



Mining in the Northern Territory: Evolution of Regulation

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History of Northern Territory mining legislation with reference to uranium

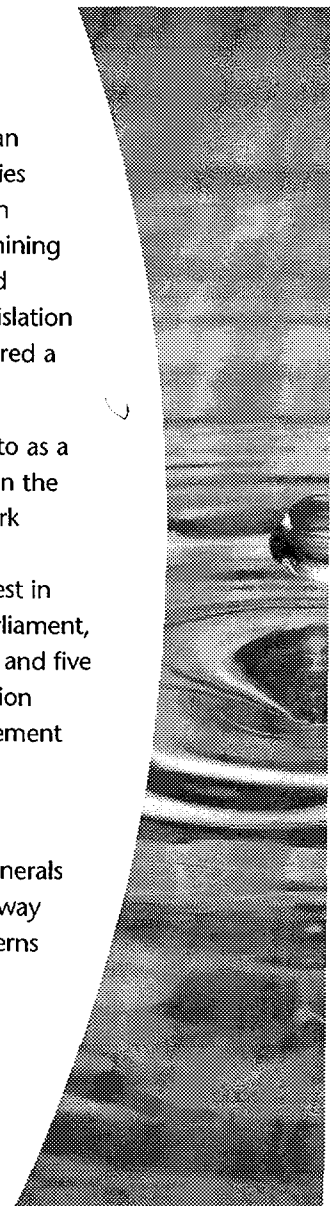
The Northern Territory (NT) was administered by the Commonwealth Government until 1978, when it was granted self-government. At self government, the Commonwealth reserved certain 'state' powers for itself, including powers in relation to uranium mining, National Parks and the power to disallow NT legislation. The new NT administration considered the issue of approval for new uranium mining projects to be fundamental to the NTs economic wellbeing. Furthermore, the environmental condition of abandoned uranium mines, which had operated under Commonwealth jurisdiction, was a concern to the new government and they demanded rehabilitation funding.

The history of uranium mining started with the Rum Jungle deposits in 1949, although the presence of uranium secondaries had been noted there over fifty years earlier. This commenced the first phase of uranium exploration, which lasted some ten years and included the Rum Jungle/Adelaide River area, the South Alligator valley, the McArthur Basin and Pandanus Creek. In 1953 the Minerals Acquisition Act was passed and all minerals became the property of the Crown. The Rum Jungle uranium field was declared a restricted area under the provisions of the Defence (Special Undertakings) Act. All mining operations in the area were managed by Territory Enterprises Pty Ltd, a wholly owned subsidiary of CRA Ltd, on behalf of the Australian Atomic Energy Commission (now known as ANSTO). The second phase of uranium discoveries commenced in the late 1960s and led to the discovery of the world class uranium deposits in the Alligator Rivers Region. This exploration phase was short-lived and by November 1973 mining companies were told that those parts of their exploration licences that may become parkland (Kakadu) would not be renewed, but fresh licences would be granted once the NT Parks legislation became law. In October 1974, the Australian Atomic Energy Commission compulsorily acquired a 50% interest in the Ranger project.

After 4 June 1976, all mining titles or other interests in Aboriginal land became subject to veto as a result of the Aboriginal Land Rights (NT) Act. Apart from minor exploration which occurred in the following years at Ranger 68 and Coronation Hill, there has been virtually no exploration work conducted on what Deputy Prime Minister Doug Anthony then called 'the world's largest uncommitted uranium province'. Major uranium companies have retained an ongoing interest in Western Arnhem Land. By 1980, the Supervising Scientist, in his second annual report to parliament, listed 26 Commonwealth Acts and Regulations, 138 Northern Territory Acts and Regulations and five Agreements as being "prescribed instruments" for the purposes of the Environmental Protection (Alligator Rivers Region) Act. This has meant that it has been virtually impossible to get agreement on further uranium developments since that time.

The present Northern Territory mining industry

Mining is still the NTs largest industry sector and increased exploration and investment in minerals is vital to underpin its future economic growth. Mining is and always has been a part of the way of life and major contributor to the economic prosperity of the NT, but there are some concerns that this should not be taken for granted in the future. Using the most recent



Australian Bureau of Statistics figures, minerals and petroleum accounted for about 17.7% of NT Gross State Product in 1999-2000. This does not include alumina production of about \$431 million. In 1999-2000, the value of production for minerals and petroleum totalled \$2.86 billion, which is significantly more than 1998-99 figure of \$1.31 billion. The petroleum industry contributed around half of the 1999-2000 total. Extractive minerals contributed around \$A54 million to 1999-2000s total value of minerals production and this is a good indicator of the health of the building and infrastructure industry.

In 1999-2000, 3,671 people were employed in mining, quarrying, extractive and exploration activities in the NT. Salary and wages for could exceed \$A220 million. A large portion of this will be injected back into the NT economy by way of consumer spending. However, there is still a large component of fly in/fly out workers (particularly in the oil and gas industry) who spend their earnings elsewhere.

Northern Territory minerals potential

The NTs foundations were laid on the discovery and development of minerals. Production values for past years emphasise the significant role minerals have played in the NTs economic, social and political growth. Indeed, the towns of Bachelor, Nhulunbuy, Jabiru, Pine Creek, Tennant Creek and Alyangula owe their existence to the development of minerals. Declining world commodity prices have been met with some notable closure of NT mines, particularly Mount Todd, Rustler's Roost, Woodcutters and mines in the Tennant Creek field. Most of the remaining mines have responded to the challenge by increasing throughput and raising the head grade. Both of these responses shorten mine life and several other projects have announced their imminent closure. The backbone of the NT minerals industry consists of four world-class ore bodies—namely bauxite at Gove, manganese at Groote Eylandt, uranium at Jabiru and lead-zinc concentrate at McArthur River. These four mines accounted for two thirds (\$A623.7 million) of the value of minerals production in 1999-2000.

Exploration

The uncertainty of Government process and decreasing world commodity prices has impacted negatively on exploration expenditure. Australian mining companies are now concentrating around 40% of their exploration expenditure overseas with predictions that this proportion will increase. Despite this trend, exploration expenditure in Australia is still increasing overall, however the NT is noticeably being bypassed. It is no secret that the rate at which major new mines are being discovered in Australia has declined over the past decade. The NT minerals industry is still living off the results of past exploration and interestingly enough, the mines that resulted from this may be the only ones which will survive the next decade (Table 1).

Impediments to exploration have become so serious that they now threaten the long-term continuity of the mining industry. With the possible exception of the Browns prospect at Rum Jungle, no world class ore bodies have been discovered in the NT since Jabiluka in 1973. There is typically a long lead-time between the discovery of large deposits and their development and there is very real possibility that the existing large mines will be exhausted before any major new deposits are found, proven up and brought into production.

Table 1. Life expectancy of major Northern Territory mines

Mine	Date discovered	Projected life
McArthur River	1955	2005-2015
Nabalco	1957	2030
GEMCO	1962	2032
Ranger	1970	2008
Jabiluka	1973	2028

It is a harsh reality that the minerals industry is at the mercy of world market forces. In 1999-2000 gold production accounted for 26.7% (\$A326.5 million) of NT minerals production, and is currently dominated by several relatively short life mines. The outlook for the Tennant Creek area is of particular concern as the main mines have closed and the workers have now moved elsewhere. Despite some interesting exploration results, there are no significant gold projects being planned for the near future in the NT to replace the existing mines. Northern Territory minerals exploration expenditure totalled some \$A57.5million in 1999-2000. Much of the expenditure occurs on secure titles adjacent to existing mills known as brownfields exploration. Major new mines are most likely to result from greenfields exploration. It is of concern that three quarters of greenfields expenditure was accounted for by just 10 exploration companies. Furthermore, it should be borne in mind that most of the brownfields expenditure occurred at only five mine sites.

The NT accounted for only 8.5% of the \$6.8 billion spent on exploration in Australia in 1999-00. This is despite expert geological opinion that the NT lies in world class geological terrain and is far more prospective than exploration to date suggests. Discovery is intrinsically linked to the level of exploration and the NT has become unattractive to explorers. It is critical that these reasons are explored and corrected, if possible.

Obstacles to be overcome

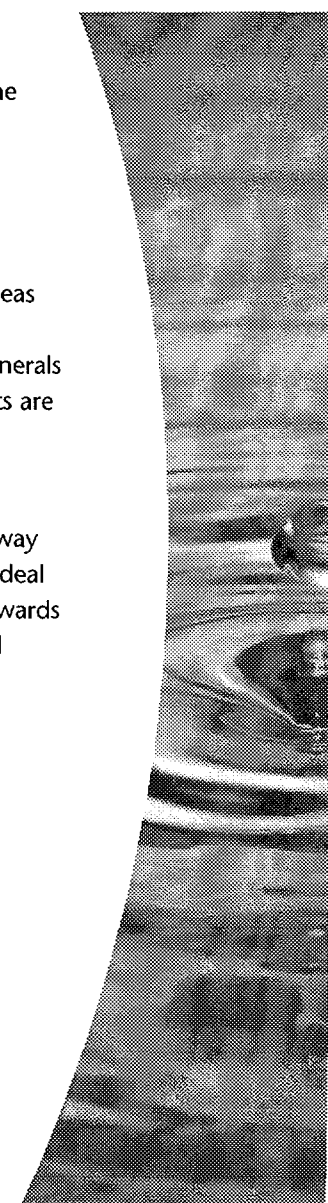
The hurdles being erected by all Governments to exploration, mining and downstream processing are becoming harder to jump. The complexities of government process have created uncertainty and a sometimes hostile regulatory environment. Solutions will only come from goodwill and cooperation between industry, Government (Federal, State and Local) and key stakeholders. The NT minerals industry has been particularly hard hit by Commonwealth Government policies. These have resulted, amongst other things, in the cancellation of the Coronation Hill mine, the deferral (for 30 years so far) of the Jabiluka and Koongarra mines, and the virtual sterilisation of some 50% of the NT from exploration. Land access has become difficult in the NT compared to the rest of Australia, and clearly we must try to resolve this impasse as Aboriginal participation is essential to the future of a viable minerals industry.

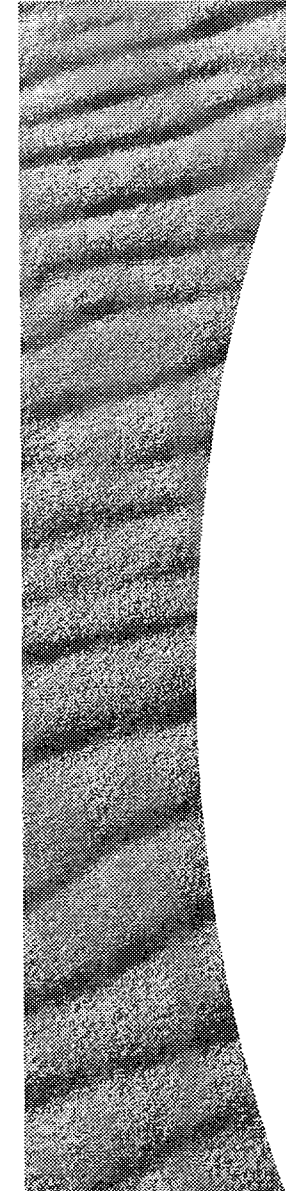
The industry's response to the restrictive exploration environment and complicated approval process in the NT has been to shift emphasis from greenfields exploration to brownfields developments, where approvals have already been given or to move exploration effort overseas where Government processes may be more certain and less costly. Remoteness and lack of infrastructure typically associated with the NT are not necessarily seen as impediments to minerals development, as they can be factored into the overall project costs. Most of the impediments are not within the capacity of the NT Department of Mines and Energy to resolve alone.

Modern regulatory process

It is widely recognised that heavy-handed regulatory systems are not a particularly effective way to achieve best practice outcomes – a more holistic approach to regulation is required. The ideal situation is to have Government and industry jointly setting goals and reviewing progress towards those goals. The NT Government is shifting away from the traditional command and control prescriptive style regulation, to self-regulation with its increased emphasis on company responsibility. Benchmarking in the areas of environment, health and safety are key steps in this shift.

In April 1997 the NT Government approved a review of the NT Mining Act and Mine Management Act to address changes necessary for the move toward self-regulation. The new legislation, the Mining Management Act 2001, was passed in July 2001 and it focusses on the issue of a licence or authorisation to operate with the provision of environmental management plans by operators





being central to individual developments. Financial securities to ensure rehabilitation upon mine closure are also an integral part of the legislative process as is an increase of powers to deal with environmental offenders. There are four levels of environmental offences ranging from the most serious (level 1) to the least serious (level 4). A level 1 offence carries individual penalties of up to \$A250,000 and/or imprisonment and corporate penalties of up to \$A1.25 million.

Planning for better environmental performance

It is now a requirement of Government to require planning as an integral part of an operation through the whole life cycle of a mine. On the environmental side, the requirement of a pre-mining environmental impact assessment has long been normal practice in the NT and elsewhere in Australia. This approach dates from the mid seventies and contains some elements of best practice. In 1997 the concept of mining and environmental management plans (MEMPs) was initiated to incorporate planning principles into the operational phase of mining. A MEMP details the work which will be carried out in the next period, usually one year, both in terms of environmental practice and health and safety. A MEMP does not by itself mean that an operation will achieve a high level of performance, but its implementation provides a structured and systematic tool that can contribute to optimal outcomes for all parties. Ideally a MEMP should evolve from the pre-mining assessment process picking up environmental objectives from this process with which to compare later performance. A MEMP lends itself to the philosophy of continuing improvement through goal setting and audit and transparency of process is guaranteed if the MEMP is subsequently made public.

With the assistance of industry the Government is also developing audit based management practices. Auditing of environmental management systems on mineral operations in the NT was another move towards adopting best practice principles and a part of the general move towards self-regulation. System audits provide a systematic documented alternative to the traditional command and control style of mines inspectors and provide the missing link of independent oversight of management. By contrast, policing of standards is both expensive and reactive and does not necessarily lead to improved outcomes. Management system auditing, being outcome oriented, has a much broader focus than an inspectorial approach. Audits check for both the existence and the linkage between policy, planning, implementation and operation, checking and corrective action and management review. This is the cycle of continuing improvement. The audit process has been positively received by the minerals industry and 25 NT mines produce regular environmental management plans. Over 170 comprehensive audits have been conducted by the NT Department of Mines and Energy in the last two years. These audits are providing feedback to the industry on how they perform against best practice standards and presenting clear direction on Government requirements.

Occupational health and safety systems

On the occupational health and safety (OH&S) side the NT has a consistently good safety record in comparison to the other states with a lost time injury frequency rate of 8.5 in 1999-2000. This compares to 25.2 in 1990-91. However, there is no room for complacency. The lost time duration rate is increasing (8.4 in 1992-93 compared to 14.7 in 1999-2000), indicating that while less serious incidents are being managed successfully, there is an underlying rate of serious accidents to be addressed. By developing a safety culture in the workplace and improving management, many of these injuries can be reduced.

The Government is gradually extending its formal audit process to encompass health and safety systems management. In the last year, eighteen comprehensive OH&S audits have been carried out at major mines and 132 audits of smaller operations. Nine OH&S audits have been conducted on larger mines. It is expected that this direction will positively impact on the minerals industry's safety performance. In both the environment and health and safety, there is a more proactive focus on analysing critical incidents, namely those that may not have caused a serious injury or

environmental damage, but have the potential to do so. In this way the cause can be tackled before it becomes a fatality or an environmental issue. This information can then be passed to other mine sites locally and nationally to help formulate a picture of key areas to address.

Adopting new practices and processes takes considerable time and commitment. The NTs large minerals operations have the personnel and the systems which they are using to endeavour to reach best practice in mining operations and environmental, health and safety practice.

However, smaller operations do not have the luxury of full time staff to comprehensively cover these areas. To address this the NT Department of Mines and Energy is placing more emphasis on ensuring that small operators are aware of their obligations and that they target improvement in these areas. This is being primarily done through audits and inspections.

Summary

In essence, the partnership between the NT Department of Mines and Energy and the NT minerals industry is adopting a proactive approach as it travels the road to self-regulation. The key to self-regulation's success is communication. It is imperative that the industry has non-bureaucratic forums for openly discussing future directions. A number of Government initiatives including industry workshops, recognition awards, mine rescue competitions and newsletters have been implemented to improve communication.

Whilst strong partnerships are being forged within the minerals industry there is undisputedly a need for better relationships outside the industry. By taking a reactive stance, the industry has allowed minority lobby groups to empower themselves and influence public opinion largely through misinformation. The industry needs to be more unified and proactive in rectifying its perceived poor reputation on the environment and safety and in educating the community to the vital role minerals play in their lifestyles. Unequivocal community support for mining will only come from responsible mining and advertising its positive achievements.

