MMRD 02/0050 CS

Date:

The Committee Secretary
The Environment, Communications, Information Technology
and the Art References Committee
Parliament House
CANBERRA ACT 2600

Dear Sir/Madam

Thank you for the opportunity to provide input to the Inquiry into Environmental Regulation of Uranium Mining, currently being undertaken by the Environment Communications, Information, Technology and the Arts Reference Committee.

The Office of Minerals and Energy Resources (Primary Industries and Resources SA) on behalf of the State Government, has prepared this submission in consultation with key State Government agencies.

The terms of reference are:

The regulatory monitoring and reporting regimes that govern environmental performance at the Ranger and Jabiluka uranium operations in the Northern Territory and the Beverley and Honeymoon in-situ leach operations in South Australia with particular reference to:

(a) The adequacy, effectiveness and performance of existing monitoring and reporting regimes and regulations;

(b) The adequacy and effectiveness of those Commonwealth agencies responsible for the oversight and implementation of those regimes; and

(c) A review of Commonwealth responsibilities and mechanisms to realise improved environmental performance and transparency of reporting.

Beverley and Honeymoon Uranium Mines

The Beverley mine is owned and operated by Heathgate Resources Pty Ltd. The mining lease for the Beverley Uranium Mine was granted in April, 1999, and commercial operations commenced in November 2000.

Southern Cross Resources Pty Ltd has recently obtained a Mining Lease, along with the necessary Commonwealth Government approvals for the Honeymoon mine site. Development of the mine is due to begin and it is expected that production will commence in the next 12 to 18 months.

The State and Commonwealth conditions under which Southern Cross will conduct operations at Honeymoon are the same as for the Beverley Uranium mine.

Due to the physical nature of the uranium ore at Beverley and Honeymoon, these mines have both adopted the In Situ Leach (ISL) method for mining. In essence, the ISL method is a process of circulating water through the ground via specially constructed wells. The natural groundwater is injected into the mineralised formation to dissolve the uranium ore after adjusting the acidity to approximately a pH of 2 and adding an oxidising agent. The uranium is extracted from the solution in a processing plant and the fluid is conditioned and returned to the ore-bearing aquifer for further extraction of uranium. The ISL method was demonstrated during field leach trials carried out at both sites.

Existing Legislative Framework

There is a comprehensive body of strong legislation in South Australia, covering all aspects of uranium mining regulation (appendix 1). This legislation has been in place for a number of years, has been implemented and administered completely over that period, and has been shown to achieve the purposes for which it was designed. This is facilitated through a close consultative process between the relevant Government agencies on the regulation of uranium industry.

Although extensive mechanisms of monitoring, reporting and notification of incidents have been established (appendix 2), there is a need to review these mechanisms to reassure members of the public that Government regulation is adequate and that no threat exists to the environment or the health of workers or the general public as a result of uranium mining.

A review to address the above mentioned issues commenced in early May 2002 when the State Government publicly announced that there would be an independent review of reporting procedures for incidents at uranium mines. The review was conducted by Mr Hedley Bachmann, and was finalised in August, 2002.

The review considers:

- The severity of the consequences an incident may have on the public, employees and the environment;
- Transparency in the effective disclosure of environmental incidents;
- Mechanisms for keeping the Commonwealth informed;
- Consistency of reporting obligations and incident assessments between operations;
- Best practice incident reporting in the industry; and
- Directions given by former Ministers.

In light of public concern in respect to spills of radioactive substances and the management of radioactive wastes, a second review is being facilitated by the Environment Protection Agency. This review will focus upon the environmental impact of the in-situ leach mining process. Terms of reference include a requirement to explore possible alternatives to in-situ leach mining and how existing operations might be improved. An essential part of the review will be to consider and assess the appropriateness of the current regulatory regime as the basis for effective ongoing management of in-situ leach mining operations in South Australia.

Conclusion

In light of the current detailed reviews being undertaken by the State, it would be inappropriate for the Government to pre-empt the reviews by commenting on the adequacy, effectiveness and performance of the State's existing monitoring and reporting regimes and regulations, at this time. Following consideration by Cabinet, the review findings will be available for consideration by the Senate Committee.

Yours sincerely

Paul Holloway
Minister for Agriculture, Food and Fisheries
Minister for Mineral Resources Development

APPENDIX 1

EXISTING SOUTH AUSTRALIAN LEGISLATION

EIS PROCESS

Section 75 of the Development Act 1993 (the Dev Act) allows for certain applications for mining production tenements to be referred to the Planning Minister. Applications to carry out operations, which are of "major social economic or environmental importance", must be referred to the Planning Minister. Planning SA undertakes an EIS level assessment, which culminates in the Planning Minister providing advice to the Mining Minister, to be taken into account in developing conditions of approval.

Uranium mining is a controlled activity under Commonwealth law. In order to export the uranium product, a company must obtain an Export Permit. The Commonwealth **Environment Protection and Biodiversity Conservation Act 1999** (EPBC Act) requires that a "nuclear action" (eg. a proposed uranium mine) be referred to the Environment Minister for advice in preparing conditions for an Export Permit. All current uranium mining projects were subject to the predecessor of the EPBC Act where the Environment Minister in preparing conditions for an Export Permit gave advice.

As both Commonwealth and State legislation require an EIS, it has been usual practice under the predecessor of the EPBC Act to conduct a joint State/Commonwealth EIS, with Planning SA acting as the lead agency.

After extensive environmental impact assessment processes, each of the uranium mining projects now has a Mining Lease with a detailed set of conditions.

REGULATORY OVERSIGHT OF URANIUM MINING OPERATIONS

South Australia has an existing body of legislation, which provides a comprehensive set of controls for the mining, and milling of uranium ores. Relevant legislation is administered by the following agencies:

- Environment Protection Authority (EPA)
- Department of Primary Industries and Resources (PIRSA)
- Work Place Services, Department for Administrative & Information Services (DAIS)

The following South Australian legislation is particularly relevant to uranium mining and milling in South Australia:

- Mining Act, 1971 (Mining Act)
- Mines and Works Inspection Act, (1920-1978) (MWI Act)
- Radiation Protection and Control Act, 1982 (RPC Act)
- Roxby Downs (Indenture Ratification) Act, 1982 (RDIR Act)
- Environment Protection Act, 1993 (EPA Act)
- Development Act, 1993 (DEV Act)
- Occupational Health Safety and Welfare Act, 1986 (OHSW Act)

- Water Resources Act, 1990 (WR Act)
- Dangerous Substances Act 1979
- It should be noted that while much of the legislation applying to uranium mining in South Australia applies to mining generally, the Radiation Protection and Control Act (RPC Act) specifically addresses issues related to uranium mining.

THE RADIATION PROTECTION AND CONTROL ACT

The RPC Act is the principal Act controlling all types of activities involving radiation, including mining and milling of radioactive ores. (On 27 June 2002, the administration of the RPC Act was transferred from the Minister for Health to the Minister for Environment and Conservation). The RPC Act provides for various categories of licence and registration, including a Licence to Mine or Mill Radioactive Ores. A person must not mine or mill radioactive ores without holding the appropriate licence.

A licence is subject to conditions that the Minister Environment and Conservation may attach to the licence. Conditions on a licence include requirements for the licensee to comply with various Codes of Practice. These codes have been developed by the Commonwealth to ensure uniformity of regulation of uranium mining in Australia and are 'called up' by the RPC Act.

The codes include:

- Code of Practice on Radiation Protection in the Mining and Milling of Radioactive Ores (1987);
- Code of Practice on the Management of Radioactive Wastes from the Mining and Milling of Radioactive Ores (1982);
- Codes of Practice for the Safe Transport of Radioactive Substances (1982); and,
- The National Health and Medical Research Council Recommendations for limiting exposure to ionising radiation (1995).

The codes require that uranium mines have a **Radiation Management Program** and a **Radioactive Waste Management Program**, approved by the Government for the mining lease.

The RPC Act establishes the **Radiation Protection Committee** to advise on Regulations and the granting of licences, with conditions, under the Act. This committee is comprised of a range of government and non-government members with expertise in a range of related fields.

The RPC Act also provides for the setting up of subcommittees including the Mining and Milling Subcommittee and the **Waste Management Subcommittee** to assist the Committee on decisions relating to the assessment of applications for a Licence to Mine and Mill Radioactive Ores.

The **Radiation Protection and Waste Management Codes** provide for an "Appropriate Authority" to implement the provisions of the codes and to grant approvals or authorisations. In forming the codes, the Commonwealth envisioned that each State or Territory would adopt the codes via its own legislation. To facilitate their adoption, an Appropriate Authority is defined in the codes as that authority

having responsibility for enforcing provisions of any legislation implementing any part or the whole of the code.

The Appropriate Authorities for the purposes of the codes are as follows:

Radiation Protection Branch

- Code of Practice on Radiation Protection in the Mining and Milling of Radioactive Ores (1987)
- The National Health and Medical Research Council Recommendations for limiting exposure to ionising radiation (1995)

The Department of the Premier and Cabinet

- Codes of Practice for the Safe Transport of Radioactive Substances (1982)

PIRSA

- Code of Practice on the Management of Radioactive Wastes from the Mining and Milling of Radioactive Ores (1982)

In addition the following agencies also administer legislation relevant to the mining or milling of radioactive ores:

- PIRSA has broad responsibilities for mining operations under the Mining Act, 1971 and the Mines and Works Inspection Act, 1920.
- Workplace Services Division of DAIS has responsibilities under the Mines and Works Inspection Act 1920, the Occupational Health, Safety and Welfare Act 1986, and the Dangerous Substances Act 1979.
- The EPA also has responsibilities under the Environment Protection Act 1993.

PIRSA and Radiation Protection Branch of the EPA work closely together in the application of the codes. This is achieved by frequent consultation and cooperation between the relevant officers, and by an administrative agreement, which ensures that, both agencies (together with any other relevant agencies) are involved in the consideration of applications for approvals from the operators.

MINING LEASE APPROVAL UNDER THE MINING ACT 1971

A Mining Lease under the Mining Act 1971, may be granted by the Minister for Mineral Resources Development (Mining Minister) following consideration of the results of an extensive assessment, including assessment of the likely environmental impacts, and satisfactory resolution of Native Title.

The legislation is implemented so as to minimise the environmental effects of mining and milling and ensure adequate decontamination and rehabilitation of mining sites.

APPENDIX 2

ENVIRONMENTAL MANAGEMENT

Environmental Management and Monitoring Plan (EMMP)

The Beverley mine operators are required as part of Mining Lease conditions under the Mining Act to submit for approval to the Mining Minister a program for the protection, management and rehabilitation of the environment. This program is known as the **Environmental Management and Monitoring Plan (EMMP)** covering waste management, flora, fauna, groundwater, spills and air emissions.

Relevant State agencies are consulted during the process of evaluating and approving Environmental Management Plans (&/or Programs). **Annual reports** are required on the progress of the program. Both the EMMP and the annual reports are public documents

LICENCE TO MINE OR MILL

Environmental radiation monitoring conducted under requirements of the Radioactive **Waste Management Program (RWMP)**, are also analysed and reported annually. To simplify reporting procedures, this information is also reported in the annual EMMP report. Results of the environmental radiation component of the RWMP programs are progressively reviewed at quarterly ISL Operators Radiation Review Meetings between the operators, Radiation Protection Branch of the EPA, PIRSA and other relevant Government agencies.

Mining and Rehabilitation Program (MARP)

As part of the conditions of a mining lease under the Mining Act, the Beverley operators are required to submit for approval a **Mining and Rehabilitation Program (MARP).** In addition, the annual estimated cost of decommissioning the mine is reviewed annually by PIRSA in consultation with the Commonwealth. The operator is then required to lodge the calculated bond.

Environmental Consultative Committee (ODECC)

An **Environmental Consultative Committee** exists for Beverley operation and another committee will be formed for Honeymoon prior to commercial operations. The Committees are formed to facilitate the sharing of relevant environmental information between the operators, the State and the Commonwealth.

REPORTING REQUIREMENTS

Annual

The Beverley operators are required to report annually on the EMMP – an Annual Environmental Report is submitted to the Mines Minister. The report is a summary of

(a) Non-radiological environmental data required directly under the EMMP.

(b) A summary of environmental radiation monitoring data required under the RWMP (a condition of the licence to mine or mill) including estimates of doses to members of the public arising from the operations.

The Annual Environmental Report in accordance with the EMMP (the content of which is available to the public), must include an annual audited environmental summary report addressing issues such as compliance with State and Federal approvals, and the appropriateness and accuracy of monitoring data.

A separate report (including a summary of occupational doses, wastes produced during the previous 12 months, planned development in the next 12 months etc) is required under the licence to mine or mill and is presented annually to the Minister for Environment and Conservation.

Biannual (Environmental Consultative Committees)

An Environmental Consultative Committee is set up in relation to each operating uranium mine. The committees meet twice per year to consider environmental data and discuss relevant issues.

Quarterly

Operators are required on a quarterly basis to provide various data in writing to the Chief Inspector of Mines. These include groundwater monitoring data as well as management of hazardous chemicals.

Quarterly reports summarising occupational and environmental radiation monitoring data are presented to the Manager, Radiation Protection Branch.

ISL Operators' Meetings

The results of environmental and radiological monitoring (noted above) are discussed at ISL Operators Meetings. These meetings are held quarterly and attended by company representatives and Government officers.

Incident Reporting

Excursions: The Beverley operators are required to monitor groundwater quality in adjacent formations. Should this water quality data identify an excursion of mining fluids beyond the mining zone, the company must verbally advise PIRSA within 24 hours and in writing within 7 days. Corrective actions are then required to bring the chemical parameters within specified control limits.

Spills: The Beverley mining site currently operates subject to a Notification Procedure For Spills which is part Radiation Management Program approved under conditions on the licence to mine or mill. The requirement for the operator to notify the Chief Inspector of Mines (PIRSA), and the timeframe for that notification, depend on the nature of the material spilled (raw groundwater or leach liquids), the location of the spill (within bunds or outside bunds) and the quantity spilled. Spills that may have potential to harm the health of workers or the environment are reportable by fax within 24 hours.

If a spill affects a registered or reported heritage site then the relevant heritage interest groups need to be consulted with in regard to the clean up process. As stated in Section 23 of the *Aboriginal Heritage Act 1988*, if any Aboriginal site is damaged, disturbed or interfered with, the perpetrator is liable to prosecution. In light of this, the Department of State Aboriginal Affairs (DOSAA) advises that if a spill occurs and

affects an Aboriginal heritage site, then DOSAA and the relevant local Aboriginal Heritage Committees should be consulted.

The Incident Reporting Procedure was developed during Field Leach Trial (FLT) phases. However, experience has now shown that it is no longer appropriate for a larger scale commercial ISL mining operation. The reporting procedure is currently being examined as part of the Bachmann Reporting Review.