparing Mine Closure Plan* in the interim.

6.1 Life of Plan – Unplanned Closure

The Department requires that the MMP addresses the possibility and impacts of unscheduled or unplanned termination of operations during the plan life. The objective of this planning is to prevent or minimise potential adverse long-term environmental and social impacts that may otherwise have resulted from the mining and/or processing operation.

This section must describe the remediation activities that would be required in the event of unplanned closure at any time during this reporting period. All disturbances existing and proposed, for this reporting period, must be addressed. This section feeds into the following section on security.

All domains within the project should be addressed and a discussion of appropriate remediation techniques to be used to achieve end land use objectives, materials required and confirmation of their availability must be included.

Reference should be made to the monitoring and maintenance plans provided. Identify any additional/differing activities required as a result of unplanned closure where appropriate.

Provide a detailed description of activities undertaken (and possibly to be undertaken in the future) to achieve end land use objectives throughout the life of the plan. This section should:

- describe activities to be undertaken during the life of this plan to work towards determining agreed end land use objectives
- detail remediation work to be undertaken
- describe success or otherwise of works undertaken to date as reference to planned works – this must be supported by appropriate monitoring data and relate to agreed closure criteria.
- anticipated scope of activities to be undertaken for life of plan
- criteria to be utilised in assessing remediation/revegetation success

6.2 Costing of Closure Activities

The security estimate established must be consistent with third party costs and remediation requirements in the event of an unplanned closure at the end of the life of this plan i.e. rehabilitation costs for disturbances proposed in this MMP and for any previous disturbances carried out. Post closure monitoring and maintenance costs should also be included.

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The Departments 'Security Calculation Tool' should be used and all workings submitted with the MMP.

APPENDICES

All document(s) and data referred to in the C&M must be included as an Appendix for reference with the exception of the Department's Advisory Notes, which should be summarised (to demonstrate understanding of the material) in the relevant section if referring to them.