



Australian Government

Department of Climate Change, Energy,  
the Environment and Water  
Supervising Scientist

Submission to the Senate Economics Legislation Committee Inquiry into Atomic Energy Amendment  
(Mine Rehabilitation and Closure) Bill 2022.

The Atomic Energy Amendment (Mine Rehabilitation and Closure) Bill 2022 (amendment bill)  
amends the *Atomic Energy Act 1953* (AE Act) to allow the Minister to:

- confer a new Rehabilitation Authority on the Mine Operator for the express purposes of authorising rehabilitation, remediation and monitoring operations at Ranger uranium mine (Ranger) in the Northern Territory;
- vary the historic Section 41 Authority conferred on the Mine Operator to authorise the carrying out of rehabilitation, remediation and monitoring operations and extend the period in which the authority is in force. This provides an alternative pathway to authorise rehabilitation activities at Ranger beyond 2026 should the Mine Operator opt not to apply for a Rehabilitation Authority; and
- give effect to the Ranger Project Area's progressive close-out by declaring that a Section 41 or Rehabilitation Authority (both defined as a Part III Authority) conferred under the AE Act will no longer be in force in relation to a part of the RPA for which the Mine Operator is taken to have satisfied its rehabilitation requirements.

Additionally, the amendment bill provides an exemption to the assessment of rehabilitation at Ranger under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) which may be triggered by the grant of a new Authority. Ranger is already subject to a strict regulatory regime and additional assessment under the EPBC Act would likely cause significant delays without improving environmental outcomes.

This amendment is necessary to provide the Mine Operator sufficient time to complete the rehabilitation of Ranger and to facilitate the early return of land to the Traditional Owners where that land is shown to have met the rehabilitation objectives.

Accordingly, I strongly support the Atomic Energy Amendment (Mine Rehabilitation and Closure) Bill 2022 and see it as essential to the successful rehabilitation of Ranger. I have provided further information below for your consideration.

Thank-you for the opportunity to contribute to the Inquiry and I would be pleased to answer any questions the Committee may have regarding the amendment bill, or more generally related to the Ranger uranium mine. I can be contacted at [REDACTED] or [REDACTED].

Keith Tayler  
Supervising Scientist  
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### *Background*

Ranger commenced operations in 1980 and continued through until the cessation of uranium processing on the 8<sup>th</sup> of January 2021 by which time it was one of only a few mines globally to have produced more than 100,000 tonnes of uranium oxide. Ranger is owned and operated by Energy Resources of Australia Ltd (ERA), which is 86% owned by Rio Tinto Ltd.

Ranger overlies the traditional land of the Mirarr people, which forms part of the Kakadu Aboriginal Land Trust, and is surrounded by the dual World Heritage listed Kakadu National Park.

Day to day regulation of Ranger is delegated to the Northern Territory Government and facilitated through a Minesite Technical Committee, which includes membership from the Gundjeihmi Aboriginal Corporation (representing the Mirarr), the Northern Land Council and the Supervising Scientist. All regulatory matters are managed through the Minesite Technical Committee ensuring the full engagement of Traditional Owner representatives in all aspects of the regulatory process.

In recognition of the outstanding cultural and environmental values of the surrounding region, Ranger is required to be rehabilitated to the highest possible standard. The rehabilitation objectives for Ranger are set out in the *Environmental Requirements of the Commonwealth of Australia for the operation of Ranger uranium mine* (Environmental Requirements). The Environmental Requirements stipulate that Ranger must be rehabilitated to a standard which would allow it to be incorporated into Kakadu National Park, that it is revegetated to a state which is similar to the surrounding areas of Kakadu and that all uranium tailings are isolated from the environment in the mined-out pits for a period of 10,000 years.

The amendment bill will not change the Environmental Requirements or reduce the standard of rehabilitation required at Ranger.

ERA is required to submit an annually updated mine closure plan for Ranger which provides clear scientific evidence to demonstrate that the rehabilitation works proposed by ERA will achieve the rehabilitation objectives. The Ranger Mine Closure Plan is publicly released and subject to detailed assessment by regulators and stakeholders, including the Supervising Scientist, and requires approval from the Australian Government Minister for Resources and the Northern Territory Minister for Mining and Industry. The Supervising Scientist is undertaking a detailed rehabilitation verification process to provide certainty that all rehabilitation works are completed in strict accordance with the Ranger Mine Closure Plan and associated approvals.

Significant progress has already been made in rehabilitating Ranger:

- The Ranger 3 Deeps underground mine has been filled in.
- All remaining tailings have been moved to Pit 3 and the tailings dam has been scraped clean.
- Pit 1 has been filled with tailings, capped and revegetation has commenced. Rock-pile “habitats” have been established across the surface of Pit 1 in consultation with the Traditional Owners to create points of cultural connection across the landscape, and it was very pleasing to see Traditional Owners returning to the site to plant the first trees of this new ecosystem.



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Australian Government

Department of Climate Change, Energy,  
the Environment and Water  
Supervising Scientist

Despite this progress a great deal remains to be done. ERA has advised that major capital works will now take until at least 2028 to be completed and its forecast cost for rehabilitation has increased from approximately \$1 billion up to as much as \$2.2 billion (ERA ASX announcement, 2<sup>nd</sup> of February 2022). Following completion of the major capital works there will be many decades of monitoring and maintenance required before the site could be relinquished with confidence that all the rehabilitation objectives will eventually be achieved.

Whilst full site relinquishment will take many decades, the amendment bill will allow for the close-out of discrete parts of the Ranger Project Area which have met the rehabilitation objectives such as the large undisturbed areas to the north of the active mine site. This will allow for the earlier return of land to the Traditional Owners.

The position of the Supervising Scientist was established by the *Environment Protection (Alligator Rivers Region) Act 1978* to ensure the protection of the people and the environment of the Alligator Rivers Region from the effects of uranium mining in accordance with a recommendation of the second report of the Ranger Uranium Environmental Inquiry.

The Supervising Scientist continues to oversee Ranger through a program of environmental research and monitoring and participation in, and oversight of, the regulatory process. The Supervising Scientist's monitoring program has shown that Kakadu has remained protected from the effects of uranium mining since operations at Ranger commenced and we are now focused on ensuring the site is rehabilitated to the highest standard thereby ensuring Kakadu remains protected into the future.

The position of the Supervising Scientist was established with clear separation from the regulatory authorities to ensure the provision of impartial scientific advice. Additionally, the work of the Supervising Scientist is overseen by two independent statutory committees, the Alligator Rivers Region Advisory Committee (ARRAC) and the Alligator Rivers Region Technical Committee (ARRTC).

- ARRAC provides a forum for stakeholder consultation and engagement on regulatory matters.
- ARRTC advises the Minister for the Environment and Water on the quality of the science delivered through the Supervising Scientist's environmental research program and is comprised of independent technical experts, an environmental NGO representative and a representative of the Northern Land Council.

The Supervising Scientist Branch is working collaboratively with ERA to address a joint environmental research program derived from a detailed ecological risk assessment and knowledge gap analysis on the rehabilitation of Ranger. This information is being directly applied to the rehabilitation of Ranger through the development of closure criteria and underpins the Ranger Mine Closure Plan and stand-alone closure applications. This information is critical in making reliable predictions of environmental impacts post-closure and determining if the statutory rehabilitation objectives will be achieved.

The Supervising Scientist Branch is applying leading technology to environmental monitoring and impact detection, including DNA analysis, remotely piloted aerial systems, and artificial intelligence. This technology has allowed the development of monitoring tools which are safer, easier to deploy and more cost effective making them ideally suited to a long-term monitoring program undertaken





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Department of Climate Change, Energy,  
the Environment and Water  
Supervising Scientist

by Indigenous rangers. To facilitate this, we are focused on building capacity in local ranger groups, including through a long-term commercial arrangement with the Djurrubu Rangers who support our field activities.

The amendment bill does not have any consequential effects on the *Environment Protection (Alligator Rivers Region) Act 1978* or the role of the Supervising Scientist.

The controversial and high-profile nature of Ranger, the strict regulatory regime under which it operates and the pristine environment in which it is located combined with the extremely high standard of rehabilitation which is required have generated significant international attention and public interest. Ranger offers an opportunity to set the international benchmark in mining rehabilitation should it be successful, but conversely a failure to effectively rehabilitate Ranger would cause lasting damage to the resources and nuclear sectors, to the reputation of the Australian Government and to the people and environment of Kakadu National Park. In addition to the reputational risk the Australian Government has a long-standing commitment to underwrite the rehabilitation of Ranger, a cost which could run into the hundreds of millions of dollars should rehabilitation not be adequately completed by ERA.

Ranger operates on a Section 41 Authority granted under the *Atomic Energy Act 1953* which will expire on the 8<sup>th</sup> of January 2026 and cannot be renewed or extended. Beyond this date ERA will lose access to the site and it is possible that the remaining liability for rehabilitation would then fall to the Australian Government. The amendment bill will allow ERA's tenure at Ranger to be extended beyond the 8<sup>th</sup> of January 2026 and provide the required time for rehabilitation to be completed.

The amendment bill includes a provision which exempts rehabilitation activities at Ranger from assessment under the EPBC Act. In consideration of the existing rigorous regulatory framework, including the detailed oversight provided by the Supervising Scientist, additional assessment of the rehabilitation process under the EPBC Act would not improve environmental outcomes but would significantly delay the completion of rehabilitation. The amendment bill does not protect ERA from prosecution under the EPBC Act should ERA cause harm to Kakadu National Park or fail to comply with the existing regulatory requirements.

Given the extended timeframe required to complete rehabilitation at Ranger, and the significance of the rehabilitation project, it is critical that adequate time is provided to ensure the task is completed to the highest possible standard and to avoid liability falling to the Australian Government. Accordingly, I see the Atomic Energy Amendment (Mine Rehabilitation and Closure) Bill 2022 as essential in ensuring the successful rehabilitation of Ranger. I also note the support for the amendment bill from ERA, the Northern Land Council and the Gundjeihmi Aboriginal Corporation.



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