

PARLIAMENT OF AUSTRALIA

STANDING COMMITTEE ON INDUSTRY AND RESOURCES

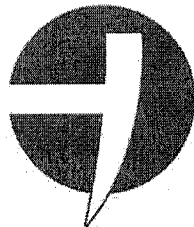
INQUIRY 2005

THE STRATEGIC IMPORTANCE OF AUSTRALIA'S URANIUM RESOURCES

SUBMISSION

BY THE

NORTHERN TERRITORY MINERALS COUNCIL (INC.)



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EXECUTIVE SUMMARY

The Northern Territory Minerals Council (Inc.) (Minerals Council) believes that the Standing Committee on Industry and resources Inquiry into "*The Strategic Importance of Australia's Uranium Resources?*" is timely in light of the change in global perception with respect to nuclear energy

In the 1970s, Australia had a large competitive edge over Canada, which has now been surrendered. Canada has developed a number of major uranium deposits in Saskatchewan and currently has a position of dominance. Development of new uranium deposits in the Northern Territory would help Australia rapidly retrieve the lost ground as well as helping to supply clean energy world wide would make a significant contribution made to the nation's and in particular the Northern Territory economy.

Exploration for uranium to date in the Northern Territory has located only the easily detected deposits. The known deposits in Rum Jungle and the Alligator River Uranium Field were readily delineated. Limited work was carried out for blind deposits, which require costly advanced deep looking techniques.

The NT Minerals Council (Inc.) sees no justification for restricting the development of further uranium mines in the Northern Territory. A clear message of support from the Commonwealth and Northern Territory Governments is required to encourage the search for new deposits within the Pine Creek Inlier as well as elsewhere in the Northern Territory.

This submission focuses on two of the main terms of reference:

- Strategic importance of Australia's uranium resources and any relevant industry developments (with particular reference to the Northern Territory) and,
- Current structure and regulatory environment of the uranium mining sector in the Northern Territory.

The NT Minerals Council (Inc.) endorses the Minerals Council of Australia's submission, which comments in detail on the remaining terms of reference of the Inquiry.

1. INTRODUCTION

1.1 The NT Minerals Council (Inc.)

The Minerals Council is an independent, industry group incorporated in 1955, under the NT Association Act, to promote and represent the views of its members, which includes mineral exploration, mining, quarrying, extractive, petroleum, service, supply and specialist consultant companies and businesses. Uranium miners and explorers are included in this membership.

Its business statement is, "To represent the Northern Territory minerals, petroleum and allied industries in the promotion of a safe, profitable and environmentally responsible industry that is internationally competitive and attuned to community expectations".

Members of the Minerals Council include all major operators in the exploration, mining and petroleum sectors in addition to pipeline operators, mine contractors, heavy earth moving companies and a wide array of service and supply businesses.

Members are responsible for 95 per cent of Northern Territory international merchandise exports. There is potential for improvement in this figure from the development of the liquefied natural gas facility near Darwin and the expansion of the alumina refinery at Nhulunbuy.

1.2 Key Issues for the Resource Industry in the Northern Territory

The Northern Territory minerals and petroleum industry is diverse and export oriented, technologically advanced, capital intensive and high risk-high reward characterised. Arguably, it is the Territory's most global industry, externally integrated and heavily reliant upon international markets. Government policy can have a significant impact on the probability and the cost of discovery.

The minerals industry, including uranium mining, is the major contributor to the economy, yet more mines are closing than opening and exploration expenditure is decreasing year by year. Mineral exploration expenditure dropped from approximately \$98 million in 1991 to \$48 million in the 2002/2003 year and under half of this amount was spent on green field exploration. In the last five years nine mines have closed and only one new mine has opened.

Over the last five to ten years, the minerals industry has experienced significant changes in its structure with rationalisation accelerating as a consequence of global consolidation of the resource sector.

The critical issue for the resource industry in the Northern Territory, however, is that of access to land for exploration and mineral and petroleum development. Access to a significant part of the Territory is regulated by the Commonwealth's Aboriginal Land Rights (NT) Act 1976 (ALRA) and the remainder is subject to the Commonwealth's Native Title Act 1994. Both pieces of legislation are complex. ALRA has been the subject of many and various reviews during its 25 year history. Amendments are proposed, which should provide improvements and positive outcomes for all stakeholders.

2. ECONOMIC POTENTIAL FOR URANIUM IN THE NORTHERN TERRITORY

The Northern Territory contains a variety of small to very large uranium deposits that have produced over 0.95 million tonnes of U_3O_8 in the last 30 years. Current resources for the Northern Territory are estimated at 0.3 million tonnes of U_3O_8 . There is currently one operating mine, Ranger

Uranium past production and current resource statistics for the Northern Territory are dominated by large unconformity-related deposits in the eastern Pine Creek Orogen. Smaller Westmoreland-type deposits (eg Eva) are present in the eastern McArthur Basin. Sandstone (Roll-front)-hosted deposits are present in the Ngalia (eg Bigrlyi) and Amadeus (eg Angela) basins. Small vein-type deposits in the Pine Creek Orogen (eg Adelaide River) have been mined in the past.

Other areas considered prospective for unconformity-related deposits that could be considered prospective exist in the Ashburton and Davenport Provinces, Tanami Region and on the margins of the Murphy Inlier.

Uranium occurrences in the Northern Territory can be grouped into four types: Proterozoic unconformity-related; vein-like; Westmoreland-type; and, sandstone-type. Almost all mined deposits, and most of the currently known resources, are Proterozoic unconformity-related and occur within Palaeoproterozoic rocks of the Pine Creek Orogen, near the unconformity with overlying platform cover sandstone of the McArthur Basin or Birrindudu Basin.

Deposits vary in size from a few tonnes to more than 100 000 tonnes contained U_3O_8 . Large unconformity deposits of this type in the Alligator Rivers Region Uranium Field account for 96% of past production and 95% of known resources in the NT. As well as uranium, these deposits can contain economic quantities of gold, platinum and palladium (eg Coronation Hill). Unconformity-related uranium deposits are the main exploration target in the Northern Territory, because of the potential for large-tonnage, low- to medium-grade resources. However, a significant proportion of the most prospective area is included within the boundaries of Kakadu National Park.

Vein-like deposits are small and generally contain less than a few hundred tonnes U_3O_8 . Most occur in Palaeoproterozoic rocks of the Pine Creek Orogen, although occurrences are also known in the Tennant Region and Arunta Region. Past production was limited to small-scale mining operations in the 1950s and 1960s and this type of deposit does not contribute significantly to resources in the NT. These small vein-like deposits do not currently represent an exploration target in the NT.

Westmoreland-type deposits occur within the lower McArthur Basin succession on the northern side of the Murphy Inlier adjacent to the Queensland border. Production from two small operations in the 1960s totaled 35 tonnes U_3O_8 . The largest deposits of this

type are found in Queensland, and occur where dolerite dykes cross-cut sandstone. Small occurrences of uranium mineralisation occur in similar geological settings in Katherine River Group rocks near the western margin of the McArthur Basin and appear to be formed by similar processes. However, Westmoreland-type deposits are not considered important targets for uranium in the NT because of their limited size.

Sandstone-type deposits are restricted to Palaeozoic (Devonian/Carboniferous), continental red-bed sedimentary successions in the Ngalia and Amadeus basins. This type of deposit represents 5% of uranium resources in the Northern Territory, but deposits are not large enough to be considered economic at this time. Uranium mineralisation occurs at a redox boundary that formed either by flushing of oxidising ground waters through reduced sandstone beds (Amadeus Basin deposits), or by interaction with detrital organic matter (Ngalia Basin deposits). Angela in the Amadeus Basin is the largest deposit of this type and contains 10 250 tonnes U_3O_8 grading 0.1% U_3O_8 . Further exploration for sandstone-type deposits in the NT is limited, because they occur in specific rock units that were extensively investigated during the 1970s.

Surficial (calcrete) and metasomatite/intrusive-type uranium occurrences are also known in the Northern Territory, but are not large enough to generate much exploration interest.

The Alligator Rivers Region is recognised as a world class mineral province. The Jabiluka, Ranger, Nabarlek and Koongarra deposits were discovered in the short, but intensive period of exploration commencing in the late 1960s. A number of other prospects were discovered also during this time.

The potential for undiscovered is high. Only 20 per cent to 25 per cent of the prospective rock units has been effectively explored because superficial cover has masked any potential airborne anomalies.

Detailed ground investigations led to the discovery of a minor deposit (Jabiluka One ore body) and subsequent discovery of the massive Jabiluka Two ore body. Many such undiscovered ore bodies could exist and various predications have placed the undiscovered potential within the region at between \$35 to \$100 billion in 1986 terms, which would be substantially more in today's terms.

3 CURRENT STRUCTURES AND REGULATORY ENVIRONMENT OF THE URANIUM MINING SECTOR IN THE NT

Uranium mining in the Northern Territory is highly regulated. The main statutory requirements for the minerals industry in the area of environmental assessment and regulation in the Northern Territory are incorporated in the Mining Management Act, Mining Act, Environmental Assessment Act, Water Act, waste management and Pollution Control Act, Weeds Management Act and the Environmental Penalties and Offences Act. A detailed description of these Acts is included in Appendix One.

In the Northern Territory, the minerals industry's approach to environmental management is governed by an overriding global focus on sustainability, which includes continuous improvement of performance, strengthening relationships and partnerships and demonstrating integrity and commitment.

In the Territory, many of the resident companies have adopted a number of initiatives to support the global sustainability commitment. These include: environmental health and safety policies that advocate excellence in environmental performance through continuous improvement of awareness, understanding and performance; and ISO 14001 certification, an internationally recognised standard for environmental management systems. The Ranger and GEMCO mines have achieved ISO 14001 certification and Alcan Gove is currently awaiting official notification following a successful certification audit; companies undertake annual public reporting on the environmental, health and safety performance of operations; and, all major operators in the Territory are signatories to the Minerals Industry Code for Sustainable Development, *Enduring Value*.

Unlike the States, ownership of uranium in the Northern Territory is vested in the Commonwealth Atomic Energy Act 1953. The Alligator Rivers Region (ARR) of the Northern Territory is the location of the Nabarlek Mine (decommissioned and rehabilitated), the Ranger Uranium Mine and the Jabiluka and Koongarra ore bodies. All these ore bodies are located on Aboriginal freehold land.

Control of exploration for uranium and other minerals in the Northern Territory is disjointed and determined according to the status of the land, that is:

- Exploration on land vested in the Northern Territory is controlled by the Northern Territory under the NT Mining Act; and,
- Exploration on Aboriginal freehold land requires the consent of the federal Minister for Aboriginal and Torres Strait islander affairs pursuant to the Commonwealth Aboriginal Land Rights (NT) 1976. Once consent is obtained, the procedures of the NT Mining act apply;

Special arrangements for environmental protection of the ARR exist including the establishment of the Office of the Supervising Scientist (OSS) under the Commonwealth Environmental Protection (Alligators Rivers Region) Act 1978. Uranium mining in the ARR and the functions of the OSS have been subject to two major enquiries in recent times: the Review of the Office of the Supervising Scientist (the Taylor Review) in 1989; and, the report by the Industry Commission on Mining and Minerals Processing in Australia (IC Report) in 1991. The Commonwealth Government addressed the findings of these reviews by implementing various administrative procedures and management structures including the Northern Territory to retain the day to day regulation of mining in the ARR.

The NT Mining Act controls the exploration for uranium and the NT Mining Management Act controls the operational aspects of uranium mining including environmental, health and safety aspects. The NT Mining Management Act incorporates Commonwealth codes of practice relating to radiation protection, waste management and transport of radioactive materials.

When uranium is mined on Aboriginal land, royalty equivalents are paid to the Aboriginal Benefits trust account in accordance with section 63 of the Aboriginal Land Rights (NT) Act 1976. The royalties are received by the Commonwealth before equivalents are paid from the consolidated revenue fund to the Trust account. The royalties for other minerals mined on Aboriginal land in the Northern Territory are paid to the Northern Territory. Equivalent amounts of these royalties are paid by the Commonwealth to the Trust account, also in accordance with section 63.

APPENDIX ONE – NORTHERN TERRITORY MINING INDUSTRY REGULATION

The main statutory requirements for the minerals industry in the area of environmental assessment and regulation in the Territory are as follows.

Mining Management Act

The Mining Management Act (2001) came into force on 1st January 2002 and applies to all mining, extractive, quarries and exploration licence areas in the Territory. Compliance with this legislation is usually through an ongoing integrated approach to all business management activities on a project or site including environment, health and safety. Authorisations to operate are issued to companies in accordance with the requirements of this Act.

Mining Act

This Act governs exploration for and production of minerals. 'Mining' means all methods of extracting minerals or extractive minerals by underground, surface or open cut workings. Mining tenements available under the Act include: exploration licences; exploration retention licences; mineral leases; mineral claims; extractive mineral leases; and extractive mineral permits.

The Mining Act provides that all mining tenements may be made subject to specific conditions dealing with the protection of, or minimisation of disturbance of, the environment. This may include Aboriginal heritage areas and objects.

Environmental Assessment Act

The Environmental Assessment Act (1982) and the Environmental; Assessment Administrative Procedures (1984) under which the act is implemented, form the basis of the Territory environmental; assessment processes. The primary purpose of the assessment process is to provide for appropriate examination of proposed new projects and significant changes to existing projects that may cause significant environmental impact.

Water Act

A water extraction licence under the provisions of the Water Act applies to the use of groundwater as a water supply. The licence requires regular reporting of aquifer status. A wastewater discharge licence is granted under the provisions of the Act usually after the declaration of a beneficial use of the recipient water body.

Waste Management and Pollution Control Act

The Waste Management and Pollution Control Act came into force on 1st February 1999. While the Act does not apply to mineral leases and exploration tenements, it covers all associated activities of the minerals industry off-lease.

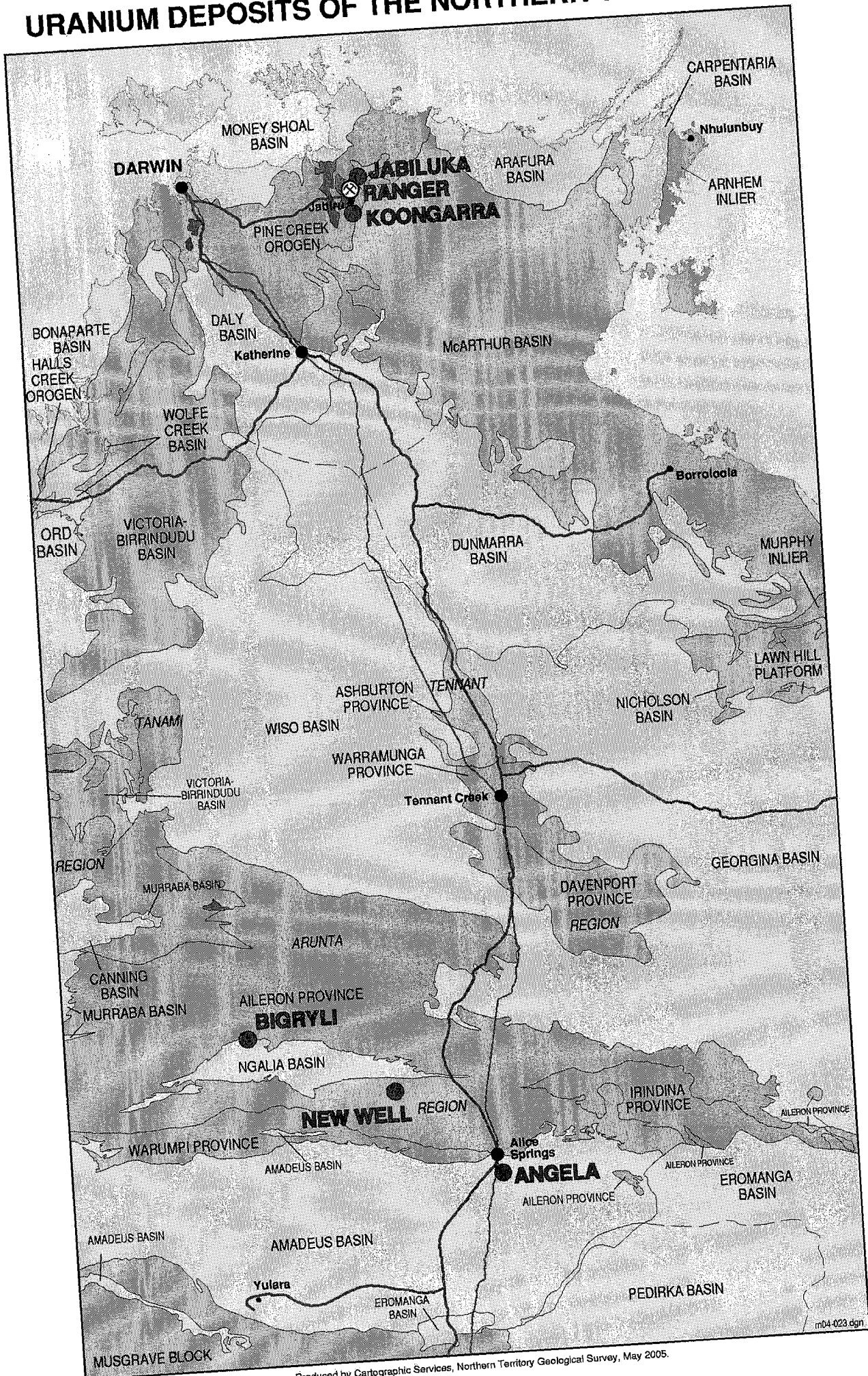
Environmental Offences and Penalties Act

This Act establishes penalties for certain offences relating to the protection of the environment, and for related purposes.

Weeds Management Act

The purpose of this Act is to prevent the spread of weeds in, into and out of the Northern Territory and to ensure that the management of weeds is an integral component of land management in accordance with the Northern Territory Weeds Management Strategy 1996 - 2005 or any other strategy adopted to control weeds in the Territory; to ensure there is community consultation in the creation of weed management plans; and, to ensure that there is community responsibility in implementing weed management plans.

URANIUM DEPOSITS OF THE NORTHERN TERRITORY



Produced by Cartographic Services, Northern Territory Geological Survey, May 2005.

- Younger basins
- Central Australian Platform Cover
- North Australian Platform Cover
- Orogenic Domains
- Archaean Basement Inliers

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