



Western Australia's current regulatory framework does, in combination with international and Commonwealth legislation, guidelines and policies, provide for the development of uranium mining and associated activities.

The State has a long history of regulating radioactive substances in mineral sands and tantalum mining operations including the transportation of products, the management of radioactive waste and the export of radioactive minerals. The State has also been regulating uranium exploration activities.

Relevant State legislation

The principal Western Australian statutes that regulate the granting of mining tenements and approvals of environmental management and radiation safety management associated with uranium exploration and mining are:

- *Environmental Protection Act 1986*, administered by the Environmental Protection Authority (EPA) and the Department of Environment and Conservation (DEC);
- *Mining Act 1978*, administered by Department of Mines and Petroleum (DMP);
- *Radiation Safety Act 1975*, administered by the Radiological Council; and
- *Mines Safety and Inspection Act 1994*, administered by DMP.

The key subsidiary regulations are:

- *Radiation Safety (General) Regulations 1983* which regulate the use, storage and disposal of radioactive substances in WA;
- *Radiation Safety (Transport of Radioactive Substances) Regulations 2002* which regulate the transport of all radioactive substances in WA;
- *Radiation Safety (Qualifications) Regulations 1980* which specify the requirement for training and qualifications of persons dealing with radiation;
- Part 16 of *Mines Safety and Inspection Regulations 1995* which regulate radiation safety associated with mining operations; and
- *Environmental Protection Regulations 1987*.

Commonwealth legislation

As a result of Australia's obligations under the Treaty on the Non-Proliferation of Nuclear Weapons (or NPT) and bilateral safeguards agreements, uranium mining is also subject to the following Commonwealth statutes:

- *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), administered by the Commonwealth Department of Environment, Water, Heritage and the Arts (DEWHA);

- *Nuclear Non-Proliferation (Safeguards) Act 1987*, administered by the Australian Safeguards and Non-Proliferation Office (ASNO); and
- *Customs Act 1901*, administered by the Commonwealth Department of Resources, Energy and Tourism (DRET).

The mining or milling of uranium ores triggers a "nuclear action" under the *EPBC Act*, one of seven matters of national environmental significance regulated under this Act.

Under the Act, a proponent is required to refer their project proposal to the Commonwealth for approval.

Regulation 9 of *Customs (Prohibited Exports) Regulations* under the *Customs Act 1901* ensures that Australia only sells uranium to countries that have signed the Nuclear Non-Proliferation Treaty and with which Australia has bilateral safeguard agreements.

The *Australian Radiation Protection and Nuclear Safety Act 1998* (ARPANS Act) only regulates radiation protection and nuclear safety aspects of Commonwealth entities involved in radiation or nuclear activities.

It established the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA), whose functions include promoting uniformity of radiation protection and nuclear safety policy and practices across the Commonwealth, States and Territories.

Applicable Codes, Standards and Guidelines

Two principle Codes for uranium exploration and mining are published by ARPANSA in its Radiation Protection Series: the *Code of Practice and Safety Guide for Radiation Protection and Radioactive Waste Management in Mining and Mineral Processing* (ARPANSA, 2005) and the *Code of Practice for the Safe Transport of Radioactive Material* (ARPANSA, 2008a).

These Codes are in the process of being adopted into the WA radiation protection legislation.

Radiation dose limits for radiation workers and members of the general public have been drawn from the *Recommendations for Limiting Exposure to Ionizing Radiation (1995)* and *National Standard for Limiting Occupational Exposure to Ionizing Radiation (1995)* (ARPANSA, 2002).

Relevant guidance material on the transportation of radioactive minerals is provided in the *Safety Guide for the Safe Transport of Radioactive Material* (ARPANSA, 2008b).



The Commonwealth also has a *Safety Guideline for Management of Naturally Occurring Radioactive Material (NORM)* (ARPANSA, 2008c), which provides guidance on managing NORM and assessing the need for radiation protection measures, including regulation.

Western Australia has its own set of guidelines titled *Managing naturally occurring radioactive material (NORM) in mining and mineral processing – Guideline* (DMP, 2008) or the WA NORM Guideline.

This was developed jointly by the DMP Resources Safety Division and the WA Chamber of Minerals and Energy (CME) specifically for the management of radioactive materials associated with mineral sands and tantalum mining in WA. It will also apply to uranium mining.

Approvals

Essentially, the regulation of uranium mining operations in WA remains a State Government responsibility.

However, certain aspects of uranium mining involve Commonwealth Government regulation. Uranium mine operators in WA require the following State and Commonwealth approvals:

- a mining lease under the *Mining Act 1978* that considers the results of a mineralisation report and satisfactory resolution of native title;
- an approval under the *Environmental Protection Act 1984* (for environmental impact assessment under Part IV)
- Mining Proposal approval under the *Mining Act 1978* before constructing and operating a mine and a mill;
- Works approval and a licence as required in Schedule 1 of the *Environmental Protection Regulations 1987* before constructing and operating a mine and a mill;
- Registration and licence for the mining and milling of radioactive substances, under the *Radiation Safety Act 1975* which includes the approval of a Radiation Management Plan and a Radioactive Waste Management Plan;
- a licence (of operator) for the transport of radioactive substances (including uranium concentrate) under the *Radiation Safety Act 1975*;
- a licence for the drilling of well holes and extraction of water resources and a permit to interfere with the beds and banks of a watercourse, under the *Rights in Water and Irrigation Act 1914*;
- two approvals under the *Mines Safety Inspection Act 1994* by the State Mining Engineer (for a Project Management Plan and a Radiation Management Plan) before commencing mining operations;

- environmental approval under the *Commonwealth EPBC Act*;
- permits to possess and transport uranium ore concentrates under the *Commonwealth Nuclear Non-Proliferation (Safeguards) Act 1987*; and
- a licence issued under the *Commonwealth Customs Act 1901* to export uranium concentrate.

Radiation protection and safety

In WA, the prime legislative responsibility for all aspects of radiation safety (including medical, research, industrial, sealed radioactive sources and mining etc) lies with the Radiological Council which is charged with administering the *Radiation Safety Act 1975* and the *Radiation Safety (General) Regulations 1983*.

The *Radiation Safety Act* establishes the Radiological Council as an independent statutory authority responsible directly to the Minister for Health.

In addition, there are radiation protection controls placed on the mining industry under the *Mines Safety and Inspection Act 1994*, through Part 16 of the *Mines Safety and Inspection Regulations 1995*.

Part 16 is administered by the State Mining Engineer and its primary aim is to protect mine workers from the effects of radiation exposure. The regulations also cover the effects of radiation to the public and the environment.

The State Mining Engineer also sets conditions that must be met prior to the abandonment of any site. Once mining operations cease, the site will remain registered under the *Radiation Safety Act* until the Radiological Council approves the release of the site and terminates the registration.

Amendments were made on 21 July 2009 to Part 16 of the *Mines Safety and Inspection Regulations 1995* which require uranium exploration operators to conduct a baseline environmental radiation monitoring program, prepare a radiation management plan and classify designated employees.

These requirements are consistent with those currently enforced under the Programme of Work provisions of the *Mining Act 1978*, and the provisions of the *Radiation Safety (General) Regulations 1983*.

The Radiological Council is also amending the *Radiation Safety (General) Regulations 1983* and *Radiation Safety (Transport of Radioactive Substances) Regulations 2002* to replace superseded ARPANSA Codes with the current ones.