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

Guide to submission of a project management plan (PMP)

July 2012

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Introduction

The preparation of a project management plan (PMP) should not be seen only as a requirement of the legislation and a means of approval to commence operations. The PMP needs to consider the risks associated with the various stages of the operation's life cycle, including construction, development, production and closure. Its preparation should be seen as a basis for the initial identification of potential major risks of the proposed mining operations and a starting point for developing ongoing strategies to manage those risks. The PMP should therefore be considered by the principal employer and mine manager as an important tool in their due diligence process to develop an appropriate site-specific occupational health and safety management system.

Legislative requirements

Part 4 section 42 of the *Mines Safety and Inspection Act 1994* (the Act) and Part 3 Division 2 regulations 3.12 and 3.13 of the Mines Safety and Inspection Regulations 1995 (the regulations) have requirements regarding the notification of commencement of operations and provision of a PMP.

Mines Safety and Inspection Act 1994

Commencement or suspension of mining to be notified

Part 4, Section 42

(1) The principal employer or the manager of a mine must, in accordance with the regulations, notify the district inspector for the region in which the mine is situated-

  (a) before mining operations are commenced at the mine; or

  (b) before mining operations are recommenced after their suspension; or

  (c) before mining operations are abandoned; or

  (d) before mining operations are suspended.

(2) The principal employer or the manager must at the same time as giving notice under subsection (1) provide such evidence as is necessary to satisfy the district inspector for the region in which the mine is situated that the obligations under the Act as to commencement, re-commencement, abandonment, or suspension of mining operations, as the case may require, have been complied with; and on receiving such a notice the district inspector must inspect the mine and verify the evidence provided with the notice and make a record accordingly.

(3) A principal employer or manager must procure the approval in writing of the State mining engineer before mining operations are commenced at a mine.

(4) A principal employer or manager who contravenes subsection (1), (2) or (3) commits an offence.

(5) In this section, 'mining operations' do not include exploration operations.

Mines Safety and Inspection Regulations 1995

General details to be included in notification

Part 3, Division 2, Regulation 3.12

Each notification must include the following details-

  (a) the name and location of the mine;

  (b) the number of the lease, tenement or other interest;

  (c) the name and address of the principal employer at the mine;

  (d) what mining operations are to be affected, and whether they are to be commenced, recommenced, abandoned or suspended; and

(e) the date on which the mining operations are to be commenced, recommenced, abandoned or suspended (as the case may be).

PMP to be provided for mine operations

Part 3, Division 2, Regulation 3.13

(1) Notification of the commencement of mining operations at a mine must, in addition to the details set out in regulation 3.12, also include a plan that sets out -

(a) A summary of the proposed mining operations including a description of the type of mine, the treatment of minerals that is to take place at the mine, the number of persons who will be employed at the mine and the expected duration of mining operations at the mine;

(b) A broad assessment of the major risks associated with the mine and a summary of the strategies proposed to manage those risks;

(c) A general plan of the mine to an appropriate scale that shows the proposed mine layout and facilities in relation to the tenement boundaries, the national grid and RL datum levels;

(d) A plan of the mine that shows any proposed open pit and any underground layouts, including accesses to underground workings;

(e) A summary of proposed ventilation systems and stoping and development systems for any underground mine; and

(f) Emergency preparation plans for the mine.

(2) This regulation applies, with appropriate changes, to notification of the recommencement of mining operations involving underground operations or open cut mine operations at a mine if the mine was not being used immediately before commencement day.

Note: The only authorised versions of the Act and regulations are those available from the State Law Publisher (www.slp.wa.gov.au), the official publisher of Western Australian legislation and statutory information.

Submission of a PMP

Where possible, submit the PMP online via the Department of Mines and Petroleum's Safety Regulation System (SRS) website at **www.dmp.wa.gov.au/rsd_help/index_555.aspx**. However, it may also be submitted in hard copy to the Regional Inspector of Mines or Senior Inspector of Mines for the mines inspectorate where the project is located.

North Inspectorate

Regional Inspector of Mines
Resources Safety
Department of Mines and Petroleum
100 Plain Street, East Perth WA 6004
Facsimile: 08 9358 8000
Email:
north.inspectorate@dmp.wa.gov.au

East Inspectorate

Regional Inspector of Mines
Resources Safety
Department of Mines and Petroleum
Locked Bag 405, Kalgoorlie WA 6433
Facsimile: 08 9021 7670
Email:
east.inspectorate@dmp.wa.gov.au

West Inspectorate

Regional Inspector of Mines
Resources Safety
Department of Mines and Petroleum
100 Plain Street, East Perth WA 6004
Facsimile: 08 9358 8000
Email:
west.inspectorate@dmp.wa.gov.au

OR

Senior Inspector of Mines
Resources Safety
Department of Mines and Petroleum
PO Box 500, Collie WA 6225
Facsimile: 08 9734 1606
Email:
west.inspectorate@dmp.wa.gov.au

The District Office may request further copies of the PMP or more detail in sections of the plan, depending on the type and scale of the proposed operation.

A reasonable period of time should be allowed for adequate assessment of the PMP and to obtain the State Mining Engineer's approval under the provision of section 42(2) of the Act. The current target for proposal assessment is 30 working days.

Note: The State Mining Engineer's approval to commence mining is also required by conditions attached to mining leases under the provisions of the Mining Act 1978.

Guidance regarding mining project approval under the provisions of the Mining Act 1978 is available from the approvals section of the Department's website at ***www.dmp.wa.gov.au/861.aspx***

Content of the PMP

A PMP must be submitted in accordance with regulation 3.13. The submission should contain relevant information at a level of detail commensurate with:

- the information available at the time of its preparation
- the nature and scale of the operational and occupational health and safety hazards foreseen for the project.

Online help is available at **www.dmp.wa.gov.au/rsd_help/index_732.aspx**

Appendix 1 is a checklist to assist with PMP submission, and is available in Word format in the templates section at **www.dmp.wa.gov.au/15548.aspx**

Applicant details

Provide and verify details of the submitter.

Mine details

Supply the detailed information required for the notification of commencement under regulation 3.12.

Commencement date

Indicate the date on which mining operations, including construction and development work, are to commence.

Mine details

Provide the name of the mine, its location, number of mining leases or interests, shire or local authority in which mine is located, mining operations, mining operation commencement date and expected duration of the mining operations.

GPS

The GPS (global positioning system) co-ordinates of the location of mine may be included.

Principal employer details

Provide the contact details of the principal employer. Include the company name, ACN or ABN, telephone number, email address, street number, street name, suburb, state and postcode.

Project overview

An overview of the project details is required. Provide a summary of the proposed project, including an outline of the major stages of its life cycle, the number of persons employed, location and access, previous mining history, outline of work rosters and contractor management.

Summary of proposed project

A concise summary is required covering the major aspects of the proposal such as the type of mine, and treatment of product.

Number of persons employed

Detail the number of persons to be employed on the project during the construction then operation phases. For the project operation, provide an approximate breakdown of the number of persons to be employed by the principal employer and contractors.

Location and access

Describe the location of the mine. Attach plans of the proposed mine showing its relationship to the immediate locality, the region and the State of Western Australia. Show the principal access route or routes to the mine site.

Previous mining history

Provide a summary of any mining operations (current or abandoned) in the vicinity that may impact on the proposed mining operation. Include plans, and cross and long sections where available.

Outline of work rosters

Briefly overview the proposed method of operation, such as whether the mine will operate as a long-distance commuting operation, or workers will commute daily from a regional centre. Provide details of the work or commute roster and the hours of work.

Contractor management

Outline the framework for managing contractor risks for all major phases, including construction, development and operation.

Supporting documentation

Supporting documentation can be attached to many of the individual sections of the submission. For instructions and information, including how to attach a file, view the section on “Include File Attachments” in the online help guide.

Mine geology

Details of the mine geology are required, including analyses of the ore and waste rock.

Mine geology

Outline the mine geology, including details of any known major structural features that may affect the safety of the mine or mining method. Include appropriate plans and sections, if available, illustrating the relationship of major structural features to the proposed mine development. If possible, provide an assessment of the competence of the ore and waste rocks.

Analysis of ore and waste rock

Provide details of the analysis of multiple samples of ore and waste rock made to determine the presence or otherwise of undesirable contaminants such as asbestiform or fibrous minerals, mercury, lead, arsenic, cadmium, vanadium, chromium and uranium. Also consider whether the treatment or processing of ores could concentrate heavy metal contaminants.

Supporting file attachments

Attach supporting documentation as necessary.

Type of mine

A description of the type of mining operation is required, including information on how the operation will proceed and the risk control measures adopted.

Underground operation

Information on the underground operations is required. Include details of the main accesses to the underground workings, type of equipment, underground layout plans and sections, development and

stoping methods, second means of egress, ventilation, geotechnical considerations, and any planned underground storage of explosives and fuel.

Open-pit or quarry operation

Information on the open-pit or quarry operations details is required. Include a general description, and details of the sub-surface water control measures, open-pit or quarry plans, proposed mining sequence, type of equipment, geotechnical considerations, and any planned surface storage of explosives and fuel.

Treatment, process plant, smelter, and refinery operation

Information on the treatment, process, smelter and refinery facilities is required. Include a general description and layout, and details of dangerous goods and hazardous substances, laboratories and tailings disposal.

Dredge operation

Included details of any dredge operation.

Other operation

Include details of any other operation, such as ports, material handling, construction and development work.

Surface facilities

Details of the surface facilities are required, and must include the general location and flood control information.

General location

Provide a plan (general arrangement) to an appropriate scale showing the proposed mine layout and facilities in relation to the tenement boundaries, the national grid and RL datum levels.

Flood control

Provide a contour map covering the general area of the tenements.

Attach an aerial photograph of the project area showing the topographical drainage features.

Describe the water flow pattern and detail the potential for flooding of the mine and associated facilities. Provide details of the means by which the risk of flooding the mine and its associated facilities will be controlled.

The assessment needs to consider extreme rainfall events (e.g. one in a hundred year events), such as can occur during cyclonic storms or severe thunderstorms.

Supporting file attachments

Attach supporting documentation as necessary.

Treatment, process, smelter and refinery facilities

Details about the treatment, process, smelter and refinery facilities are required. These include general description and layout, dangerous goods and hazardous substances, laboratory, tailing disposal and supporting file attachments.

General description and layout

Provide a general description of the process and layout of the processing facility, including any crushing and screening operations. Include a process flow diagram.

Hazardous materials storage and handling

Summarise any key process chemicals (dangerous goods and hazardous substances) that are proposed to be used in the operation. Include details of the storage facilities together with the precautions for handling the chemicals from delivery through to use and disposal. Confirm that the necessary material safety data sheets (MSDSs) are available.

Note: Mine sites may need to obtain dangerous goods licences and other permits or approvals applicable to the chemicals used or produced.

Dust control

Identify those areas in the processing plant known to be sources of dust and advise the proposed control measures (e.g. dust collectors, suppression systems, water sprays) to be used to limit the exposure of persons to such hazards.

Laboratory

Advise of any laboratory and sample preparation facilities, together with an outline of strategies to limit the exposure of persons to fumes, dust and noise.

Tailings disposal

Describe the tailings storage facility, including evidence that the Department's guidelines have been used for the safe design, construction and operation of the facility, and to provide a systematic method of classifying its adequacy under normal and worst-case operating conditions.

Radiation hazards and management

Advise of the type and location of all sources of ionising radiation. If applicable, provide an outline of the radiation management system.

Supporting file attachments

Attach supporting documentation as necessary.

Open-pit or quarry operations

Details about the open pit or quarry operations are required. These include general description, sub-surface water control, open pit or quarry plans, proposed mining sequence, type of equipment, geotechnical considerations and supporting file attachments.

General description

Summarise the planned production rate of ore and waste, as well as the type of equipment to be used, and whether contractors will be employed for production mining.

Sub-surface water control

Indicate any planned measures to control the expected water in-flow and for de-watering of the open pit.

Communications and pit control

Attach copies of design plans showing design of proposed pits or quarry.

Proposed mining sequence

Outline the timing and proposed mining sequence, especially where surface and underground mining is to be carried on concurrently.

Type of equipment

Summarise the size and type of mobile equipment units to be deployed in the proposed pit or quarry operation. Demonstrate that the vehicles intended for use at the mine are fit for purpose. Ramps should be formed to ensure that planned gradients are designed in accordance with the vehicle limitations specified by the original equipment manufacturer. In particular, indicate where it is intended to use on-highway type vehicles as water trucks, service vehicles and explosives transporters.

Geotechnical considerations

Provide information to demonstrate that geotechnical aspects are adequately considered in relation to the design, operation and abandonment of the open pit or quarry operations.

Supporting file attachments

Attach supporting documentation as necessary.

Underground operations

Details about the underground operations are required. These include main accesses to the underground workings, type of equipment, underground layout plans and sections, development and stoping methods, second means of egress, ventilation, geotechnical considerations and supporting file attachments.

Main accesses to the underground workings

Describe the size, geometry and purpose of all accesses to the underground workings.

Type of equipment

Summarise the size and type of equipment units to be deployed in the proposed mining operation, and the likely number of units of diesel equipment. Demonstrate that the vehicles intended for use at the mine are fit for purpose.

Ramps should be formed to ensure that planned gradients are designed in accordance with the vehicle limitations specified by the original equipment manufacturer. In particular, indicate where it is intended to use on-highway type vehicles as water trucks, service vehicles and explosives or concrete transporters. Also demonstrate that the dimensions of each haulage way in the mine are sufficient to provide the clearance required by regulation 10.39(2).

Underground layout plans and sections

Provide copies of design drawings and schematics for underground layout, including plans and long-sections.

Development and stoping methods

Summarise the proposed development and stoping systems. Provide details of the design and the proposed operation of stope backfill systems (e.g. sand, paste, hydraulic fill).

Second means of egress

Outline the layout and timing for second egress provisions.

Ventilation

Provide a summary and schematic of the proposed primary ventilation system and indicate the secondary ventilation system to be used. Provide details of the ventilating air requirements for underground diesel operations and provide evidence that the ventilation network is sufficient for those operations.

Geotechnical considerations

Provide information to demonstrate that geotechnical aspects are adequately considered in relation to the design, operation and abandonment (closure) of the underground mine. If available, include a copy of the ground control management plan.

Supporting file attachments

Attach supporting documentation as necessary.

Emergencies and training

Information on emergency response arrangements is required. Include details about emergency preparedness, communications and control, and induction and training for all major phases of the proposed operation, including construction, development and operation.

Emergency preparedness

Provide details of the emergency preparedness of the mine including commitments in relation to the emergency plan, emergency control centre, emergency resources, first aid services and facilities, emergency response team, mutual aid and other arrangements (e.g. RFDS), and underground facilities (e.g. fresh air bases, refuge chambers, escape ways). Refer to regulations 4.23 to 4.37.

Where an airstrip or aerodrome exists or is planned, provide information on the arrangements for its safety management system, including Civil Aviation Safety Authority (CASA) certification if applicable.

Communications and control

Outline the proposed system for internal and external communications, with particular reference to the communication of emergency information.

Where underground operations are involved, advise of the proposed communication system between underground personnel and mine control. Also detail the method to be used to control and verify the movement of personnel into and from the underground workings.

Induction and training

Provide details of the means by which management will ensure that every employee at the mine will be given adequate instruction and training on safety procedures and safe systems of work, and the tasks required of the employee. Include information on the means to ensure each of the employees is competent to perform required tasks.

Supporting file attachments

Attach supporting documentation as necessary.

Safety and risk management

Safety and risk management details are required. Include a statement of the company's commitment to safety, management of risk and risk assessment.

Statement of the company's commitment to safety

This statement should reflect the company's overall commitment to the general duty of care, and its application of due diligence in compliance with the legislation. Provide an overview of the mine’s safety management system, including any alignment or accreditation with standards (e.g. Australian Standard AS/NZS 4801:2001).

Management of risk

Provide details of the risk identification process that was employed to identify the major risks associated with all major phases of the proposed operation, including construction, development and operation. Submit a copy of the risk management process that is imbedded in the company's systems to manage risk.

Note: The risk identification step of the risk management process is the most important step in the process — if a risk is not identified then the risk management process is blind to that risk.

Identified hazards

This section should contain a broad analysis of the potential hazards (e.g. scaffold collapse, falling objects, fire, flood, gas outburst) involved in the proposed operation, together with the strategies planned to manage the risks associated with the identified hazards. In this process, refer to any natural hazards likely to be encountered, such as the occurrence of fibrous or radioactive minerals, or potential for flooding or sulphide dust explosions, as well as introduced hazards such as noise, hazardous chemicals and rock falls.

Note: The checklist of hazards in Appendix 1 is a guide only and is not to be viewed as a complete directory of major hazards that may be present at a mine. Checklists have limitations and it is important to identify all hazards at the mine that may have significant or serious consequences, and not just focus on those listed. Identify any additional major hazards and add them to the list.

Risk assessment

Provide a copy of the risk assessment of the safety and health hazards conducted for all major phases of the proposed operation, including construction, development and operation. The proposed strategies to manage these risks should be included.

Supporting file attachments

Attach supporting documentation as necessary.

Appendix 1 Checklist for submission of a PMP

Please indicate (√) ☐ New operation ☐ Major expansion or change to existing operation

Part A – General details of notification (as per MSIR 1995, regulation 3.12)		
Name of mine		☐
Location of mine		☐
No. of lease / tenements / interests		☐
Name of principal employer		☐
Address of principal employer		☐
Mining operations affected		☐
Date on which mining operations are to be commenced		

Part B – Project management plan (as per MSIR 1995, regulation 3.13)		
1	**Proposed mining operation overview**	☐
	Number of persons employed during construction	☐
	Number of persons employed during operations	☐
	Expected duration of mining operations	☐
2	**Type of mine**	
	Underground	☐
	Open pit	☐
	Quarry (e.g. construction materials)	☐
	Treatment / process plant	☐
	Smelter / refinery	☐
	Dredge	☐
	Combination	☐
	Other	☐
3	**Details of proposed operations**	
	Construction work	☐
	Demolition and deconstruction work	☐
	Surface mining operations	☐
	Underground mining operations	☐
	Underground ventilation system	☐
	Underground development and stoping systems	☐
	Treatment / processing / smelting / refining operations	☐
4	**Mine plan**	
	Open pit operations layout	☐
	Underground layout	☐
	Accesses to underground workings	☐

5	**Plan of operations**			
	Suitable scale			☐
	Mine layout shown			☐
	Other facilities shown			☐
	Tenement boundaries shown			☐
	National grid relationship shown			☐
	RL datum shown			☐
6	**Emergency preparedness and training details for the mine**			☐
7	**Identification of major hazards**			
	Asbestiform minerals	☐	Geotechnical - dams / tailings storage facilities	☐
	Autonomous mining	☐	Geotechnical – mining induced seismic activity	☐
	Biological	☐	Geotechnical - underground / open-pit	☐
	Bullying and harassment	☐	Inundation - underground	☐
	Buried services	☐	Manual handling	☐
	Chemicals and toxic – storage (dangerous goods)	☐	Mechanical handling	☐
	Chemicals – usage	☐	Mining induced seismic activity	☐
	Confined spaces	☐	Mobile equipment	☐
	Cyclonic storms	☐	Moving parts - fixed plant	☐
	Dust	☐	Noise and vibration	☐
	Electricity	☐	Old mine workings	☐
	Explosive gases	☐	Other geotechnical	☐
	Explosives – storage / transport	☐	Plant operating at high temperature	☐
	Explosives – use	☐	Pressurised plant	☐
	Extremes of temperature	☐	Process (treatment) operations	☐
	Fall from height	☐	Public safety	☐
	Falling objects	☐	Radiation	☐
	Fall of ground	☐	Single entry heading – underground	☐
	Fire - surface and underground	☐	Sulphide dust	☐
	Fitness for work / fatigue	☐	Traffic management	☐
	Flood	☐	Vertical openings	☐
	Gas emission - drilling	☐	Scaffolding	☐
	Gas emission - process	☐	Demolition and deconstruction	☐
	Tiltup / precast construction	☐	Other	☐
8	**Risk management strategies for all major hazards of the major phases of the proposed operation, including construction, development and operation**			☐