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Dr Ashley Clements
Inquiry Secretary
House Select Committee on Nuclear Energy
Department of the House of Representatives
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Dear Dr Clements

Tellus appreciates the opportunity to provide a submission to the House Select Committee on Nuclear Energy. Given Tellus' experience, expertise and business activities, this submission focuses on the management of radioactive waste, which would form part of the supply chain of an Australian nuclear energy industry. This capability already exists today as a solution to Australia's existing radioactive waste challenge.

About Tellus and the establishment of Sandy Ridge

Tellus exists to enable Australia's leading companies and government to scale their transition to the green economy in safe, sustainable and innovative way. We partner to deliver ESG performance and stewardship, protect shareholder value and safeguard corporate reputation and social licence.

Tellus owns and operates Australia's first (and only) nationwide facility for the permanent disposal of radioactive waste. Located 240km northwest of Kalgoorlie, Sandy Ridge is a near-surface geological repository, a type of facility well-known internationally and acknowledged by the International Atomic Energy Agency as extremely safe for the permanent disposal of low-level radioactive waste.

The Sandy Ridge facility is licensed and equipped to dispose safely of almost all forms of hazardous waste from the energy sector, whether it be heavy metals from end-of-life solar panels, mercury and naturally occurring radioactive material (NORM) from the decommissioned oil and gas infrastructure, air pollution control residue (APCr) from Waste to Energy generation plants, to low-level radioactive waste from maintenance of nuclear reactors in submarines. We can accept this waste from anywhere in Australia or its Exclusive Economic Zone.

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Sandy Ridge operates with approval from the Western Australia Government and is licensed by the WA Radiological Health Council to permanently dispose of low-level radioactive waste (LLW). Tellus' radioactive waste licence application was reviewed by ARPANSA, who was engaged by WA Radiological Health Council for evaluation purposes. Tellus also holds an ASNO safeguards permit and has accepted LLW from nearly every State and Territory in Australia.

As important as its regulatory approvals, Tellus has obtained and maintains social licence to operate from its local communities. It operates under a native title agreement with the Marlinyu Ghoorlie community at Sandy Ridge, while two additional projects in development – a deep-geological repository in a bedded salt formation (Chandler) in the Northern Territory and a Deep Borehole Demonstration project adjacent to Sandy Ridge, have also been approved by traditional owners.

Tellus has established a record of safe operations for the disposal of hazardous waste, from commencement of hazardous chemical waste operations in 2020, through to full operations since its radioactive waste licence was received in early 2023.

The private sector in Australia can play an important role working with the Australian Government to solve Australia's radioactive waste challenges, either now, to address waste from AUKUS, rare earths and critical minerals processing and legacy activities, or into the future, should Australia embrace nuclear energy. Tellus has been able to achieve what successive Australian Governments have to date been unable to deliver – the establishment and operation of a facility designed and licensed to dispose of low-level radioactive waste – and in the process has developed sovereign capability to support Australia's national interest.

Risk management for natural disasters or any other safety concerns

Australia's geology is ideal for safe hazardous waste management, including the permanent disposal of radioactive waste. As an example, Sandy Ridge is located on the Archean Yilgarn craton where extensive granitic rocks are overlain by surficial kaolin and saprolite formed by in-situ weathering. The environment is arid, with low annual rainfall and high rates of evapotranspiration.

The Yilgarn craton has been stable for around 2.7b years and dry for at least 100m years, with no underground aquifers present. These geological characteristics mean Sandy Ridge is one of the safest places on earth to permanently dispose of hazardous waste, whether chemical or radioactive.

Federal, state, territory and local government legal and policy frameworks

Tellus has established its facility for the disposal of radioactive waste under existing legal policy frameworks at local, state and federal levels of government. Tellus can accept for disposal at Sandy Ridge low level radioactive waste from private sector and government

sources, including contaminated soils, protective equipment and tools related to maintenance functions.

There are varying restrictions across Australian jurisdictions regarding the transport, storage and disposal of nuclear waste. It is no surprise that in a federal system of government, different states and territories have their own legal frameworks in place in relation to nuclear energy and radioactive waste disposal. These varying frameworks present challenges when operating a national enterprise. However, the Australian Government itself has shown these challenges can be overcome when it is deemed to be in the national interest.

The passage of the Australian Government's Naval Nuclear Safety Bill in 2024 demonstrates that state-based legislation doesn't need to be a barrier to storage and disposal of radioactive waste, whatever its origin, if there is agreement by the federal parliament to implement a policy course.

Under this law, the Australian Government has the power to designate locations for the storage and management of radioactive waste. HMAS Stirling, in Western Australia, and Osborne Naval Shipyard, in South Australia, are two locations that will be designated for this purpose. Under Australia's constitution, if state laws governing radioactive waste management in these jurisdictions are inconsistent with federal law, the federal law will apply to the extent of the inconsistency.

Waste management, transport and storage

There are no technical or engineering barriers to the safe transport, storage and disposal of radioactive waste in Australia. The Australia Nuclear Science and Technology Organisation (ANSTO) has demonstrated that long term storage of waste can be managed safely and securely onsite at its Lucas Heights facility. The international transportation of ANSTO's nuclear reactor waste for processing and treatment in France before return to Australia similarly demonstrates safe and secure transport is feasible. The establishment and operation of Sandy Ridge based on Australian and international regulation demonstrates safe disposal can be achieved in Australia.

Australia is a member of the International Atomic Energy Agency (IAEA), which sets out international best practice for radioactive waste management. According to the IAEA's 2009 guidance *Policies and Strategies for Radioactive Waste Management*, immediate disposal (2009, p31) in an appropriate facility designed to provide isolation from the biosphere (2009, p22) is usually the preferred option in considering timing and disposal strategy. Near-surface disposal facilities are considered an appropriate facility (2009, p27.)

In summary, permanent disposal is preferable to temporary storage, a position also outlined by the Australian Government through the Australian Radioactive Waste Agency's own Australian Radioactive Waste Management Framework, released in 2018. Current Australian government policy is for the establishment of a permanent disposal facility for the government's radioactive waste.

Siting a national waste management facility for the permanent disposal of low-level and intermediate-level waste has been a near fifty-year challenge for successive Australian Governments. While the government continues to adopt the same government-led approach to siting and establishing a facility without partnering with the private sector, it is likely to be many years before it can achieve this task. The Australian Radioactive Waste Agency noted on 24 October 2024 that: “Going from where we are now to ultimately having a disposal facility accepting waste is likely to take decades” (ARWA Evidence to Select Committee on Nuclear Energy). This is consistent with international experience for the establishment of radioactive waste disposal facilities, in similar jurisdictions like the United States, Canada and the United Kingdom.

To avoid the cost of “decades” of work to establish a new radioactive waste management facility, likely to be in the billions of dollars, it is open to the Australian Government to partner with an already operational facility that enjoys a social licence to operate. This would emulate the approach taken by the United States, Australia’s AUKUS partner, where private waste disposal operators like Energy Solutions and Waste Control Specialists (WCS) are a key part of the energy supply chain for the US government.

The main barrier to the establishment of a national radioactive waste management facility has been a lack of social licence and community support. The most recent example of this was seen at Kimba, in South Australia, where community opposition was a key contributor to the Australian Government formally cancelling the project in August 2024.

Tellus’ position on nuclear energy in Australia

For many years in Australia there has been much focus on the safe management of radioactive waste, whether it is legacy waste that exists today in temporary storage from activities related to ANSTO’s reactor for research and the development of nuclear medicine, low-level waste that will soon be generated by Australia’s AUKUS nuclear submarine fleet and current and future rare earths and critical minerals processing, or low-level / intermediate-level or high-level waste that would be generated by nuclear energy.

All forms of energy technology generate varying levels of waste with the potential for harm to humans and the natural environment, including hazardous waste, whether it be from coal, gas, solar, wind or nuclear. For example, naturally occurring radioactive material (NORM) is a by-product of oil and gas production and requires safe remediation and disposal solutions. There is also no current sustainable solution for the safe management of end-of-life solar panels, which contain heavy metals that are difficult to isolate, uncommercial to recycle and by law cannot be disposed of in conventional landfills. Similarly, wind and hydropower create challenges with hazardous oils and also wind turbine blades, which are notoriously difficult to safely dispose.

Decisions about the methods and technologies for the generation of electricity in Australia are a matter for relevant governments. However, we note Australia has made a long-term commitment to becoming a nuclear nation, through the 2021 AUKUS agreement. AUKUS enjoys bipartisan political support and is being implemented as a high priority on national security grounds.

The Australian Government has flagged that the private sector can play a key role in partnering more broadly with the Department of Defence (and its agencies) to deliver AUKUS. Should Australia choose nuclear energy for electricity generation, the same could be true – Tellus has already developed infrastructure and capability to support the establishment and operation of this industry through its current world-class infrastructure and professional expertise. Tellus is capable today of disposing of Australia’s low level radioactive waste, whether existing or produced in the future.

Other relevant matters

The importance of social licence for sustainable radioactive waste management

Multiple unsuccessful efforts by Australian governments to site a national radioactive waste management facility over nearly fifty years show that obtaining social licence for radioactive waste management activities is not easy. However, Tellus has demonstrated that it is possible.

Through the development and operation of Sandy Ridge, Tellus has shown that community acceptance can be achieved through community consultation and the development of trusting relationships. While numerous governments have been unable to conclude agreements with traditional owners, Tellus’ has built and maintained a productive relationship with the Marlinyu Ghoorlie people of the WA goldfields which underpins operations at Sandy Ridge, starting with the establishment of a chemical waste facility, and expanding to include low level radioactive waste disposal and the future development of deep boreholes for scientific research.

This has not been a one-off. Tellus’ agreement in October 2023 with the Titjikala traditional owner group near Alice Springs for its proposed deep geological repository for international hazardous chemical and low-level radioactive waste demonstrates social licence can be achieved for complex and potentially controversial projects if the right foundations are laid.

The current Australian Government has delivered mixed messages on the importance of social licence with respect to radioactive waste disposal. The Hon Madeleine King MP, the federal minister responsible for the establishment of a national radioactive waste management facility for low level waste, has clearly noted the importance of community acceptance of waste disposal facilities. In a statement announcing the government’s cancellation of the proposed national facility at Kimba in South Australia, she noted: “We have said all along that a National Radioactive Waste Facility requires broad community support. Broad community support which includes the whole community, including the traditional owners of the land. This is not the case at Kimba.” (*Ministerial Statement 10 August 2023.*)

This contrasts with the approach that appears to have been taken by the Department of Defence in nominating sites for the storage of radioactive waste for AUKUS at HMAS Stirling, in Western Australia, and the Osborne Naval Shipyard, in South Australia. In South Australia in particular, it was reported that this decision had surprised the local community, with a local mayor stating her council “had not received any correspondence or communication about management and disposal of nuclear waste at the site.” <https://www.theguardian.com/environment/2024/nov/18/plan-to-dispose-of-nuclear-waste-from-aucus-submarines-unanimously-rejected-by-adelaide-council>.

This approach appears to have been confirmed by the Federal Member for Hindmarsh, the Hon Mark Butler MP on 18 November 2024: “In an interview with 7.30, [Butler] said residents would be consulted closer to when the facility would be established but stated the waste facility would go ahead even if residents did not want it.” (<https://www.abc.net.au/news/2024-11-18/aucus-nuclear-waste-to-be-stored-adelaide-suburbs/104605640>).

The lack of community consultation at Osborne includes the local indigenous community. In relation to Stirling, the Chief of Navy apologised for the lack of consultation with traditional owners about construction works associated with nuclear submarines (<https://www.abc.net.au/news/2024-06-07/submarine-bossmulti-billion-aucus-payments/103952528>). In South Australia, a member of a local indigenous group also noted a lack of consultation about the establishment of radioactive waste facilities on indigenous land: “As an Indigenous woman I think I get used to it, government being underhanded, not telling us anything, or not asking,” (<https://www.abc.net.au/news/2024-11-18/aucus-nuclear-waste-to-be-stored-adelaide-suburbs/104605640>). In response, community groups in the area have already formed with the aim of fighting the decision and opposing AUKUS more generally.

Social licence is an important factor, not just for hazardous waste management, but for the successful implementation of the whole AUKUS program. The acquisition of nuclear-powered submarines is a paradigm shift for our nation. For the first time, Australia – a country with a legislated ban on domestic nuclear power – is acquiring nuclear technology for national security purposes. The response to date by Australians shows this policy does not enjoy full community support: a 2024 Lowy Institute Poll revealed that 32 per cent of Australians are somewhat against (20 per cent) or strongly against (12 per cent) Australia acquiring nuclear-powered submarines, a four-point increase since 2022. (<https://poll.lowyinstitute.org/charts/acquiring-nuclear-powered-submarines/>)

Many concerns have been raised by affected communities about the management of AUKUS-generated radioactive waste. These concerns may stem from, among other things, Australia’s historical experience of widespread radioactive waste contamination from Defence activities on indigenous lands in South Australia, and the inability of Australian Governments to obtain social licence for an appropriate radioactive waste management facility since attempts began in the 1970s.

The Australian Government's current policy, of imposing waste facilities on communities without nominating a location or timeframe for completion of a permanent facility, risks breaching community trust in the broader AUKUS program. This, in turn, puts unnecessary risk on program delivery of AUKUS. Additionally, this may have consequences for ongoing electoral support of AUKUS, which is still at the early stages of its implementation.

The existence of an already operational private sector waste disposal facility for low level radioactive waste, which enjoys indigenous support (via native title agreement) and local community acceptance, means the Government has a feasible and immediate alternative to imposing temporary waste disposal on communities. This would safely address the issue of safe waste management in accordance with IAEA and Australian regulatory best practice.

We trust this submission assists the Committee in its Inquiry. Further information about Tellus and our submission can be obtained by contacting Ryan Bloxsom, Head of External Affairs, at ryan.bloxsom@tellusholdings.com.

Yours sincerely



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