



AUSTRALIA

**IAEA Board of Governors Meeting
2-6 March 2015**

Agenda Item 4

***Strengthening the Agency's Activities Related to Nuclear Science, Technology
and Applications: Nuclear Technology Review 2015***

Thank you, Madam Chair.

Australia thanks Deputy Directors General Chudakov and Malavasi for their introductory comments on this agenda item, and the Secretariat for its helpful briefing held on 17 February. We also welcome the opportunity to comment on the *Nuclear Technology Review 2015* (GOV/2015/8), which presents Member States with a detailed summary of developments in this important area over the last year.

Madam Chair,

Consistent with the trend in recent editions of the *Review*, we note that the use of nuclear power is expected to grow, albeit at a slightly slower or more delayed pace than previously projected. However, it is clear that nuclear power remains an important element of the energy policy of many Member States, particularly those in Asia, where three new units were connected to the grid in 2014 and an additional 47 units are under construction.

At the front end of the fuel cycle, Australia continues to be a major producer of uranium ore. The past year saw mining of the Four Mile East deposit commence in South Australia, environmental approval granted for the Kintyre project in Western Australia, and processing of ore stockpiles at Ranger recommence in the Northern Territory. We are also playing a leading role in development of novel technologies

for management of radioactive waste through construction of a treatment plant for liquid wastes generated from our production of nuclear medicines. This plant, scheduled to commence operations in 2017, is based on Australia's indigenous Synroc technology, which can reduce waste volumes by over 80% compared to other methods such as cementation. It also has the potential to be used in a wide variety of waste management scenarios.

Madam Chair,

As noted in the *Review*, ageing management of research reactors continues to present challenges in regards to their maintenance, modernisation and refurbishment, as well as on nuclear medicine production. While molybdenum-99 supply in 2014 was well managed through effective global coordination of research reactor schedules, 2015 and 2016 will see significant pressure on production as several key reactors either cease production or undergo extended maintenance. Helping to mitigate these pressures, Australia poured first concrete on its new processing plant in October 2014. When this facility comes on line in late 2016, Australia will be able to provide over 20% of global demand for molybdenum-99. We note that this increased production will be fully based on low-enriched uranium (LEU) fuel and targets – just like our current production – demonstrating that this technology is a real, practical and currently-available alternative to highly-enriched uranium (HEU) based production to meet global nuclear medicine demand. We encourage all Member States utilising HEU technology for the production of molybdenum-99 to convert to LEU as quickly as possible.

In addition to the new our molybdenum-99 processing plant, Australia has recently commissioned a new \$5 million lutetium-177 production manufacturing facility for treatment of neuroendocrine cancers. When this facility enters commercial operation this year, we will be able to supply medicines for the estimated 35 in every 100,000 Australians who are living with this cancer.

Madam Chair,

Australia is also continuing its commitment to the use of nuclear techniques in material, environmental and health research through a number of significant infrastructure investments and international collaboration. The previous year saw further expansion of Australia's capability in neutron scattering applications, with commissioning of two more neutron beam instruments on our OPAL research reactor. The ANSTO Centre for Accelerator Science is now complete, with a 6 mega-electron-volt tandem accelerator being installed in late 2014. This state-of-the-art, four-accelerator facility represents a significant investment in Australia's capability to conduct research in a range of fields including climate science, process engineering, and archaeology. Australia will also shortly complete a significant upgrade to our national Activity Standard Laboratory, allowing greater precision in delivery of radiological doses in medical procedures. In environmental science, we continue to identify and characterise scarce water resources in the Pilbara region. As part of the IAEA Sahel project, we are also sharing our expertise in water management, having just hosted two Ghanaian researchers last month. During their fellowship, which was funded under the Peaceful Uses Initiative, these experts have learnt how to establish and operate a laboratory to monitor groundwater in their home country which is vital in the development of effective land and water management policies.

Madam Chair,

With these comments, the Australian delegation takes note of the *Nuclear Technology Review 2015* (GOV/2015/8).

Thank you, Madam Chair.