Questions and Answers – Amendments to the Nuclear Waste, Transport, Storage and Disposal (Prohibition) Act

Why are the amendments being made?

- This amendment is the result of the NT Government actively engaging with, and listening to, an Economic Development Framework priority Industry Sector specifically the Offshore Oil and Gas Industry. The amendments will improve clarity and certainty about the application of the *Nuclear Waste Transport, Storage and Disposal (Prohibition) Act* (the Act).
- The current regulation is unclear about whether naturally occurring radioactive materials or NORM may be brought into the NT by the offshore oil and gas sector for storage and treatment. NORM are within the definition of nuclear waste in the Act.
- The Bill provides clarity and certainty to the offshore oil and gas industry about the application of the Act to nuclear waste, including NORM that may be incidentally generated from offshore oil and gas activities approved under Commonwealth laws and international treaties, and subsequently brought into the NT.
- Offshore oil and gas projects may have a mix of NT, Commonwealth and international treaty approvals for exploration, oil and gas production and pipelines. The Act was clearly intended to exempt nuclear waste from the offshore oil and gas industry, but it does not currently refer to the possible mix of approvals, which is a cause of uncertainty for industry.
- The Bill repeals and replaces existing exemptions to clarify this ambiguity.

What is NORM?

- Naturally occurring radioactive materials or NORM are widespread in sands, clays, soils and rocks, many ores and minerals, commodities products, by-products and recycled residues. For example, NORM can be found in: building materials such as bricks, concrete, natural stone, fertilisers, mineral sands, cosmic rays when flying in an aircraft.
- NORM may be produced as a natural by-product of petroleum and other energy producing hydrocarbons and may accumulate within drilling and exploration wells, pipelines or on other parts and equipment. The volumes and concentrations of NORM from a well will depend on a number of factors including reservoir geology, production processes and water quality. Some wells may not produce NORM while other adjacent can produce significant quantities of NORM requiring careful and considered management.

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- NORM are within the meaning of nuclear waste in the Act.
- In the Northern Territory, the *Radiation Protection Act* defines what radioactive material is (material which exceed the exemption levels) and when it is required to be managed under an authority granted under the *Radiation Protection Act*.
- For radium 226 and radium 228 (the head of decay chain isotopes most commonly found in NORM associated with oil and gas operations, the exemption limits are 10 Bq/g¹. The exemption limits for various radioniclides, are set at values where exposure to the material in an uncontrolled exposure scenario would be reasonably expected to result in a radiation dose of not more than 10 μSv² to a member of the public. The radiation dose allowable under the *Radiation Protection Act* for a member of the public is 1000 μSv in a year. While increased concentrations and/or volumes of NORM would pose an increased risk of radiation exposure, the regulatory system increases the compliance requirements commensurate with the risk. Furthermore, the compliance requirements involve a process of determining that a practice is justifiable (produces a net benefit to society), will not exceed regulatory limits (of 1000 μSv in a year for members of the public and 20000 μSv in a year for occupationally exposed person) and is optimised in accordance with the As Low As Reasonably or 'ALARA principle' (with social and economic factors considered).

Are NORM the only 'nuclear waste' of concern? Why don't the amendments refer specifically to NORM?

- NORM are captured by the definition of nuclear waste in the Act.
- There are some other wastes that are also captured by the definition of nuclear wastes that may be produced from the use of monitoring, testing or investigative equipment associated with the exploration, recovery and exploitation of petroleum and other energy producing hydrocarbons. While the amount of such wastes is expected to be relatively small, the exemptions need to be prepared in a way that covers all nuclear wastes that might be generated incidentally as part of oil and gas activities in order to provide the necessary certainty to industry.

² uSv or 'microsievert' - a derived unit of ionizing radiation dose.

¹ Bq/g being 'becquerels per gram' - a measure of radioactivity per unit mass.

• NORM are just one possible form of nuclear waste. The amendments use the language of the existing legislation for consistency.

Is the Bill introducing new exemptions?

• No. The Bill improves clarity in the expression of the existing exemptions. It does not introduce new exemptions or broaden the existing exemptions. Rather the reframing of the exemptions provides greater certainty to industry while maintaining the Legislative Assembly's original intention when passing the Act.

Will there be any impact on the veracity of environmental regulation?

• The NT continues to maintain a robust and accountable environmental regulatory regime. Further the oil and gas sector remains highly regulated and closely monitored.

Will there be any impact on future regulation of relating onshore oil and gas (e.g. fracking)?

- These are minor regulatory amendments to clarify the Act.
- The amendments relate to the offshore oil and gas sector. It is not expected to impact the onshore industry.
- The onshore industry was already covered by exemptions contained in the Act. These exemptions have also been rewritten to improve clarity and certainty but do not represent any changes to the policy or legislative framework or the original intention of the Legislative Assembly when it passed the Act.

What will be the impact on the health and safety of Territorians?

- There is no change to the impact on the health and safety of Territorians or the Territory environment.
- These are minor regulatory amendments to clarify the Act to support authorised activities.
- Current regulation is unclear about whether storage of NORM brought into the NT by the offshore oil and gas sector is permissible.
- Once brought into the Territory, NORM and any other nuclear wastes, will be subject to the *Radiation Protection Act* which imposes obligations relating to the transport, storage and disposal of radioactive material.
- The NT continues to maintain robust and accountable health and safety and environmental regulatory regimes. The NT has a significant environmental regulatory reform program underway to ensure that impacts on the environment and Territorians are appropriately identified, assessed and managed.



Can anyone bring their nuclear waste into the Territory?

- No, the new section 5(4) provides certainty about the Territory's support for offshore oil and gas projects without allowing companies to use the Territory as a place to store or dispose of nuclear wastes.
- This new section 5(4) provides a two stage test to restrict nuclear waste from offshore oil and gas activities from entering into the Territory.
- The first part of the test requires companies to demonstrate that they are providing economic and social benefits to the Territory such as through the operation of a supply base.
- The second part of the test limits the operating area of those companies to within 800 km from the Northern Territory coast, as measured from the Territorial sea baseline.

• This test ensures that the exemptions cover offshore oil and gas projects that may be licensed under Commonwealth laws or international treaties, but, requires projects to have a sufficient connection to the Territory.

What is a prescribed project?

- Under subsection (4)(b) projects that meet certain criteria may be prescribed under the Regulations and therefore be exempt from the Act. To be prescribed, projects must:
 - 1. Produce nuclear waste incidentally as part of exploration, recovery or exploitation of petroleum or other energy producing hydrocarbons; and
 - 2. Be located within 800 km of the Territory as measured from the Territorial Sea Baseline; and
 - 3. Deliver significant economic and social benefits to the Territory.
- For example, the Northern Territory has already developed the local infrastructure, expertise and capability required to support the following world class oil and gas projects:
 - The US\$37 billion INPEX-led Ichthys LNG project, currently in the final stages of construction;
 - The ConocoPhillips-led Darwin LNG project which first shipped LNG in February 2006 and has now loaded more than 500 ships; and
 - The Northern Territory plays a significant role in the supply chain for the \$14 billion Shell Prelude floating LNG gas project, through the Company's Darwin Supply base and its contractors who manage warehousing, maintenance and logistics.

How do you determine if an oil and gas project has economic and social benefit to the Territory and allows them to bring in NORM?

- An oil and gas project would need to demonstrate that it would contribute to the social and economic development of the Territory; for example, through the:
 - Creation of skills development and jobs for Territorians;
 - Creation of local business opportunities; and
 - Local business engagement.

What are the Regulations and when will they be introduced?

- The Bill will be supported by Regulations. These will provide additional certainty for the offshore oil and gas industry which will be able to apply to have projects recognised if they meet the criteria for exemption specified in the Bill.
- The new Regulations will be prepared and commenced once Parliament has considered these amendments. It is anticipated that they will take effect in late 2018 or early 2019, depending on Parliamentary processes.

Why was the limit of 800km chosen?

• The area within 800 km, as measured from the Territorial sea baseline, was identified to include all areas where offshore developments are likely to occur in the medium to long term where the operators of those developments may choose to use the Territory as the base for their operations.

What does it mean for existing and new oil and gas projects?

- Existing projects that meet the test in new section 5(4) will be prescribed in Regulations.
- New petroleum and other energy producing hydrocarbon projects will be able to request to be prescribed if they meet the test.

What happens to NORM once they are brought into the Territory?

- An oil and gas company seeking to import NORM into the NT must apply for an authority under the *Radiation Protection Act*.
- The Radiation Protection Section of the Department of Health is responsible for assessing the application for an authority (on behalf of the Chief Health Officer) to ensure that the proposed activity meets the requirements of the *Radiation Protection Act*, subordinate legislation, applicable Codes of Practice, standards and guidelines. Overall, the application for an authority will only be granted if the proposed activity is compatible with the object of the *Radiation Protection Act* which is to ensure the health and safety of people by protecting them from the harmful effects of radiation and to protect the environment from harmful effects of radiation.
- A person must not manufacture, sell, acquire, posses, use, store, transport dispose of or otherwise deal with a radiation source other than in accordance with a licence authorising the person to do so (Section 12 of the *Radiation Protection Act*). A radiation source includes radioactive material that has or exceeds the activity or activity concentration prescribed by the regulations.
- Under the *Radiation Protection Act*, where an oil and gas company has sought and meets the relevant requirements to hold a licence, the Chief Health Officer may grant a license to the oil and gas company which authorises the possession, storage, transport and disposal of radioactive materials.
- Materials bought into the Territory under an authority granted under the *Radiation Protection Act* will most likely be stored in the physical foot print operated by the holder of the authority. The duration of storage will depend on the available options for disposing of the NORM and the factors affecting a decision to dispose of the NORM. The factors affecting the disposal options available to a company include regulatory compliance requirements and the cost, technical viability and availability of transport and disposal options both locally, nationally and internationally. The storage of NORM may be short term to package, analyse and ship for disposal or long term to consolidate total NORM inventories from a project and dispose of in one project.
- Some proven disposal methods in Australia and overseas include down hole disposal (back into the well during abandonment), land farming (dispersion at a land based facility), near surface burial at an engineered facility and at sea dispersal. Any option selected to dispose of NORM will require compliance with not only the *Radiation Protection Act* (if it were to occur in the Northern Territory) but also other relevant legislation depending on the disposal option and the technical details.

What is the anticipated volume/amount of NORM that could be brought into the Territory?

• An accurate estimate of the total volume or activity of NORM waste which would likely be bought into the NT by prescribed projects is not possible. Many factors affect the production of NORM in an oil and gas operation including reservoir geology, the processes used for extraction of the oil and gas, the production system, maintenance schedules, form of the NORM waste, regulatory compliance requirements across multiple jurisdictions and authorities and the cost, technical viability and availability of transport and disposal options both locally, nationally and internationally.

How does the Act impact on existing Commonwealth legislation?

• The amendment improves clarity, including the legislative relationship between the Territory and the Commonwealth legislation.

How does the proposed legislation compare with what other jurisdictions are doing with NORM?

• Victoria and Western Australia operate significant offshore oil and gas industries. Both jurisdictions have extensive experience with managing the issue of NORM in the industry and

have legislation aimed at preventing the storage, transport and disposal of nuclear waste within state borders. The key differences between the Victorian Nuclear Activities (Prohibitions) Act 1983, the Western Australian Nuclear Waste Storage and Transportation (Prohibition) Act 1999 and the Northern Territory's Nuclear Waste Transport, Storage and Disposal (Prohibition) Act 2004 is the Victorian and Western Australian legislation define the term nuclear material to mean any radioactive substance associated with the nuclear fuel cycle, including fertile and fissile material, spent fuel and waste (Victorian Nuclear Activities (Prohibitions) Act 1983), or nuclear waste to mean material – (a) that is or contains a radioactive substance; and (b) that (i) is waste of a nuclear plant; or (ii) results from the testing, use or decommissioning of nuclear weapons, whether or not that material has been conditioned or reprocessed (Western Australian Nuclear Waste Storage and Transportation (Prohibition) Act 1999). Within these jurisdictions, NORM produced in the oil and gas industry does not constitute nuclear waste and as such is regulated under their respective radiation protection legislation. Industry specific exemptions of a similar nature are not required.

What consultation occurred in relation to these amendments?

- The necessity for these amendments was identified in discussions with the Offshore Oil and Gas Industry sector. The Department of Trade, Business and Innovation has advised affected offshore oil and gas operators about the proposed amendments.
- Targeted consultation will occur with affected offshore oil and gas operators on the draft Regulations to ensure that existing projects are appropriately described before the Regulations are introduced.

What are the next steps?

- Submissions to the Social Policy Scrutiny Committee are due by close of business, Wednesday, 19 September 2018. The report is due by 27 November 2018.
- Pending review outcomes of the Committee, regulations will be drafted in consultation with industry for commencement in late 2018 or early 2019 following passage of the amendments of the Act.