Australian Government
Department of Industry, Innovation and Science

Committee Secretary
Senate Standing Committees on Environment and Communications
PO Box 6100
Parliament House
CANBERRA ACT 2600

Dear Committee Secretary

Senate Inquiry into Mining and Resources Rehabilitation

The Department of Industry, Innovation and Science welcomes the opportunity to provide this submission to the Senate Environment and Communications References Committee.

The Department of Industry, Innovation and Science's vision is to enable growth and productivity for globally competitive industries. The department has four key objectives: supporting science and commercialisation, growing business investment and improving business capability, streamlining regulation and building a high performance organisation. The department, through its Resources Division is the Australian Government's lead agency on policy, regulatory and operational matters for Australia's mineral and resources industry.

The department provides advice to government on resources and related energy policy drawing on the expertise of its science agencies. It also works collaboratively with the state and territory governments through the Council of Australian Governments' (COAG) Energy Council, which is chaired by the Commonwealth Minister for Environment and Energy.

Except for the Ranger uranium mine in the Northern Territory which the Australian Government has regulatory oversight for, responsibility for the regulation of mining onshore, including mine site rehabilitation, rests with state and territory governments. All state and territory governments set the conditions for mining and rehabilitation and have systems in place to ensure miners fulfil their rehabilitation requirements before relinquishing mining leases.

Regulatory responsibility for mineral and petroleum development in Australia's offshore areas beyond three nautical miles from the territorial sea baseline rests with the Commonwealth. These activities are regulated by the Commonwealth *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (OPGGS Act) and related regulations and guidelines and the *Offshore Minerals Act 1994*. Currently, oil and gas activities are the only resource based activity in Australian offshore waters. Under the OPGGS Act, the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) is responsible for the administration of occupational health and safety, structural integrity (including well integrity) and environmental management for offshore petroleum operations.

Mineral and petroleum, including gas, operations onshore and as far as three nautical miles seaward of the baseline (referred to as 'coastal waters') are the responsibility of the relevant state and territory governments.

The submission provides the Committee with an overview of the role the department and its portfolio agencies have in relation to the terms of reference for this Inquiry.

The department acknowledges the reference to the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) in the inquiry's terms of reference and notes that matters directly related to this Act rest with the Minister for the Environment and Energy, the Hon Josh Frydenberg MP.

Yours sincerely

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Regulation of resources and mine site rehabilitiation

The state and territory governments have responsibility under the constitution for regulating onshore mineral and petroleum exploration and production, including land access and mine site rehabilitation arrangements.

The Australian Government has responsibility for mineral and petroleum activities in offshore areas beyond three nautical miles from the territorial sea baseline (referred to as Commonwealth waters), the Ranger uranium mine in the Northern Territory and the regulation of activities which have triggered the Environment Protection and Biodiversity Conservation (EPBC) Act. The EPBC Act is administered by the Department of the Environment and Energy.

This submission only outlines the relevant responsibilities of the Department of Industry, Innovation and Science (the department) and its portfolio agencies.

The role of the Department

The Department of Industry, Innovation and Science, is the Australian Government's lead agency on policy, regulatory and operational matters for Australia's mineral and resources industry.

This includes direct administrative and policy responsibility for all activities associated with exploration, development and ceasing of mineral and petroleum extraction in Commonwealth waters, the *Offshore Minerals Act 1994* and the *Offshore Petroleum and Greenhouse Gas Storage Act 2006*.

This legislative framework provides a robust and comprehensive regulatory regime that ensures those activities are conducted in a manner that ensures optimal safety, well integrity and environmental management outcomes. This includes decommissioning of facilities, wells and associated equipment.

The department also has a range of direct and indirect responsibilities in relation to onshore resource exploration and development. This includes the Ranger uranium mine and the Rum Jungle site. More information on the Department's roles and responsibilites is available at https://industry.gov.au.

On other onshore mineral and petroleum policy and regulatory matters the Department engages with the states and territories directly, and through the COAG Energy Council.

The COAG Energy Council's resources agenda focuses on cross-cutting policy or regulatory issues which are vital to sustaining community confidence in the way extractive industries are regulated. It also plays an important role in promoting effective and efficient business conditions for the resources sector. More information of the COAG Energy Council resources related activities can be found at http://www.coagenergycouncil.gov.au/

Portfolio agencies such as Geoscience Australia, which provides specialist advice on geological matters (onshore and offshore), and the National Offshore Petroleum Safety Environmental Management Authority (NOPSEMA) as the national regulator of all offshore petroleum activities in Commonwealth waters have a role in the rehabilitation of mining and resources projects.

While it does not have a regulatory or policy role the CSIRO also plays an important role in assisting the resources industry to improve its environmental performance through the development and application of new knowedge, technologies and techniques.

Geoscience Australia

Geoscience Australia provides advice to Commonwealth decision makers on a range of matters relating to minerals and petroleum.

In particular where a onshore mining and resource development project triggers a matter of national environmental significance under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) Geoscience Australia provides advice on the potential impacts of the project on groundwater resources. This includes consideration of any possible impacts on groundwater resources in relation to mine closure and rehabilitation. This aspect is particuarly critical to ensure that rehabilitation is done in a way that ensures there are no longer term environmental impacts that extend well beyond the project boundary, particularly in relation to the contamination of groundwater and connected surface water and ecosystems.

A further consideration for projects located close to state or territory boundaries, is whether there are transboundary management issues which can generate complex and long term issues across jurisdictional borders. Further information on the role of Geoscience Australia is at http://www.ga.gov.au.

Where the groundwater resource is not considered to support or be associated with a matter of national environmental significance, it is a state or territory responsibility.

National Offshore Petroleum Safety and Environment Management Authority (NOPSEMA)

NOPSEMA is the independent, expert regulator with responsibility for safety, well integrity and environmental management for all offshore petroleum activities conducted in Commonwealth waters. NOPSEMA also exercises regulatory powers and functions in the coastal waters of the states and the Northern Territory where those powers and functions have been conferred.

Under regulations made under the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (OPGGS Act), all activities, including decommissioning, must be undertaken in accordance with risk management plans for safety, well integrity and environmental management. NOPSEMA is responsible for ensuring that industry participants have appropriate risk management arrangements in place before undertaking any petroleum activity in Commonwealth waters, and for monitoring compliance with these arrangements through planned inspections.

NOPSEMA has a range of enforcement options available to it if an industry participant fails to comply with any of its obligations under the OPGGS Act or regulations.

In February 2014, NOPSEMA's environmental authorisation process was endorsed under the strategic assessment provisions of the EPBC Act and granted a class of action approval for oil and gas activities undertaken in Commonwealth waters and coastal waters where powers have been conferred on NOPSEMA. This means titleholders seeking to undertake offshore activities in Commonwealth waters no longer need to refer those actions for individual assessment under the EPBC Act. Under these arrangements, environment protection is examined through the endorsed NOPSEMA decision-making processes.

NOPSEMA's environmental regulation of Australia's oil and gas sector has been subject to numerous independent statutory reviews, including five yearly reviews in accordance with the OPGGS Act to assess NOPSEMA's operational effectiveness.[1] In each review, NOPSEMA was found to be a robust and competent regulator. Further information on the role of NOPSEMA is available at https://www.nopsema.gov.au/

CSIRO

The CSIRO, through its Mineral Resources and Land and Water business units, is using multidisciplinary expertise in environmental monitoring and management to minimise impacts from mining; developing new technologies and approaches for mine remediation and rehabilitation and filling knowledge gaps to ensure a sustainable positive legacy for the industry and surrounding communities.

In particular the CSIRO is undertaking risk assessments to lower environmental impacts of mining wastewaters. CSIRO provides benchmark analysis to track environmental change, and analyses exposure risks for environmental receptors posed by solids, sediments, waters, aerosols, and particulates from minesites. It is also developing environmental modelling capabilities to undertake toxicity assessment and model environmental impacts under different conditions. CSIRO is also developing biotechnology and geochemistry solutions for waste and water engineering and remediation. These include bioremediation options for acid mine drainage and new flocculation options for tailings management. CSIRO also undertakes risk assessments to inform long-term environmental decision making, including modern environmental report cards to disseminate complex information to communities and stakeholders, and develop tools for assessing the vulnerability of mine sites to changing climatic conditions and weather, enabling proactive water management and hazard identification and mine closure.

The CSIRO also play a role in providing technical support, review and expert timely advice on committees or independent science advisory panels to state and Commonwealth agencies (e.g., Alligator Rivers Region Technical Committee, NT).

[1]The most recent Operational Review of NOPSEMA was undertaken in September 2015. A copy of the report is available here. The Australian Government Response to the review was released in December 2015 and is available here.

Further information on CSIRO's mineral resources and envrionmental management activities is available at https://www.csiro.au/en/Research/MRF/Areas/Community-and-environment

Onshore mineral and petroleum mining - framework and operations

As previously stated, the responsibility for the administration and regulation of onshore mineral and petroleum exploration, production and closure, resides with the state and territory governments. However, the Ranger uranium mine located in the Northern Territory is the exception and remains the responsibility of the Australian Government under the *Atomic Energy Act 1953.*

Each state and territory has policies and appropriate mining legislation that guide and regulate the ownership of the resource and operation of mining activities in that jurisdiction. These legislative frameworks also cover occupational health and safety, environment, and planning.

Rehabilitation of mine sites is a state and territory responsibility and all state and territory governments have policies, regulations and legislation in place to set rehabilitation requirements and to ensure miners fulfil their rehabilitation requirements before relinquishing mining leases. Typically, rehabilitation liabilities are enforced either through:

- A system of bonds and bank guarantees (all state/territory governments, except Western Australia);
- A pooled fund (as is the case in WA); or
- A combination of the two (Northern Territory).

While the obligation is on the mine operator carrying out rehabilitation work, state and territory governments may call in a financial assurance for a mine placed on care and maintenance where there is no prospect of operations recommencing.

Uranium Mines

The Australian Government has ownership of prescribed substances (e.g. uranium, thorium) in the Northern Territory. The department is engaged in the ongoing operational oversight (including progressive rehabilitation) at Ranger uranium mine and is working with the Northern Territory Government on rehabilitation planning at the former Rum Jungle mine site. The rehabilitation requirements for Ranger are set out in the Commonwealth's Environmental Requirements attached to the section 41 authority issued under the *Atomic Energy Act 1953*. The Australian Government is also providing funding through a National Partnership for the Northern Territory to develop and finalise a Rum Jungle rehabilitation strategy.

Ranger Uranium Mine

The Ranger Uranium Mine is approximately 230km east of Darwin. The orebody was discovered in 1969 and the mine commenced operation in 1980. It is operated by Energy Resources of Australia, a subsidiary of Rio Tinto Group. The uranium mined at Ranger is sold for use in nuclear power stations in Asia, Europe and North America.

The existing regulatory, policy and institutional arrangements for the Ranger mine are unique, both nationally and internationally. While complex, the roles and responsibilities of the various parties are clearly agreed through a series of intergovernmental agreements.

The rehabilitation objectives for the Ranger mine are set out within the Environmental Requirements of the Commonwealth of Australia for the operation of Ranger uranium mine. These Environmental Requirements are given force through a range of legislative instruments and commercial agreements. The rehabilitation objectives provide for a very high standard of rehabilitation; including the requirement that the Ranger Project Area be returned to a state which would allow it to be incorporated into Kakadu National Park, that all tailings are returned to the mined out pits and contaminants arising from the buried tailings are isolated from the environment for 10,000 years.

The Supervising Scientist, appointed under *the Environment Protection (Alligator Rivers Region) Act 1978* (Cth), which is administered by the Department of the Environment and Energy, provides independent regulatory oversight for the Ranger mine. It advises both the Commonwealth Minister for Resources and Northern Australia and the Minister for the Environment and Energy, and also the Northern Territory Government on rehabilitation and mine closure planning, and on the future achievement of the rehabilitation objectives for the mine.

These arrangements have ensured the protection of the environment surrounding Ranger through nearly 40 years of operation, and have provided a significant amount of data that are now being used to inform rehabilitation. They will ensure that rehabilitation is conducted to the highest standard, and that Kakadu National Park is protected from the effects of uranium mining in to the future.

Rum Jungle

Located approximately 105 kilometres south of Darwin, Rum Jungle is the site of a uranium deposit in the Northern Territory which operated between 1954 and 1971.

Between 1983 and 1986 the Australian Government provided $18.6 million in financial assistance to the Northern Territory for rehabilitation works at the former Rum Jungle copper and uranium mine near Batchelor, Northern Territory. Up to 1998, further Australian Government financial assistance supported the Northern Territory's management and monitoring of the site. Although the objectives of the 1980s works were achieved, studies have documented the gradual deterioration of those works.

Since 2009, in response to concerns about the site, including a poor understanding of its environmental condition and potential impact, the Australian and Northern Territory Governments have cooperatively engaged to address and understand Rum Jungle issues. Using Australian Government financial assistance ($33.6 million since 2009), the Northern Territory has monitored and maintained the site. Its work to assess the site's environmental performance identified that the principal environmental issue is acid and metalliferous drainage leading to adverse water quality on-site and downstream, and land use limitations.

The Australian Government continues to work with the Northern Territory Government in finalising a comprehensive rehabilitation plan. The Australian Government has also provided funding to support traditional Aboriginal owner capacity building to facilitate their participation in any future works.

Council of Australian Governments (COAG) Energy Council

The COAG Energy Council is a Ministerial forum for the Commonwealth, states and territories and New Zealand, to work together in the pursuit of national energy reforms. The Energy Council is guided by its Terms of Reference and its work covers the following broad themes:

- Overarching responsibility and policy leadership for Australian gas and electricity markets
- Promotion of energy efficiency and energy productivity in Australia
- Australian electricity, gas and petroleum product energy security
- Cooperation between Commonwealth, state and territory governments
- Facilitating the economic and competitive development of Australia's mineral and energy resources

Despite not having a direct constitutional role in onshore energy and resource development, the Australian Government undertakes a leadership role in relation to the Energy Council's energy and resource development agenda. In particular, the Australian Government considers the ability of governments collectively to sustain community confidence in the way these extractive industries are regulated is of national importance. The Energy Council is the principal mechanism by which the Australian Government and the department engage with states and territories on resources regulatory issues.

In December 2013, the Energy Council, established the Land Access for Resources Working Group (LARWG) and the Upstream Petroleum Resources Working Group (UPRWG). Comprised of senior officials from the Commonwealth, States and Territories, the LARWG considers policy issues and implements national activities relating to the Council's access for resources reform agenda, while the UPRWG considers policy issues and implements agreed national activities related to the Council's upstream petroleum resources reform agenda.

Land Access for Resources Working Group

As onshore mines come to the end of their life cycle the importance and ability to meet rehabilitation commitments has been recognised as a priority by State and Territory governments and the Commonwealth. As part of the Energy Council's working program the LARWG is reviewing leading practice approaches to financial assurances for mine rehabilitation. In undertaking the review, LARWG is also considering the development of a 'template' calculator which could be adopted by jurisdictions in determining a consistent approach to the calculation of financial assurances for rehabilitation liabilities.

The adoption of the template calculator will be at the discretion of each jurisdiction.

The LARWG also facilitated a workshop on Mine Rehabilitation and Abandoned Mines. The workshop was held in May 2016 and was attended by a range of stakeholders, including

industry, regulatory and community representatives as well as known experts on mine rehabilitation. Following from the workshop the LARWG has agreed to review leading practice approaches to data collection and management; risk assessment; site prioritisation; and management of legacy mines.

The LARWG will present the review and its findings to the Energy Council for consideration late in 2017. The recommendations will be considered as part of the Council's 2018 work program.

Upstream Petroleum Resources Working Group (UPRWG)

The UPRWG is working to optimise policy settings to reduce costs and attract investment in the sustainable exploration and development of Australia's upstream petroleum and gas resources by driving nationally consistent and best practice regulatory frameworks.

Over the coming decades, a number of oil and gas production facilities operating in Australian Commonwealth waters will likely reach the end of their operating life and require some form of decommissioning. In light of this – and due to the complex interaction between national and international legislation and agreements around decommissioning – there is a need to clarify the Australian Government's policy position and regulatory regime for decommissioning.

The Department of Industry, Innovation and Science is leading a review of the policy, regulatory and legislative regime applicable to decommissioning offshore petroleum infrastructure in Commonwealth waters. The purpose of the review is to ensure that the regime is up to date, comprehensive and reflects international leading practice. The UPRWG is the primary mechanism through which the Commonwealth will engage with States and Territories on the review including seeking advice on how decommissioning is regulated in the mining and petroleum regimes of the States and the Northern Territory. As the review progresses the department will work with the UPRWG to explore the possibility of developing a national approach to decommissioning offshore petroleum infrastructure. It is anticipated the review will be completed in mid-2019.

Offshore mineral and petroleum mining – framework and operations

The Department of Industry, Innovation and Science has administrative responsibility for legislation governing offshore minerals and offshore petroleum (oil and gas) under the *Offshore Minerals Act 1994* and the *Offshore Petroleum and Greenhouse Gas Storage Act 2006 (OPGGS Act)*. There are currently no offshore mineral operations occurring in Commonwealth waters. However there are a number of offshore petroleum activities underway.

Implementation of Australia's offshore petroleum legislative, regulatory and operating regime occurs through an interlocking set of institutional arrangements covering all aspects of the petroleum lifecycle, with ultimate responsibility and decision-making resting with the Offshore Petroleum Joint Authority (the responsible Commonwealth and State/Territory Ministers). The day to day management of titles and licences as well as the provision of technical advice, is provided by the National Offshore Petroleum Titles Authority (NOPTA), while regulation of the health, safety and environmental performance of the industry is undertaken by Australia's national regulator, the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

The OPGGS Act, also imposes an obligation on all registered holders of petroleum titles and licences (titleholders) to ensure that property and equipment is maintained in good condition and repair. In addition, titleholders have an ongoing obligation to remove property and equipment that is no longer used for operations authorised by the title.

There are additional requirements that apply when a titleholder proposes to surrender their title and exit the regime. Before consent is given to the surrender, the titleholder must remove or otherwise make appropriate arrangements in relation to property, permanently plug and abandon all wells, provide for the conservation and protection of the natural resources in the title area, and make good any damage to the site. These obligations must be discharged to the satisfaction of NOPSEMA.

Polluter Pays

Australia's offshore petroleum legislative regime includes a statutory duty to control the flow, and prevent the escape, of petroleum, water, drilling fluid and any other matter. Failure to do so is a strict liability offence. Appropriately, the emphasis is on control and prevention, but in order to ensure the most comprehensive approach to remediation the OPGGS Act also imposes a number of requirements on petroleum titleholders that apply in the event of an escape of petroleum occurring as a result of, or in connection with, a petroleum activity – including decommissioning. These are known as "polluter pays" requirements.

The polluter pays requirement entails that the relevant titleholder must, in accordance with an accepted environment plan, take all reasonably practicable steps to eliminate or control the escape, clean up any escaped petroleum and remediate any resulting damage to the environment, and carry out environmental monitoring. The title holder is also required to reimburse NOPSEMA and/or the responsible Commonwealth Minister if either one incurs costs or expenses in responding to the escape of petroleum occurring as a result of, or in connection with, a petroleum activity conducted under their title. Similar requirements for reimbursement apply to a State or the Northern Territory, or an agency acting on their behalf.

Financial Assurance

Complementing the "polluter pays" requirements, the OPGGS Act imposes financial assurance obligations on petroleum titleholders. This obligation requires all registered holders of offshore petroleum titles to maintain financial assurance sufficient to give the titleholder the capacity to meet costs, expenses and liabilities arising in connection with the carrying out of a petroleum activity in the title area.

Financial assurance includes, but is not limited to, traditional insurance products, "self-insurance", a bond or a bank guarantee to cover the costs, expenses and liabilities arising out of responding to an incident. The financial assurance obligation extends only to Australian jurisdiction and is administered by NOPSEMA.

The *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* require the titleholder to demonstrate that it has complied with the financial assurance obligations and submitted an environment plan for a relevant activity. NOPSEMA must not accept the

environment plan unless it is reasonably satisfied that financial assurance in relation to the relevant activity is sufficient and in an acceptable form. NOPSEMA can also withdraw its acceptance of an environment plan for failure by a titleholder to continue to maintain adequate financial assurance.

In order to calculate financial assurance, the Australian Petroleum Production and Exploration Association (APPEA) developed a method to assist titleholders in estimating appropriate levels of financial assurance for pollution incidents arising from petroleum activities (APPEA method). On 9 December 2014, NOPSEMA confirmed that the APPEA method is suitable for titleholders to use to calculate the required level of financial assurance for an activity.