

Economics Legislation Committee
ANSWERS TO QUESTIONS ON NOTICE
Industry, Innovation and Science Portfolio
2016-17 Supplementary Budget Estimates
20 October 2016

AGENCY: ANSTO

TOPIC: Nuclear waste

REFERENCE: Written Question – Senator Hume

QUESTION No.: SI-2

Please explain the difference between high level, low level and intermediate waste, and the need for a commonwealth nuclear waste facility.

ANSWER

Australia categorises radioactive waste according to guidelines established by the International Atomic Energy Agency.

Low-level waste (LLW) emits radiation at levels which generally require minimal shielding during handling, transport and storage. In Australia, LLW is primarily generated from activities associated with the production and use of nuclear medicines and research activities by universities, ANSTO and the CSIRO. The waste can come in a variety of forms such as gloves, gowns, tools and filters that have been used for these activities, and low activity sources such as level gauges and fire detection systems.

Intermediate-level waste (ILW) emits higher levels of radiation and requires additional shielding during handling, transport and storage. A contact dose rate of 2 millisieverts per hour and above is used to distinguish between low and intermediate waste. For comparison, the average person living in Australia will receive about 1.5-2.0 millisieverts of background radiation per year.

In Australia, ILW is generated as a direct result of the production of nuclear medicine, which will be needed by one in two Australians at some point during their lifetime. ILW also comes from industrial and clinical radiotherapy sources and is held by research organisations, hospitals and clinics, industry, and state and territory agencies.

High-level waste (HLW) has higher levels of radiation, which requires increased shielding and isolation from human contact, and requires cooling due to its heat-generating capacity. It is produced from the operation of nuclear power plants. Australia does not produce or store HLW.

Over the past 50 years, Australian radioactive waste has been managed using ad-hoc, temporary solutions, and existing stores are nearing capacity at more than 100 sites across the country.

A purpose-built facility will ensure consistent management and handling of waste. Establishing a national facility will bring Australia into line with international best practice and meet our international responsibilities.