



**Comments on the South Australian Department of State Development Mining Acts
Review – March 2017**

Overview:

The Australian Conservation Foundation (ACF) is committed to inspiring people to achieve a healthy environment for all Australians. For five decades, we have been a strong voice for the environment, promoting solutions through research, consultation, education and partnerships. We work with the community, business and government to protect, restore and sustain our environment.

ACF welcomes this opportunity to comment. Our comments will be focussed around the implications for South Australia's uranium sector as we have a long and continuing interest and active engagement with the uranium sector in South Australia and throughout Australia. The uranium sector remains controversial, contested and characterised by underperformance and regulatory non-compliance. In ACF's view the sector is in urgent need of regulatory reform and requires dedicated attention in this Review process.

ACF notes the unresolved concerns raised about the performance of the Australian uranium industry by a 2003 Senate Inquiry which found the sector characterised by a pattern of underperformance and non-compliance, an absence of reliable data to measure the extent of contamination or its impact on the environment, an operational culture that gives greater weight to short term considerations than long term environmental protection and which concluded that changes were necessary in order to protect the environment and its inhabitants from 'serious or irreversible damage.'¹

Uranium mining is a controversial and contaminating industrial activity that poses serious, continuing and unresolved problems. Unresolved concerns over site specific contamination, tailings management, radioactive waste and nuclear proliferation mean that the Australian uranium sector fails any measured sustainability assessment. It produces some of the most hazardous and long lived industrial wastes – the management of which remains an unresolved issue, despite seven decades of research, funding and promises – and is the primary fuel for deadly weapons of indiscriminate destruction.

Uranium mining's poor track record:

The uranium mining industry in Australia has a record of failed standards, radioactive leaks and spills, unresolved long-lived radioactive waste problems, disproportionate impacts on traditional owners and health and safety risks for workers – including incidents of uranium in the drinking water at two of the operating uranium mines.

¹Senate ECITA Committee: Regulating the Ranger, Jabiluka, Beverley and Honeymoon uranium mines, October 2003, p. iv.



A 2003 Senate Inquiry (*Regulating the Ranger, Jabiluka, Beverley and Honeymoon uranium mines*, Senate ECITA References Committee, October 2003) into uranium mining found an industry characterised by operational underperformance and regulatory non-compliance. It further found an absence of reliable data on which to measure the extent of contamination or uranium mining's impact on the environment.

Domestic and international radiation protection, regulatory and nuclear safeguard regimes remain under-resourced and under-performing. The 2003 Senate Inquiry found "*a pattern of underperformance and non-compliance*" and concluded "*that changes were necessary in order to protect the environment and its inhabitants from serious or irreversible damage.*"

Radioactive waste and uranium mine site rehabilitation:

Uranium is a unique mineral and uranium mining and processing poses significant challenges and risks, both now and long into the future.

One particular area of concern is the long term management of hazardous uranium tailings. All uranium mining operations produce large volumes of long lived radioactive wastes (tailings) which need to be contained and controlled on site in order to reduce polluting groundwater. These tailings contain around 80% of the radioactivity of the original ore body and, post mining, are far more bio-available and mobile.

Tailings pose a long term human and environmental hazard and an earlier Senate inquiry into the uranium sector viewed "tailings management as amongst the most serious challenges facing uranium miners and, indeed, the entire nuclear energy industry in the future. It will also continue to be a major preoccupation for regulators and scientists as well"².

Australia's longest running uranium mine, Energy Resources of Australia's Ranger mine in Kakadu in the Northern Territory, is required to ensure that:

- (i) the tailings are physically isolated from the environment for at least 10,000 years;
- (ii) any contaminants arising from the tailings will not result in any detrimental environmental impacts for at least 10,000 years³.

ACF doubts that the corporate and political capacity and longevity exists to meet these requirements but welcomes the recognition given to the seriousness and long term nature of the threats posed by uranium mining operations and views this as an industry benchmark. This ten thousand year standard should be a requirement for operations at all current and any future uranium operations in any Australian jurisdiction, including Olympic Dam.

In situ leach uranium operations in SA have and do discharge liquid radioactive mine wastes to groundwater. There is no requirement – and the miner has no capacity – to rehabilitate the area from the impacts its acid leach uranium mining methods have on groundwater

²Uranium Mining and Milling in Australia - Report of the Senate Select Committee on Uranium Mining and Milling, May 1997 p.63

³ Ranger uranium mine – Environmental Requirements



systems. BHP Billiton's Olympic Dam mine in SA plans to create the world's largest radioactive tailings pile without any credible plan to contain this waste for the thousands of years it will remain hazardous. Olympic Dam is also one of the largest industrial users of underground water in the southern hemisphere – in the driest state of the world's driest continent.

The legal exemptions provided to BHP Billiton under the Roxby Downs Indenture (Ratification) Act, 1982 are a deep concern to ACF and are inconsistent with best regulatory practice. This concern is increased given the lack of demonstrated rehabilitation financial provision at Olympic Dam. It was confirmed in response to September 2016 federal Parliament questioning that there "are no bonds held at the Commonwealth or state level in relation to the Olympic Dam project" - this is simply untenable.

There is a history of sub-standard mine rehabilitation in the Australian uranium sector and an urgent need to address the long-term impacts of the Australian uranium sector in a way that does not allow cost shifting from mining companies to the public purse.

Critical evaluation of the rehabilitation of abandoned mines and mill tailings highlights the need for concerted efforts at the legislative level to address the issues of sub-standard rehabilitation and poor post closure monitoring and mitigation across the Australian uranium sector.

Disproportionate impact on Indigenous communities:

ACF notes the Review rationale speaks of delivering economic and social benefit to Traditional Owners. Indigenous communities in Australia continue to bear the greatest share of the adverse environmental and social impacts of uranium mining operations. A European Commission report into uranium mining has found that '70% of the World's uranium resources are located beneath lands inhabited by indigenous peoples⁴ and this situation is reflected in Australia.

Indigenous communities should have the right of informed consent as an effective right of veto over uranium mining and be provided with a proper consultation process, such as those specified under the *Aboriginal Lands Rights Act (Northern Territory) 1976* for any uranium exploration or mining application. Assent to exploration should not be taken as approval to subsequent mining (these should be separate processes) and there should be no disadvantage to communities that reject proposed native title mining agreements.

Systemic Aboriginal disadvantage has not been addressed by mining operations and most mining agreements have failed to deliver lasting benefits to Indigenous communities. A dedicated Inquiry should examine and address this continuing failure.

Indigenous people's ability to exercise full, free, prior and informed consent and effective input into the activities of mining operations on their traditional lands is compromised by

⁴ European Commission JRC report, *Towards a sustainable front-end of nuclear energy systems*, 2009, p. 8



severe capacity and procedural constraints. The legal and approvals framework should be changed to address this power imbalance.

Mining agreements and resource developments can never be a substitute for the effective provision of fundamental citizenship entitlements.

Radiation health problems:

It is ACF's view that uranium is the asbestos of the 21st Century.

Exposure to uranium and other radioactive materials has been directly linked with cancer, genetic damage and serious and adverse personal and inter-generational health impacts.

Proponents of the uranium sector, like promoters of asbestos and tobacco, sometimes seek to downplay the severity of these impacts. These have in part been hidden and made more complicated by the long lag times prior to the manifestation of illness, the highly mobile nature of the past and present workforce and inadequate data sets, including historical deficiencies with Australia's fledgling national radiation workers register. A further compounding factor has been and remains the high level of regulatory capture, the lack of independent radiation safety officers and advisors and the fact that regulatory programs are inherently reactive and change in response to adverse events that have already occurred.

There is a growing international medical and scientific consensus of the risks of radiation exposure and a consistent and continuing downward trend in permissible exposure levels.

The resolution of the International Physicians for the Prevention of Nuclear War's (IPPNW) 2010 Basel Congress concluded that:

Uranium ore mining and the production of uranium oxide (yellowcake) are irresponsible and represent a grave threat to health and to the environment. Both processes involve an elementary violation of human rights and their use lead to an incalculable risk for world peace and an obstacle to nuclear disarmament.

The International Council of IPPNW therefore resolves that: IPPNW call for appropriate measures to ban uranium mining worldwide.

This unequivocal position from a highly regarded medical body demonstrates a strengthening of international expert concern about the human health and wider adverse impacts of uranium mining.

Further detail on the Basel resolution is available at: http://www.nuclear-risks.org/fileadmin/user_upload/pdfs/Resolution_Uranium_ban_final.pdf

Need for wider sector review:

ACF welcomes this opportunity to outline the need for improved regulatory attention and scrutiny of the uranium sector. One of the glaring gaps in relation to Australia's uranium



trade is the repeated lack – across all jurisdictions - of whole of life cycle impacts and downstream use and consequence. The repeated prioritisation of rhetoric above review and assurance above analysis is a profound and continuing failure and a key contributor to the uranium and wider nuclear industry lack of widespread social licence and community confidence.

It is now forty years since the Ranger Uranium Environment Inquiry (the Fox Report) which gave conditional approval to the staged development of the Australian uranium industry. The lack of independent scrutiny given to the uranium sector since – including the scant federal government attention to the disturbing findings of the 2003 Senate examination into the adequacy of uranium regulation – remains a deep concern.

There is a growing body of domestic and international evidence that supports the call for a dedicated public inquiry into the full suite of issues raised by the mining, processing and export of uranium. These include:

- i. Senate ECITA Committee: *Regulating the Ranger, Jabiluka, Beverley and Honeymoon uranium mines*, October 2003
- ii. European Commission JRC report, *Towards a sustainable front-end of nuclear energy systems*, 2009
- iii. Austrian Institute for Ecology and the City of Vienna initiative, *Uranium mining in and for Europe*, 2012
- iv. International Physicians for the Prevention of Nuclear War, *Basel resolution*, 2010
- v. Senate Select Committee on Uranium Mining and Milling, *Uranium Mining and Milling in Australia*, May 1997
- vi. UN Secretary General, *United Nations system-wide study on the implications of the accident at the Fukushima Daiichi nuclear power plant*, September, 2011

The above reports and agencies are some of those who support the consistent calls for Australian civil society groups for a comprehensive assessment of the costs and benefits uranium sector in all Australian jurisdictions.

Key conclusions for the DSD Review process:

- The uranium sector remains controversial and contested. It is characterised by underperformance and regulatory non-compliance and is in urgent need of regulatory reform. In this matter ACF supports the suite of recommendations suggested by environmental consultant Mr David Noonan in his detailed submission to the DSD Review process. We urge the Review to fully consider and implement these clear recommendations.



- ACF maintains that the Review should support the detailed recommendations outlined in Mr Noonan's submission to best realise the Reviews rationale of enhanced economic and social benefit, increased community confidence in mine closure and rehabilitation outcomes and to be consistent with leading industry practise and contemporary community expectation.
- Uranium mining increases future environmental and mine legacy issues and provides an unresolved and intergeneration rehabilitation burden. Extra protections, especially in relation to mine design and operations and closure criteria and rehabilitation capacity, need to be adopted to address this. It was confirmed in response to September 2016 federal Parliament questioning that there "are no bonds held at the Commonwealth or state level in relation to the Olympic Dam project". This situation is untenable, inconsistent with leading industry practise and community expectation and should be directly addressed in this Review process.
- Indigenous communities in Australia continue to bear the greatest share of the adverse environmental and social impacts of uranium mining operations. Limitations placed on Aboriginal cultural heritage protections and other constraints due to the legal exemptions provided in the Roxby Downs Indenture (Ratification) Act, 1982 should be removed and the highest level of recognition and reflection of Aboriginal rights provided.
- There is a growing international medical and scientific consensus of the risks of radiation exposure and a consistent and continuing downward trend in permissible exposure levels. Full scrutiny, including unfettered inspectorate access to all South Australian mine sites, is required in this context.
- There is a history of sub-standard mine rehabilitation in the Australian uranium sector and an urgent need to address the long-term impacts of the Australian uranium sector in a way that does not allow cost shifting from mining companies to the public purse. This is of particular concern in relation to groundwater degradation at ISL operations and long term tailings management at Olympic Dam. Best practise requires the adoption of the extant 10,000 year tailings isolation requirement standard that applies to operations at the Ranger mine in Kakadu.
- A dedicated and comprehensive wider public inquiry is needed into the impacts and implications of uranium mining, beyond the scope of this Review process.

For further information, clarification or to discuss any issues raised in this commentary, please contact ACF's nuclear free campaigner Dave Sweeney

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