

Radiation and the South Australian planning system

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EPA1082/16: This position statement assists planning authorities and proponents of development understand the position of the Environment Protection Authority (EPA) on radiation in relation to the South Australian planning system..

Introduction

Radiation is an issue not often assessed through the planning system. Assessments of radiation by the EPA are generally undertaken under the *Radiation Protection and Control Act 1982* (RPC Act), *Radiation Protection and Control (Ionising Radiation) Regulations 2000* (Ionising Regulations), and *Radiation Protection and Control (Non-ionising Radiation) Regulations 2013*.

The following information is provided to advise on the EPA's expectations of how radiation is to be addressed at the various stages of the South Australian planning system in those instances when referrals to the EPA do occur.

It is recommended that advice be sought from the EPA for any proposal that involves radiation, regardless of whether the proposal would be referred to the EPA through the South Australian planning system, in order to ensure it would be able to be licensed or registered under the RPC Act and Ionising Regulations.

This position statement is not legally binding and cannot be used to alter, broaden or narrow the exercise of the EPA's functions and powers.

What is radiation

Australians are exposed to radiation from a variety of sources, mostly natural, but also some that are man-made. Radiation is energy travelling as waves or particles, and can be divided into two classes – ionising radiation and non-ionising radiation.

Ionising radiation is naturally occurring and present in the environment due to radioactive minerals remaining from the very early formation of the Earth, including uranium and thorium, which results in radiation from the ground and in the form of radon in the air. People are also exposed to cosmic radiation and radiation from foodstuffs. The main exposure to man-made radiation sources is medical, including diagnosis of many diseases and treatment of cancer. There is some exposure from industrial uses such as from sources used in measurement and scientific research.

The main source of **non-ionising radiation** of concern is solar ultraviolet radiation. Exposure at high levels is linked to skin cancer. Man-made sources of non-ionising radiation include UV tanning beds, mobile telephones and base stations, electrical equipment, power lines, and lasers. In general levels of exposure from man-made sources, with the exception

of ultraviolet radiation radiation from tanning beds, is low, and there is little scientific evidence of harmful effects from chronic low levels of non-ionising radiation exposure.

The EPA's role

The environmental goal of the EPA in respect of radiation is 'the environment and the community are protected from the risks associated with radiation'.

The EPA issues licences to companies or individuals and registers apparatus, sources or premises to regulate the use of ionising radiation in the medical, scientific, industrial and mining areas. Radiation licences and registrations cover the overall management of the radiation sources including their safe use, transport, storage and disposal.

The EPA also provides advice on radiation safety of non-ionising radiation sources including lasers, microwaves, powerlines, mobile phones and communication towers.

The RPC Act applies to mining and mineral processing operations (including mining and processing of ore for the production of uranium or thorium concentrates and the separation of heavy minerals from mineral sands ore) that have the potential to produce occupational or environmental radiation exposures, or which generate wastes having the potential to cause a significant increase in the radiological exposure to people and the environment.

Mining and mineral processing operations are either licensed or registered under the RPC Act. Conditions attached to the licence or registration require the licensee to ensure the operations are conducted in a manner that protects people and the environment from the harmful effects of ionising radiation. EPA regulation of these operations involves authorisations and approvals of the main stages of the operation, audits to determine compliance with approved management plans, and routine and incident reporting by the operators.

The ability to assess radiation matters through the South Australian planning system is limited and the EPA mostly uses the radiation legislation to assess and regulate activities involving radiation.

Addressing radiation at each stage of the South Australian planning system

The major components of the South Australian planning system—Planning Strategy, Development Plans, development application, and major development or project—are interconnected and the system is regulated through the *Development Act 1993* and the *Development Regulations 2008*.

Within this framework the EPA provides advice on proposed changes to the Planning Strategy and Development Plans, and assesses referred development applications and major development or project applications.

The following information is provided to advise on the EPA's expectations of how radiation is to be addressed at the various stages of the South Australian planning system in those instances when referrals involving radiation matters do occur.

South Australian Planning Strategy

At this stage of the planning system, the EPA will have an interest in the location of land identified for future development such as transport corridors, ports, industry, and sensitive land uses, and ensuring that high-level planning policy in respect of radiation is incorporated into the various volumes of the Planning Strategy to protect the environment and community from health risks.

When an amendment to the South Australian Planning Strategy is prepared, it is the EPA's position that:

- principles and policies that reference radiation matters are included where relevant to protect the environment and community from health risks associated with radiation sources and to enable further consideration and expansion of those principles and policies in other levels of the planning system.

Development Plan Amendment (DPA)

At this stage the EPA will have an interest in proposed changes to planning policy or rezoning of land that could result in people or the environment being exposed to unacceptable levels of radiation¹; for example, a proposal to rezone land to allow residential development near an existing uranium mine.

When a DPA is prepared it is the EPA's position that:

- key development areas not cause exposure of people or the environment to unacceptable levels of radiation.
- the Statement of Intent proposes to investigate any potential radiation issues where these may be present; if not, the EPA will recommend additional investigations that should be undertaken.
- the DPA proposes policy for inclusion in the development plan, or there is existing policy in the development plan, to avoid or mitigate any adverse radiation effects of activities. The inclusion of such policy enables the proper assessment of radiation impacts at the development application stage.

Development application and major development or project

At the development application or major development or project stage the interest of the EPA is in whether the proposed development would expose people or the environment to unacceptable levels of radiation. The EPA will examine whether any referred development proposal or major development or project involving radiation would meet the requirements of the *Environment Protection Act 1993* (EP Act).

Schedule 8 of the *Development Regulations 2008* outlines the circumstances in which referral for a development application is required. The EPA has determined that there are only a small number of categories of referred development on which the EPA may make comment in respect of radiation matters; these categories include chemical works, waste treatment and disposal, petroleum production, chemical storage and warehousing activities where radioactive material is being stored, mineral works when radioactive materials may be involved, and destruction of medical wastes, cytotoxic wastes, or quarantine wastes where the wastes are radioactive.

When a development application is referred, the EP Act requires the EPA to have regard to, and seek to further, the objects of the Act and the general environmental duty² and any relevant environment protection policies when assessing the application. There is no environment protection policy specifically for radiation. However, the EPA may consider other environment protection policies, such as the *Environment Protection (Water Quality) Policy 2015* or the *Environment Protection (Air Quality) 2016*, where relevant.

The *Development Act 1993* and the EP Act cannot enable an assessment of referrals involving radiation under the RPC Act, Ionising Regulations and Non-ionising Regulations. Although the EPA will undertake an assessment of the proposal under these legislation, this will occur outside of the South Australian planning system.

In accordance with 'Division 2 – Major developments or projects' of the *Development Act 1993* the environmental impact statement, public environmental report, or development report for a proposed major development or project must include a statement of the extent to which the expected effects of the development or project are consistent with the general environmental duty and objects of the EP Act and the requirements of the *Environment Protection (Air Quality) Policy*

¹ Regulation 14(1) of the *Radiation Protection and Control (Ionising Radiation) Regulations 2000* states that a specified employer (a specified employer is a person who employs a radiation worker, or is a registered occupier, or in whose name a sealed radioactive source or ionising radiation apparatus is registered, or who holds a licence granted under section 24 of the *Radiation Protection and Control Act 1982*) must not expose, or cause, suffer or permit the exposure of, a member of the public to an annual effective dose exceeding 1 millisievert.

² The general environmental duty as written in the *Environment Protection Act 1993* is that 'a person must not undertake an activity that pollutes, or might pollute, the environment unless the person takes all reasonable and practicable measures to prevent or minimise any resulting environmental harm'. Activities involving radiation are covered by the general environmental duty.

2016 or *Environment Protection (Water Quality) Policy 2015* if it involves, or is for the purpose of, a prescribed activity of environmental significance as defined by the EP Act.

When a development application and any major development or project is prepared it is the EPA's position that:

- the proposed activity would be able to meet the requirements of the general environmental duty of the *Environment Protection Act 1993* and any relevant environment protection policies to prevent exposure of people or the environment to unacceptable levels of radiation³.

The EPA will consider matters such as the method of storage of the radiation sources where a storage facility is required, the management of stormwater and air quality where mineral works are undertaken involving radioactive materials, and how any radioactive materials are disposed.

Further information

Legislation

[Online legislation](#) is freely available. Copies of legislation are available for purchase from:

Service SA Government Legislation Outlet
Adelaide Service SA Centre
108 North Terrace
Adelaide SA 5000

Telephone: 13 23 24
Facsimile: (08) 8204 1909
Website: <shop.service.sa.gov.au>
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General information

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³ The requirements of the general environmental duty would be satisfied if the proposal would meet the requirements of the *Radiation Protection and Control Act 1982*, *Radiation Protection and Control (Ionising Radiation) Regulations 2000*, and *Radiation Protection and Control (Non-ionising Radiation) Regulations 2013*.