Not Relevant

6 **Cabinet Notes**

Not Relevant

621 MINISTER FOR ENVIRONMENT AND CONSERVATION'S ITEM (Gail Gago)

LOCKED

621

TO: THE PREMIER FOR CABINET TO NOTE

RE: LICENCE TO MINE AND MILL RADIOACTIVE ORES FOR THE HONEYMOON URANIUM PROJECT

1. PROPOSAL

That Cabinet:

1.1 note the decision by the Chief Executive of the EPA to grant a licence under the *Radiation Protection and Control Act 1982* to mine or mill radioactive ores, to Southern Cross Resources in relation to its proposed Honeymoon Uranium Project;

1.2 note the process used to evaluate the application and to consider public comment on the application documents;

1.3 note the reasons for decisions (Attachment 1); and

1.4 note the draft media release (Attachment 2).

2. BACKGROUND

2.1 On 25 May 2006, Southern Cross Resources Australia Pty Ltd submitted an application for a licence under Section 24 of the *Radiation Protection and Control Act 1982* (RPC Act), for commercial operations to mine or mill radioactive ores at its Honeymoon mine.

2.2 Power to approve such a licence has been delegated by the Minister for Environment and Conservation to the Chief Executive of the EPA.

3. DISCUSSION

The Decision

3.1 The EPA Chief Executive took the following into account:

- relevant provisions of the Act and regulations;
- the application from Southern Cross Resources;
- the Environmental Impact Assessment for the Honeymoon Uranium Project;
- independent reviews of the mining process, including the 2004 CSIRO *Review of the Environmental Impacts of Acid In situ Leach Mining* (the ISL Review);
- EPA experience in the regulation of the Beverley uranium mine;
- the advice of the statutory Radiation Protection Committee;
- the advice of the Director and officers of the Radiation Protection Division of the EPA; and
- submissions from the public.

3.2 The Radiation Protection Committee has a statutory advisory role. The Committee examined the application and the public submissions and recommended that a licence be granted.

3.3 The EPA Chief Executive determined that the application met the requirements of the Act and regulations, and that Southern Cross Resources had demonstrated that it could protect people and the environment from the harmful effects of radiation in its mining and milling operations at Honeymoon (reasons for decisions - Attachment 1).

Public Submissions

3.4 Whilst not a regulatory requirement, the EPA called for public submissions on the application. There were 161 submissions received by the EPA, 115 as a form letter and the remaining 46 were unique or original submissions from individuals and organisations.

3.5 The most common issues raised related to:

- Potential for groundwater contamination and the potential for those contaminants to move along the aquifer or escape into adjacent or overlying aquifers (18%)
- Government policy on uranium mining (12%)
- Nuclear fuel cycle (10%)
- Regulation of uranium mining (8%)
- Recommendations of the 2003 Federal Senate Select Committee inquiry into uranium mining (6%)

3.6 The CSIRO ISL Review addressed groundwater contamination and waste disposal issues. The mining aquifer naturally contains high levels of salts and radionuclides and has no foreseeable use other than for mining.

3.7 This will be backed up by a groundwater monitoring regime undertaken by the operator and overseen by the EPA. The operator will be required to implement contingency plans should there be any movement of mining fluids out of the mining area. In addition, scientific evidence indicates that any impacts of liquid wastes injected into the mining aquifer will be modified over time by natural attenuation processes. The operator will be required to investigate chemical amendments if the attenuation is slower than expected.

3.8 The assessment was a technical one against the legislative requirements, addressing whether people and the environment would be adequately protected. Uranium mining policy and the nuclear fuel cycle were outside the scope of this assessment. Public submissions in these areas were noted, but did not form part of the assessment.

3.9 The recommendations of the Federal Senate Select Committee inquiry into uranium mining have been addressed in South Australia via the CSIRO ISL Review, the Bachmann Review (that places requirements on uranium mining operators for reporting spills and incidents to the EPA), or previously in the EIS process.

Public Announcements

3.10 It is expected that the EPA Chief Executive will announce the licence decision in the first week of September 2006. A copy of the draft media release is provided in Attachment 2.

3.11 Following the announcement, the decision, followed by a summary of public submissions with responses from the EPA to the main points raised, will be made available via the EPA web site.

4. SUMMARY

That Cabinet:

4.1 note the decision by the Chief Executive of the EPA to grant a licence under the *Radiation Protection and Control Act 1982* to mine or mill radioactive ores, to Southern Cross Resources in relation to its proposed Honeymoon Uranium Project;

4.2 note the process used to evaluate the application and to consider public comment on the application documents;

4.3 note that the EPA Chief Executive will make an announcement concerning the licence decision in the first week of September 2006.

4.4 note that following the announcement, the EPA will publish the decision, a summary of public submissions and EPA responses, on the EPA web site.

HON GAIL GAGO MLC
MINISTER FOR ENVIRONMENT AND CONSERVATION

In Cabinet

Date: 1/9/06

- 4 SEP 2006

NOTED
PREMIER

DECISION BY THE CHIEF EXECUTIVE OF THE ENVIRONMENT PROTECTION AUTHORITY ON THE HONEYMOON URANIUM PROJECT LICENCE APPLICATION

SUMMARY

I have issued Southern Cross Resources Australia Pty Ltd with a licence under the *Radiation Protection and Control Act (1982)* for commercial uranium mining operations at its Honeymoon mine site.

Southern Cross Resources, a subsidiary of SXR Uranium One Inc, currently holds a license for non-commercial operations at this site. It currently has an approved Environmental Impact Statement (EIS), Mining Lease and uranium export licence.

The acid In-Situ Leach uranium mining process is the same as that currently used at the Beverley uranium mine.

As EPA Chief Executive, I was responsible for assessing the licence application. With the recommendation of the Radiation Protection Committee and advice from officers of the EPA Radiation Protection Division, and informed by public submissions, I determined that the application satisfied relevant legislation and that Southern Cross Resources had demonstrated that it could protect workers, the public and the environment from radiological hazards.

THE LICENCE DECISION

On [date] I issued a licence to Southern Cross Resources Australia Pty Ltd under Section 24 of the *Radiation Protection and Control Act 1982* for the mining or milling of radioactive ores on its Honeymoon mine lease in South Australia. Southern Cross Resources is a subsidiary of SXR Uranium One Inc.

Subject to approvals by the authorities of its management plans, and the issue of other licences by the relevant authorities, this licence permits Southern Cross Resources to mine and mill uranium on its Honeymoon mine lease by the acid in-situ leach (ISL) mining technique.

In accordance with Section 36 of the *Radiation Protection and Control Act 1982*, I have attached conditions to the licence designed to ensure the protection of workers, the public and the environment from radiation risks.

Conditions of the licence are as follows:

1. The Licensee shall comply with the *Code of Practice for Radiation Protection and Radioactive Waste Management in Mining and Mineral Processing (2005)*: Radiation Protection Series No 9; ARPANSA (August 2005), and any amendments thereof or any codes, standards or recommendations substituted therefor.

2. This Licensee shall submit to the Environment Protection Authority, together with the application for renewal:

   (a) A plan showing areas in which new wellfield development is planned in the next licence period;
   (b) Any significant changes in the plant layout, major equipment or processes introduced during the preceding licence period;
   (c) Estimates of the quantities of wastes produced in the previous licence period.

The licence is subject to annual renewal and payment of a prescribed fee in accordance with Section 37 of the *Radiation Protection and Control Act 1982*.

THE BASIS FOR MY DECISION

Under Section 8 of the *Radiation Protection and Control Act 1982* (the Act), the Minister for Environment and Conservation, as Minister to whom the Act is committed, has delegated the powers and functions of the Act to me as the Chief Executive of the EPA.

In making my decision to issue a licence to Southern Cross Resources, I:

- identified all relevant provisions of the Act and regulations to be taken into account;

- considered the purpose and object of the Act, that is:
  - to protect the environment and the health and safety of people against the harmful effects of radiation, and
  - to endeavour to ensure that exposure of persons to ionising radiation is kept as low as reasonably achievable, social and economic factors being taken into account

- reviewed the evidence available to me, including:
  - the application from Southern Cross Resources
  - the Environmental Impact Assessment for the Honeymoon Uranium Project
  - independent reviews of the mining process, including the CSIRO *Review of the Environmental Impacts of Acid In-situ Leach Mining* (the ISL Review)
  - EPA experience in the regulation of the Beverley uranium mine
  - the advice of the statutory Radiation Protection Committee
  - the advice of the Director and officers of the Radiation Protection Division of the EPA
  - submissions from the public.

Having considered the evidence, I formed the view that the application met the requirements of the Act and regulations, and therefore that Southern Cross Resources had demonstrated that it could protect people and the environment

from the harmful effects of radiation in its mining and milling operations at Honeymoon.

THE LEGISLATIVE FRAMEWORK

Radiation Protection and Control Act

The applicable sections of the *Radiation Protection and Control Act 1982* and the *Radiation Protection and Control (Ionising Radiations) Regulations 2000* are given in Appendix A.

Code of Practice for Radiation Protection and Radioactive Waste Management in Mining and Mineral Processing (2005)

The objective of this Code is to provide a regulatory framework to manage the protection of workers, members of the public and the environment from harmful effects of radiation exposures arising from mining or mineral processing and from the waste resulting from these activities both now and in the future.

The Mining Code consists of 3 main components:

(a) The Code requires the development and approval of a Radiation Management Plan for the control of occupational and public exposures arising from the operation. The Plan must address:

- Demonstrated access to appropriate professional radiation protection expertise;
- Monitoring and dose assessment programs, including record keeping and reporting procedures;
- Appropriate equipment, facilities, procedures including induction training for workers;
- Procedures to handle incidents and accidents;
- Periodic assessment and review of existing procedures.

In developing this Plan, the operator is required to ensure exposures are kept as low as reasonably achievable (ALARA).

(b) A Radioactive Waste Management Plan must be developed for approval and should address:

- Description of the waste management system;
- Prediction of environmental concentrations of radionuclides;
- Monitoring programs and reporting procedures;
- Contingency planning for dealing with uncontrolled releases;
- Proposed decommissioning plans;
- Periodic assessment and review of existing procedures.

In developing this Plan the operator is required to ensure waste is managed by means of best practicable technology and that doses are ALARA.

(c) There is an overarching system of Approvals and Authorisations:
- Approval of the above Radiation Management Plan and Radioactive Waste Management Plan appropriate for the various stages of the project (exploration, construction, operation, etc);
- Authorisations to construct, operate, decommission and rehabilitate the mine or mill.

It is these approvals and authorisations that provide the main means of regulatory oversight for mining operations. Further EPA approvals will be required prior to the proponent commencing construction, and again prior to commencing operations.

Other legislation

The EPA will consider separately a licence under the Environment Protection Act. This licence is for undertaking activities of environmental significance under Schedule 1 Part A of the *Environment Protection Act 1993.*

These activities would include but not necessarily be limited to 1(2)(a) Chemical Works: Inorganic and 8(2)(a) Fuel Burning: rate of heat release exceeding 5 MW. In granting a licence the EPA ensures that the company complies with the Act and associated Environment Protection Policies. As the company has been granted a valid planning approval a licence cannot be withheld.

The Department of Primary Industries and Resources South Australia (PIRSA) also regulates uranium mining under the *Mining Act 1971.* A Mining Lease was granted by the Minister for Minerals and Resources Development in February 2002. One of the conditions of the Lease is approval of a Mining and Rehabilitation Plan.

THE APPLICATION

Southern Cross Resources' application consisted of:
- details of the project and the process to be used;
- proposed Radiation Management Plan;
- proposed Radioactive Waste Management Plan.

Application documents are available for review from the EPA's web site (www.epa.sa.gov.au).

ENVIRONMENTAL IMPACT ASSESSMENT

The Honeymoon Uranium Project was subject to a joint environmental impact assessment process by the Commonwealth and South Australian Governments.

Southern Cross Resources prepared an Environmental Impact Statement (EIS) and this was released for public and government comment in June 2000. It completed a Response Document, and this was released in November 2000. Further requested

information was provided in July 2001. Environment Australia conducted a technical review of the EIS.

Commonwealth and South Australian Governments approved the Environmental Impact Statement and Response Document in November 2001. In consequence a Mining Lease was granted by the South Australian Government in December 2001 and a uranium export permit by the Commonwealth Government in January 2002.

CSIRO REVIEW OF THE ENVIRONMENTAL IMPACTS OF ISL MINING

In 2002, the South Australian Government requested the EPA to conduct an independent review of the environmental impacts of the ISL mining process. The EPA commissioned CSIRO Land and Water to conduct the Review. The ISL Review considered Beverley and the proposed Honeymoon mines.

Published in 2004, the ISL Review concluded that overall, the process of ISL mining of uranium has considerably less environmental impact than other conventional mining techniques. It recommended that acid ISL mining of uranium and re-injection of liquid wastes into the aquifer be allowed to continue, subject to monitoring showing that there are no excursions of leach solution or waste liquids into other aquifers. Other recommendations were made, mainly relating to additional monitoring. All recommendations were accepted by government and are being implemented.

The ISL Review is available via the EPA web site.

RADIATION PROTECTION COMMITTEE

The Radiation Protection Committee (the Committee) is an expert advisory body established under the *Radiation Protection and Control Act 1982*. The functions of the Committee are specified in section 12 of the Act (see Appendix A).

The Committee has advised me as follows. It:

i) Considers that the Southern Cross Resources application meets the requirements of the *Radiation Protection and Control Act 1982*;
ii) Recommends that a licence to mine or mill radioactive ores be granted;
iii) Recommends conditions that should be attached to the licence.

I have attached conditions to Southern Cross Resources' licence in accordance with the Committee's recommendation.

EPA RADIATION PROTECTION DIVISION

The application was referred to the Radiation Protection Division of the EPA for technical assessment. This Division has delegated responsibility for the regulation

of uranium mining in South Australia under the Radiation Protection and Control Act. Officers in the Division have significant experience in this field.

Officers of the Division:

- reviewed the application in detail against the legislative requirements;
- compared the process against the other South Australian uranium mines, in particular Beverley;
- liaised with PIRSA, SafeWork SA and the Commonwealth Department of Environment and Heritage;
- coordinated the public consultation process, and summarised and prepared responses to the submissions;
- advised on the conditions that should be attached to a licence;
- provided technical advice to the Radiation Protection Committee and its working group; and
- advised me on the granting of a licence.

PUBLIC SUBMISSIONS

Whilst it was not a regulatory requirement, I asked for public submissions on the application. The Southern Cross Resources application documents were made available via the EPA web site and the public invited to make submissions. The EPA announced the process with a media release and a Public Notice in *The Advertiser*. The public submission period was four weeks, ending on 30 June 2006.

A total of 161 submissions were received. Fifteen submissions were received after the closing date, and these were included in this review. 46 unique or original submissions were received from individuals and organisations. 115 submissions were made via a form letter and were considered collectively.

The EPA summarised the submissions and submitted them to the Radiation Protection Committee for consideration. The Committee took the submissions into account when formulating its advice to me.

The most common issues raised were related to:

- Potential for groundwater contamination and the potential for those contaminants to move along the aquifer or escape into adjacent or overlying aquifers (18%)
- Government policy on uranium mining (12%)
- Nuclear fuel cycle (10%)
- Regulation of uranium mining (8%)
- Recommendations of the 2003 Federal Senate Select Committee inquiry into uranium mining (6%)

In considering these issues, I took into account relevant previous reviews.

The CSIRO ISL Review specifically addressed groundwater contamination and waste disposal issues. The groundwater at Honeymoon is highly saline and also contains

relatively high concentrations of radionuclides. In its untreated form it is unsuitable for human consumption, and is generally unsuitable for stock use. Not withstanding this, a monitoring program will be undertaken by the operator and overseen by the EPA. The operator will be required to implement contingency plans should there be any movement of mining fluids out of the mining area. In addition, scientific evidence indicates that any impacts of liquid wastes injected into the mining aquifer will be modified over time by natural attenuation processes. The operator will be required to investigate chemical amendments if the attenuation is slower than expected.

My assessment was a technical one against the legislative requirements, addressing whether people and the environment would be adequately protected. Uranium mining policy and the nuclear fuel cycle were outside the scope of this assessment. Public submissions in these areas were noted, but did not form part of the assessment.

The recommendations of the Federal Senate Select Committee inquiry into uranium mining have been addressed in South Australia via the CSIRO ISL Review, the Bachmann Review (that places requirements on uranium mining operators for reporting spills and incidents to the EPA), or previously in the EIS process.

For some issues raised, a response from the proponent has been sought, though these issues do not preclude a licence from being issued.

The EPA's response to each of the issues raised in the public submissions will be published via its web site.

Dr Paul Vogel
CHIEF EXECUTIVE
ENVIRONMENT PROTECTION AUTHORITY

Date:

APPENDIX A - RADIATION PROTECTION AND CONTROL ACT AND REGULATIONS

Radiation Protection and Control Act 1982

The long title of the *Radiation Protection and Control Act 1982* describes its purpose:

> *An Act to provide for the control of activities related to radioactive substances and radiation apparatus, and for protecting the environment and the health and safety of people against the harmful effects of radiation; and for other purposes.*

8—Delegation

(1) The Minister may delegate a power or function vested in or conferred on the Minister by or under this Act—
  (a) to a particular person or body; or
  (b) to the person for the time being holding or acting in a particular office or position.

(2) A power or function delegated under this section may, if the instrument of delegation so provides, be further delegated.

(3) A delegation—
  (a) may be absolute or conditional; and
  (b) does not derogate from the power of the delegator to act in a matter; and
  (c) is revocable at will by the delegator.

12—Functions of the Radiation Protection Committee

The functions of the Committee are—

(a) to advise the Minister in relation to the formulation of regulations under this Act; and

(c) to advise the Minister in relation to the granting of licences under this Act including the conditions to which they should be subject; and

(d) to investigate and report upon any other matters relevant to the administration of this Act at the request of the Minister or of its own motion.

23—General objective

(1) The Minister and the Committee must, in exercising and discharging powers, functions and duties under this Act and any other person must, in carrying on an activity related to radioactive substances or ionising radiation apparatus, endeavour to ensure that exposure of persons to ionising radiation is kept as low as reasonably achievable, social and economic factors being taken into account.

24—Licence to mine or mill radioactive ores

(1) A person must not carry out operations for the mining or milling of radioactive ores unless the operations are authorised by a licence under this section.
(2) Subsection (1) does not apply to operations of a prescribed class.
(3) Subject to this section, the Minister may, on application in the prescribed form, grant a licence under this section.
(4) The Minister must not grant a licence under this section unless satisfied that the proposed operations would comply with the regulations.

34—Minister may require information to determine applications

The Minister may, before determining an application for a licence or registration—
(a) require the applicant to furnish such further information as the Minister may require to determine the application; and
(b) require the applicant to verify by statutory declaration any information contained in, or furnished for the purposes of, the application.

35—Minister required to refer certain matters to Committee

The Minister must, before determining an application for a licence (not being a temporary licence), refer the application to the Committee for its advice and give due consideration to the advice of the Committee.

36—Conditions of authorities

(1) Subject to this section, a licence or registration is subject to—
(a) such conditions as are included in the licence or the certificate of registration at the time of grant; and
(b) such conditions as are attached to the licence or registration under this section.
(2) The Minister may, by notice in writing to the holder of a licence or registration—
(a) attach a condition to the licence or registration; or
(b) vary or revoke a condition of the licence or registration.
(3) A decision of the Minister to attach a condition to, or to vary a condition of, a licence or registration takes effect at the expiration of one month from the date on which notice is given under subsection (2), but if an application for review of the decision is made the Supreme Court may suspend the operation of the decision until the application is determined.

37—Term of licences and registration and their renewal

(1) A licence or registration will, subject to this Act, remain in force for such term as the Minister may specify in the licence or certificate of registration.
(2) The Minister must, subject to this Act, on application made in the prescribed manner and form and payment of the prescribed fee, renew a licence or registration.

(3) A licence or registration renewed under this section will, subject to this Act, remain in force for such term (being not less than twelve months) as the Minister may specify in the licence or certificate of registration.

(4) In this section—

licence does not include a temporary licence;

prescribed fee means—

(a) in relation to a licence under section 24—the annual fee payable under that section in respect of the year of the term of the licence commencing on the date of its renewal; or

(b) in any other case—the fee prescribed for renewal of the licence or registration.

Radiation Protection and Control (Ionising Radiations) Regulations 2000

Division 9—Licence to mine or mill radioactive ores

180—Prescribed form of application for licence

For the purposes of section 24(3) of the Act, the form of application for a licence is that set out in Form 9 of Schedule 5.

Schedule 5 Form 9—Application for a licence or renewal of a licence to mine or mill radioactive ore

Return to : Radiation Protection Branch
Department of Human Services
PO Box 6, Rundle Mall
ADELAIDE SA 5000

I hereby apply for a licence/renewal of a licence to mine/mill/mine and mill radioactive ores. (Strike out whatever does not apply).

1. Applicant's Name .....

2. Postal Address (for all correspondence)
.....
.....
..... Post Code.....
Phone: ..... Fax:.....

3. Address or Location of Mine or Mill
.....
.....
..... Post Code.....
Phone: ..... Fax:.....

4. Full name of Manager .....
(First Names) (Surname)

Residential Address .....
.....
..... Post Code.....
Phone: ..... Fax:.....

5. Full name of Mine Manager (if different from 4 above).
.....
(First Names) (Surname)

Residential Address .....
.....
..... Post Code.....
Phone: ..... Fax:.....

6. Full name of Mill Manager (if different from 4 above).
.....
(First Names) (Surname)

Residential Address .....
.....
..... Post Code.....
Phone: ..... Fax:.....

7. Full name of Radiation Safety Officer

.....

(First Names) (Surname)

Residential Address .....

.....

..... Post Code.....

Phone: ..... Fax:.....

ADDITIONAL INFORMATION REQUIRED

A. INITIAL APPLICATION

The following information should accompany the initial application for a licence.

For a Mine

1. Plans of the mine workings showing all existing workings, and facilities for ventilation of the mine.

2. Indication of areas in which new mine development is planned, and areas from which ore extraction is planned.

For a Mill

1. Plans of the mill showing the site, basic plant layout, location of major equipment, stockpiles, product storage areas, etc.

2. Description of the process, including flow charts and radionuclide balances for major process steps.

For the Mine or a Mill

1. Descriptions of method to limit exposures of workers and members of the public to radiation, including details of containment and control systems for controlling the release of contaminants, and details of engineering or administrative procedures designed to limit such exposures.

2. Details of radiation monitoring programs designed to determine exposures of workers and members of the public to radiation, and significant radiological effects on the environment which may result in exposure to humans, arising from the activities described in this application.

3. Details of courses of training of workers in the radiological aspects of their work, and precautions necessary to reduce unnecessary radiation exposure.

4. (a) Estimates of the quantities and indications of the chemical and physical nature of radioactive wastes to be generated;
   (b) the details of the proposed management of such wastes;
   (c) the anticipated radiation doses to workers and the critical group of members of the public and significant effects upon the environment which may result in exposure to humans, resulting from the management of the wastes;
   and
   (d) an outline of proposed methods of rehabilitating waste management facilities at the end of their design life.

B. LICENCE RENEWAL

1. At the time of licence application, or at last renewal, detailed information was requested in Section A above. Since last licence application have there been any significant changes in the information supplied?
   YES/NO
   If yes, give details.

2. Provide estimates of quantities of radioactive wastes produced since the last licence application or renewal.

Signature of applicant

Date .....

(If Company please indicate position held)

Fee Enclosed .....

EPA
South Australia

MEDIA RELEASE

ENVIRONMENT PROTECTION AUTHORITY

Licence issued to Honeymoon Uranium Project

Date; Draft

Following advice from the statutory Radiation Protection Committee, EPA Chief Executive Dr Paul Vogel has issued a licence, under the *Radiation Protection and Control Act (1982),* to Southern Cross Resources for commercial uranium mining operations at its Honeymoon site 80 km northwest of Broken Hill.

"As EPA Chief Executive, I was responsible for assessing the licence application. With the recommendation of the Radiation Protection Committee and advice from officers of the EPA Radiation Protection Division and taking into account public submissions, I determined that the application satisfied relevant legislation and that Southern Cross Resources had demonstrated that it could protect workers, the public and the environment from radiological hazards."

Dr Vogel said that the licence permits the company to mine and mill uranium by the acid in-situ leach mining technique. This technique is the same as that currently used at the Beverley uranium mine.

Dr Vogel said that a total of 161 public submissions were received regarding the licence application with many of the submissions addressing issues such as:

- contamination of aquifiers
- rehabiliation of the aquifier
- acceptability of waste re-injection

"The EPA's response to each of the issues raised in the public submissions and the basis for my decision for granting a licence will be published on our web site at www.epa.sa.gov.au," Dr Vogel said.

Contact: Briony Spragg: 8204 1984 Mobile 0434 609 394