

EPA Guidelines

Application of the *Environment Protection Act 1993* to mining projects

Issued January 2008

EPA 765/08: This guideline has been issued to assist proponents undertaking mining projects to understand what approvals they may need under the Environment Protection Act 1993. This is not a comprehensive guide to the Act and proponents considering mining projects are advised to contact the Environment Protection Authority to discuss the specific information required for their project.

Introduction

Mining projects are approved under the *Mining Act 1971* by Primary Industries and Resources South Australia (PIRSA). When a mining project also includes on-site processing of the mined ore, approvals may also be required under the *Environment Protection Act 1993*.

In considering any application, irrespective of whether or not it relates to mining, the Environment Protection Authority (EPA) considers five general impacts:

- emissions to air
- emissions to water
- noise
- disposal of waste material
- pre-existing site contamination.

The EPA suggests that these issues be addressed in any documentation prepared for PIRSA.

Mining projects that involve the production and/or management of radio-active materials are also covered by the *Radiation Protection and Control Act 1982*. This Act imposes requirements on proponents in addition to those discussed in this guideline.

How does the Environment Protection Act apply to mining?

The Environment Protection Act defines (in Part A of Schedule 1) a range of commercial or industrial activities ('prescribed activities of environmental significance') for which a licence from the EPA is required.

Mine operation

The 'prescribed activities of environmental significance' commonly associated with mining operations are:

1 Mineral Works

Mineral Works is the act of processing mineral ores, sands or earths to produce mineral concentrates. This activity includes (but is not limited to):

- use of floatation cells
- use of magnetic rolls
- use of spiral classifiers
- screening to remove fine impurities.

2 Chemical Works

Chemical Works is the act of carrying out a chemical reaction that produces more than 100 tonnes per year of product. This activity includes (but is not limited to):

- heap leaching operations
- in-situ leaching operations
- leaching/lixiviation carried out in stirred tanks
- cementation or precipitation
- CIP/CIL processing of gold ores
- roasting or calcining.

3 Fuel Burning

Fuel Burning is the act or ability to burn fuel at a heat release rate exceeding 5 MW; the activity relates to the ability (including standby units) to burn fuel at a heat release rate of 5 MW and not the actual rate at which fuel is consumed. For example a mine having two 3 MW fuel burning units (one working and one spare) triggers the activity 'Fuel Burning' and requires an EPA licence.

For mine sites the most common operation that will trigger the activity fuel burning is the use of diesel generators.

Typically a diesel generator has an overall efficiency of 25% so a mine site that has a total diesel generation in excess of 1.25 MW (electrical) will trigger this activity.

4 Waste or recycling depots

4.1 Domestic waste

For remote mine sites, it may be impractical to transport waste from the mining camp or mining operation to an established EPA licensed waste depot. In such cases the mine must establish a waste depot which will require an EPA licence. Waste depot design must conform to the *EPA Guideline Environmental management of landfill facilities (municipal solid waste and commercial and industrial general waste)* <www.epa.sa.gov.au/pdfs/guide_landfill.pdf>.

4.2 Waste rock from mine development

The Environment Protection Act does not apply to waste rock from mine development provided the waste rock comes from a lease or licence under the Mining Act, and is disposed of within the area of lease or licence, or an adjacent area covered by a Miscellaneous Purposes Licence.

4.3 Tailings from mineral processing

Tailings are the waste from mineral processing that requires the mined ore to be reduced to fine particles and either chemically or physically treated. This chemical or physical treatment will most likely trigger either the prescribed activity 'Chemical Works' or the prescribed activity 'Mineral Works' discussed previously.

The production of tailings will therefore most likely triggers the activity 'waste or recycling depot'.

It is highly unlikely that a project would require an EPA licence solely to operate a tailings dam.

Tailings dams must be designed in accordance to the draft EPA/PIRSA Guideline *Tailings and tailing storage facilities*.

5 Sewage Treatment

A sewage treatment plant that is designed for more than 1,000 persons per day (or 100 persons per day in a water protection area) is a 'prescribed activity of environmental significance'.

It is unlikely that a mine site would have a sewerage treatment plant that required an EPA licence.

6 Activities producing listed wastes

An ore-processing operation that produces a waste containing substances or things listed in Part B of Schedule 1 of the Environment Protection Act is a 'prescribed activity of environmental significance'.

The most common 'listed wastes' associated with ore processing are acids, heavy metals and cyanides.

This activity does not apply when the material containing the listed waste is from a lease or licence under the Mining Act, and is disposed of within the area of lease or licence, or an adjacent area covered by a miscellaneous purposes licence.

Mine development

The 'prescribed activities of environmental significance' most commonly associated with mine development are:

1 Concrete batching

For remote sites where there is no local commercial concrete batching plant, a temporary batching plant may be established during the construction period

Concrete batching plants that are capable of producing more than 0.5 m³ per batch will require a licence for the construction period.

2 Fuel burning

For sites with no power supply, diesel generators may be used until a permanent supply has been established. Where the total diesel power generation exceeds 1.25 MW (electrical), a licence will be required until the permanent supply is established.

What approvals are required from the EPA to carry out one or more 'prescribed activities of environmental significance'?

The Works Approval

Section 35 of the Environment Protection Act requires persons wishing to construct plant and equipment that will be used to carry out 'a prescribed activity of environmental significance' to

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obtain an approval from the EPA known as a 'Works Approval' if development authorisation is granted under an act other than the *Development Act 1993*.

A Works Approval is required before construction of plant and equipment to undertake 'a prescribed activity of environmental significance' can commence.

All references to administrative procedures under the *Mining Act 1971* were current at the time this guideline was written. Proponents should not rely on this document as a current guide to administrative procedures under the *Mining Act*.

Mining projects are approved under the Mining Act.

As part of the approvals process under the Mining Act, a Mining Lease Proposal must be lodged with PIRSA. In this document a proponent is expected to provide a conceptual description of proposed operations. This description must include 'details about mining method, size and location of infrastructure and processing methodology'.

All Mining Lease applications are referred to the EPA which allows the Authority to:

- determine if the project requires a Works Approval
- determine what environmental impacts may require further information
- advise the appropriate construction standards for plant items such as tailings dams
- contact the proponent directly to indicate the need for a Works Approval, and what (if any) further information is required.

The Authority believes that early consultation is essential if proponents are to gain an understanding of the all the issues associated with the project and how they may be addressed.

Before a proponent can commence mining PIRSA must approve the Mining and Rehabilitation Program (MARP). The MARP documentation includes the information contained in the Mining Lease Proposal in more detail together with environmental monitoring programs.

The formal approval issued by the Minister for Mineral Resources Development for operation of a mine is on the basis of the Lease Conditions and the information contained in a MARP. For this reason the Authority will not grant a Works Approval until the proponent has obtained a MARP approved by the Minister for Mineral Resources Development.

Only one Works Approval is required irrespective of how many prescribed activities of environmental significance are being undertaken. The Works Approval will give required construction standards for such items as bunding, dispersion of gaseous pollutants, tailings storage facilities, etc.

Any environmental impact predictions made in a Works Approval application (such as odour impacts, noise levels, etc) will need to be verified once commissioning has been completed.

The EPA Licence

Before a proponent can operate plant and equipment built to carry out 'a prescribed activity of environmental significance' an EPA licence will be required. A licence differs from a Works Approval in that it covers operation of a plant whereas a Works Approval covers the aspects of the plant design that have environmental impacts.

A licence application should be made at least six months before commissioning is due to commence.

Licensed sites are individually risk assessed, and on this basis an ongoing environmental monitoring program may be required.

What if the project does not include any 'prescribed activities of environmental significance'?

The General Environmental Duty

Section 25 of the Environment Protection Act imposes a duty on all persons undertaking an activity that pollutes, requiring them to take all reasonable and practicable measures to prevent or minimise any resulting environmental harm.

For mining projects this would most commonly apply to design of bunding, design of storage ponds and the dispersion of gaseous pollutants.

The EPA publishes specific guidelines on what is considered reasonable and practicable <www.epa.sa.gov.au/guidelines.html>.

Environmental Protection Policies

The Environmental Protection Policies that will most likely apply to mining projects are those concerning air quality, water quality and noise. These policies apply to both licensed and unlicensed sites and can be found at <www.epa.sa.gov.au/legislation.html>.

FURTHER INFORMATION

Legislation

Legislation may be viewed on the internet at: <www.legislation.sa.gov.au>

Copies of legislation are available for purchase from:

Service SA Government Legislation Outlet 101 Grenfell Street Adelaide SA 5000	Telephone: Facsimile: Internet:	13 23 24 (08) 8204 1909 < shop.service.sa.gov.au >
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For general information please contact:

Environment Protection Authority GPO Box 2607 Adelaide SA 5001	Telephone: Facsimile: Freecall (country): Internet: Email:	(08) 8204 2004 (08) 8124 4670 1800 623 445 < www.epa.sa.gov.au > < epainfo@epa.sa.gov.au >
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