

PARLIAMENTARY INQUIRY QUESTION ON NOTICE

Department of Health and Aged Care

Foreign Affairs, Defence and Trade Legislation Committee

Australian Naval Nuclear Power Safety Bill 2023

13 March 2024

PDR Number: IQ24-000027

Alignment of military and civilian transparency

Spoken

Hansard page number:

Senator: David Fawcett

Question:

Senator Fawcett (at pp20-21): "Are you aware, for example, whether at that level of transparency that the UK acts, military and civilian, are closely aligned? Or is that the sort of area where, for security reasons, Defence says, 'No, we're not going to share everything transparently'? Or do they use an oversight committee? So, there's a trusted group within the parliament who get the report as opposed to publicly releasing the information through the parliament?"

Answer:

The United Kingdom's Defence Nuclear Safety Regulator (DNSR) published annual reports publicly until 2014. However, since 2014, the DNSR has put a national security classification on its annual reports and they are no longer available to the public.

The DNSR reports to the Defence Safety Authority (DSA), which is responsible for setting and enforcement of Defence Regulations for health, safety and environmental protection and supports the Ministry of Defence by providing independent, evidence-based assurance. The DSA aims to reduce and ideally prevent loss of life, avoidable harm and damage to the environment. The DSA publishes assurance reports publicly, which includes some information on the activities of the DNSR.

There is a Defence Nuclear Safety Committee (DNSC), which, as per its website www.gov.uk/government/organisations/defence-nuclear-safety-committee, is the primary source of independent advice to the Secretary of State for Defence on nuclear safety issues associated with the defence nuclear programmes. Members of the DNSC come from a diverse range of backgrounds in both the public and private sectors. The committee provides unbiased, independent, expert advice to the Secretary of State for Defence and senior officials on all safety matters pertaining to the defence nuclear programme (and security and environmental issues, where such issues have the potential to impact upon nuclear safety). It also provides assurance about the soundness of the safety practices and safety management arrangements relevant to the defence nuclear programmes. The Head of DNSR is a member of the DNSC and the United Kingdom's civilian nuclear regulator, the Office for Nuclear Regulation attends in an observer capacity.

PARLIAMENTARY INQUIRY QUESTION ON NOTICE

Department of Health and Aged Care

Foreign Affairs, Defence and Trade Legislation Committee

Australian Naval Nuclear Power Safety Bill 2023

13 March 2024

PDR Number: IQ24-000028

Engagement with West Australian regulators

Spoken

Hansard page number:

Senator: Linda Reynolds

Question:

Senator REYNOLDS: What I would like to ask, I guess in my capacity as a West Australian senator, understanding what has to happen here in WA first up, is: who is the regulator in WA, and as the body that coordinates all nine, shortly 10, what engagement have you had with the West Australian regulators? You were saying they are responsible for first response in terms of ERP. I'm happy for you to take some of it on notice given the time, but could you please just give us a quick overview of your understanding of that situation, the relationships and the action in relation to Western Australia?

Dr Hirth "The Western Australian regulator is a member of our Radiation Health Committee, so we have interactions with them through that committee and the codes and standards they develop. The Radiological Council is the regulator in Western Australia, and I can provide more detail in a full written answer to this question. For emergency response arrangements in Western Australia, probably the arrangements that currently sit under the Visiting Ships Panel (Nuclear) are the ones that reflect how WA would respond to an incident. The Department of Fire and Emergency Services are the lead agency for first response. They work in conjunction with police and other first response agencies within Western Australia for the implementation of the port safety plans in relation to visiting nuclear powered ships into HMAS Stirling and Fremantle, which are reviewed by the VSP(N), the visiting ships panel, of which ARPANSA is a member. Those arrangements also have intersections with other Commonwealth government agencies, such as ANSTO, department of environment, department of health and the Western Australian regulator, so all of those stakeholders have input into the development of those plans.

Concurrently we have also had some discussions with the chief health officer of WA in relation to what aspects or capabilities may need uplift in Western Australia, and that's something that will be part of ongoing discussions as we review our current state versus what will need to be in place in the future.

Senator REYNOLDS: That was very helpful. I'm cognisant of the time. Would you mind taking that on notice? We do have a hearing here in WA, and I think the devil in this is going to be in the detail. So it would be very helpful to understand your ongoing role in this, versus the Western Australian and also the new defence nuclear regulator, to get a better understanding of where the situation is up to now, who is responsible and how that might transition as the new legislation passes.?

Answer:

In Western Australia (WA), the regulator for the keeping and use of radioactive substances and apparatus is the Radiological Council. The Radiological Council is an independent statutory authority appointed under the Radiation Safety Act in WA to assist the Minister for Health to protect public health and to maintain safe practices in the use of radiation.

Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) has provided information on issues relating to nuclear-powered submarines to the Radiological Council via the Radiation Health Committee (RHC). A member of the Radiological Council sits on the RHC, and the RHC meets approximately three times per year. The Chief Executive Officer of ARPANSA has also met with the WA Chief Health Officer and discussed issues relating to how the nuclear-powered submarine enterprise and its regulation would affect WA.

The Radiological Council will not have any regulatory authority over Australian nuclear-powered submarines nor associated facilities nor material. Where the WA government will have interfaces with the nuclear-powered submarine enterprise is with emergency preparedness and response. Under the Australian Government Crisis Management Framework, the states and territories maintain primacy for first response and managing incidents, including for a nuclear or radiological incident. Therefore, WA would need to develop capabilities and capacity to provide an emergency response in relation to the risk from the basing of nuclear-powered submarines at HMAS Stirling. ARPANSA would continue to provide advice and support to the WA government on emergency management.

PARLIAMENTARY INQUIRY QUESTION ON NOTICE
Department of Health and Aged Care
Foreign Affairs, Defence and Trade Legislation Committee
Australian Naval Nuclear Power Safety Bill 2023
13 March 2024

PDR Number: IQ24-000029

Enriched uranium and nuclear materials

Spoken

Hansard page number:

Senator: David Shoebridge

Question:

Senator SHOEBRIDGE: To get an understanding of Australia's experience since 1955, when the first reactor was established, how much highly enriched uranium or other nuclear material have we had to deal with?

Mr Scott: I'd probably have to take some of that question on notice, but I can give you a brief understanding. The HIFAR, High Flux Australian Reactor, is gone. It has closed down. It's defueled. The fuel for it was actually sitting in Dounreay, Scotland, my home country. It got reprocessed in Dounreay. But the Australian government entered into an agreement with the UK government to have the waste from the reprocessing of the HIFAR fuel returned to Australia, in a TN-81 cask, as it's known, currently located at Lucas Heights. Also the OPAL reactor fuel has gone to in fact Orano, which is a French company that reprocesses, and that will be returned to Australia. It's sitting at the moment at Lucas Heights in a TN-81 cask, which is 112 tonnes, a massive cask, and awaiting a disposal pathway. That's the current status. The actual amount of uranium I'd have to take on notice.

Answer:

The HIFAR reactor at Lucas Heights operated from 1958 until it was shut down in 2007. Initially HIFAR used highly enriched uranium (HEU) fuel at 93% U-235. HEU is enrichment of greater than or equal to 20% of the isotope U-235. In 1983, the enrichment of HIFAR fuel was reduced down to 60%.

Between October 2004 and May 2006, the HIFAR fuel was converted from HEU to low enriched uranium (LEU), which is 19.75% U-235. There are nine fresh HIFAR LEU fuel elements stored in the nuclear material store of Australian Nuclear Science and Technology Organisation (ANSTO). These fresh fuel elements are disabled so that they cannot be put back into a reactor.

The OPAL reactor also uses LEU at 19.75% U-235. Two hundred and thirty-six spent fuel elements were sent overseas to France for reprocessing. Currently there are 218 spent fuel elements in OPAL service pool, and 16 fuel elements in the reactor core. There are 74 fresh fuel elements stored in OPAL fuel store. In addition, there three fresh fuel elements in the store, which will never be used and will be returned to the supplier due to non-conformance with the specifications.

All HIFAR spent fuel has been sent to the United Kingdom and France for reprocessing. The radioactive waste residues resulting from reprocessing have been returned from the United Kingdom and France to Australia, and are located at Lucas Heights in Sydney in two TN-81 casks. These residues contain only traces of uranium or plutonium as most of the uranium or plutonium has been extracted and retained in the United Kingdom and France. The trace amounts of uranium and plutonium in the two TN-81 casks do not come under safeguards control.

LEU targets are irradiated at the OPAL reactor for the production of the radionuclide molybdenum-99 (Mo-99). Technetium-99m (Tc-99m), the radionuclide daughter of Mo-99, is currently used in about 80% of all nuclear medicine procedures. The irradiated targets are processed at the purpose-designed ANSTO Nuclear Medicine facility for the extraction of Mo-99. This extraction process generates solid waste containing LEU, which is stored in a purpose-built waste store at ANSTO.