Government of **Western Australia**
Department of **Mines and Petroleum**

GUIDANCE NOTE

Proposed small scale in situ recovery field leach test activities

Purpose

This guidance note provides information on the application requirements for proposed small scale In Situ Recovery Field Leach Testing (ISR FLT) activities for exploration.

Regulatory context

The Department of Mines and Petroleum (DMP) is responsible for ensuring the State's resources sector is developed and managed responsibly and sustainably for the benefit of all Western Australians. It is also responsible to the Minister for Mines and Petroleum for administering those Acts of Parliament relating to the exploration and development of minerals and energy resources.

DMP treats the assessment and approval processes for uranium exploration in the same way as other mineral explorations, recognising an emphasis on environmental safeguards under State and Commonwealth legislation.

Approved ISR FLT activities can only take place on exploration licence or mining lease tenure.

The key Western Australian legislation includes the:

- *Mining Act 1978;*
- *Mine Safety and Inspection Act 1994*
- *Mining Rehabilitation Fund Act 2012*
- *Environmental Protection Act 1986*
- *Radiation Safety Act 1975*

Commonwealth legislation which could apply includes the:

- *Environment Protection and Biodiversity Conservation Act 1999*
- *Nuclear Non-Proliferation (Safeguards) Act 1987*

Both Commonwealth and State legislation reflect related international protocols covering uranium mining activities, environmental impacts, radiation health, transport and export of uranium.

The legislation also recognises and promotes a culture of best practice environmental management for uranium exploration. The relevant policy benchmarks in this regard include the findings in the "Australian Government's Australia's In Situ Recovery Uranium Mining Best Practice Guide" and the recommendations in the South Australian Government's "Review of Environmental Impacts of the Acid In-situ Leach Uranium Mining Process".

Issue

There is an emerging and growing use of In Situ Recovery (ISR) in uranium exploration and mining globally. It is one of the primary methods employed to recover uranium. It is also used to recover other metals such as copper, gold and lithium. ISR is not currently used in Western Australia, but it is widely used for uranium extraction in South Australia.

Position

DMP considers that an application to use small scale ISR FLT for exploration purposes can be made under an exploration licence, providing certain conditions are imposed. These conditions relate to baseline data collection, monitoring and reporting, evidence that recovery remains within prescribed limits, materials handling and groundwater protection.

Requirements

To enable DMP to assess a proposed small scale ISR FLT activity, in addition to other standard mineral exploration requirements, DMP will require:

- a Programme of Work and Radiation Management Plan
- evidence assuring the weight of the in-ground ore body subject to in-situ recovery FLT does not exceed 5000 tonnes as prescribed in Schedule 1, Category 7 of the WA Environmental Protection Regulations 1987
- hydrogeological modelling has been conducted to the satisfaction of DMP prior to the use of any leachate solution (Noting DMP will consult with the Department of Water)
- the site is rehabilitated in accordance with DMP requirements and ground waters are restored to meet approved pre-existing water quality standards.

The Programme of Work must include details on:

- the existing water chemistry and ore body mineralogy
- what the ISR FLT is expected to deliver
- the drilling process and chemicals to be used
- groundwater and aquifer management programs
- stakeholder engagement.

In addition, the proponent may require permissions granted under Commonwealth legislation for activities associated with small scale ISR FLT, for example:

- approval of nuclear actions under Part 3, *Environment Protection and Biodiversity Conservation Act 1999*
- permits required to possess nuclear materials, establish nuclear facilities and for other activities in Part II, *Nuclear Non-Proliferation (Safeguards) Act 1987.*

On receipt of an application for a small scale ISR FLT for exploration, DMP will seek advice on the proposal from the Office of the Environmental Protection Authority, Department of Water and the Department of Environment Regulation regarding any onsite plant licencing and, the Western Australian Radiological Council regarding the licencing, storage and transport of extracted uranium samples. The small amounts of extracted test product must not be used for commercial gain and must be disposed of according to State and Commonwealth regulatory requirements.