Australian Nuclear Science and Technology Organisation Amendment Bill 2017

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Date introduced: 20 June 2017
House: Senate
Portfolio: Industry, Innovation and Science
Commencement: The day after Royal Assent.

Links: The links to the Bill, its Explanatory Memorandum and second reading speech can be found on the Bill’s home page, or through the Australian Parliament website.

When Bills have been passed and have received Royal Assent, they become Acts, which can be found at the Federal Register of Legislation website.

All hyperlinks in this Bills Digest are correct as at August 2017.
Purpose of the Bill

The purpose of the Australian Nuclear Science and Technology Organisation Amendment Bill 2017 (the Bill) is to amend the **Australian Nuclear Science and Technology Organisation Act 1987** (the ANSTO Act) to provide greater flexibility to the Australian Nuclear Science and Technology Organisation (ANSTO), in the use of its property, facilities and resources. In particular, the Government has indicated that the Bill will support the establishment of an ‘Innovation Precinct’ at ANSTO’s Lucas Heights site.¹

Background

**Australian Nuclear Science and Technology Organisation**

The **Australian Nuclear Science and Technology Organisation** (ANSTO) is one of Australia’s largest public research organisations, focused on nuclear research and technology. ANSTO operates some of Australia’s key national research infrastructure including the [Open Pool Australian Lightwater (OPAL) research reactor](#) (at Lucas Heights in Sydney), the [Australian Synchrotron](#) and the [Centre for Accelerator Science (CAS)](#).

ANSTO is a corporate Commonwealth entity² and was established by the ANSTO Act. Section 5 of the ANSTO Act lists the functions of ANSTO, which include to:

- undertake research and development in relation to nuclear science and technology and to encourage and facilitate the application and use of the results from such research and development
- produce and use radioisotopes, isotopic techniques and nuclear radiation for medicine, science, industry, commerce and agriculture
- manage and store radioactive materials and radioactive waste
- provide advice to government and undertake international liaison in nuclear-related matters
- make available (on a commercial basis) its facilities, equipment and expertise for research in nuclear science and technology
- publish scientific and technical reports, periodicals and papers and
- arrange for training in nuclear science and technology, including through awarding scientific research studentships and fellowships, in cooperation with universities, professional bodies and other education and research institutions.⁴

**National Innovation and Science Agenda**

In December 2015, the Government announced the [National Innovation and Science Agenda (NISA)](#) as a comprehensive, long-term framework to drive improvements in science and innovation outcomes.⁶ The NISA focuses on four key pillars:

- culture and capital, to help businesses embrace risk and incentivise early stage investment in start ups
- collaboration, to increase the level of engagement between businesses, universities and the research sector to commercialise ideas and solve problems
- talent and skills, to train Australian students for the jobs of the future and attract the world’s most innovative talent to Australia and
- Government as an exemplar, to lead by example in the way Government invests in and uses technology and data to deliver better quality services.⁷

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² Australian Nuclear Science and Technology Organisation (ANSTO), ‘ANSTO at a glance’, ANSTO website.
³ ANSTO’s operations and governance arrangements are subject to the [Public Governance, Performance and Accountability Act 2013](#).
⁴ See further, for example, ANSTO, *Annual report 2015–16*, p. 49.
⁶ C Pyne (Minister for Industry, Innovation and Science), *Agenda to transform the Australian economy*, media release, 7 December 2015.
⁷ M Turnbull (Prime Minister) and C Pyne (Minister for Industry, Innovation and Science), *National innovation and science agenda*, joint media release, 7 December 2015.
On the second pillar (collaboration), numerous reviews and reports have identified a low level of collaboration between public sector research organisations and the private sector as one of the key weaknesses in the Australian innovation system. For example, the Australian Innovation System Report 2016 noted:

> Australia fares poorly on collaboration with research institutions. Australian industry’s collaboration with higher education and research institutions ranked the lowest of 27 countries in the OECD, both for large businesses and for SMEs [small to medium sized enterprises].

Similarly, a recent ‘performance review’ of the Australian innovation, science and research system by Innovation and Science Australia found that ‘researcher-to-business collaboration is a weakness of the Australian system’:

> ... substantial evidence that Australia is poor at translating and commercialising its strong research base. International data suggests that Australia is poor at translating and commercialising its strong research base.

More recently, in March this year, the Government issued a National Science Statement to articulate ‘the government’s vision and objectives for Australian science’, and set ‘principles for government policy-making in science’. The Statement also identifies improved collaboration as an area of government focus in science and innovation, and specifically mentions the potential use of ‘innovation precincts’:

> Collaboration is vital for innovation and the competitiveness of Australia’s industries ... By helping to overcome the barriers between potential collaborators and by supporting increased connections, including through innovation precincts based around universities and/or publicly funded research agencies, the government will facilitate improved production of research, knowledge and technologies.

**ANSTO Innovation Precinct**

As part of the focus on improved collaboration, the Government has signalled its intention to establish an ‘innovation precinct’ at ANSTO’s Lucas Heights site, to:

> ... co-locate and crowd-in scientific partners, knowledge-intensive businesses, high-tech industry, and university graduates around Australia’s centre of nuclear capabilities and expertise.

**ANSTO** explains that the proposed innovation precinct will be designed to:

> ... help foster innovation within ANSTO and its community; by instilling an understanding of innovation and providing opportunities for knowledge transfer between academia and industry.

> It will connect the Australian industry with our nation’s best and brightest researchers and engineers, and provide unparalleled access to Australia’s landmark and national research infrastructure.

ANSTO’s proposed innovation precinct will have three components: a ‘Graduate Institute’, an ‘Innovation Incubator’ and a ‘Technology Park’, all designed to ‘enable ANSTO to act as a conduit between research, industry and universities’.

The Precinct will bring together scientific partners and businesses to provide a unique environment with opportunities to embrace world class expertise, teaching, research and industry-ready graduates in one location.

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9. Innovation and Science Australia (ISA) is an independent statutory board, with responsibility for providing strategic whole-of-government advice to the Government on all science, research and innovation matters: see ISA, *About us*, ISA website.


14. ANSTO, ‘*ANSTO Innovation Precinct*’, ANSTO website.

The aim is to establish a global scale nuclear science and technology centre to train and develop future scientists, engineers and technologists, foster innovation with emerging technologically astute experts in an ‘ecosystem’ that is attractive to industrial users. 16

The Graduate Institute aims to establish a ‘more formal program of postgraduate training and development in partnership with universities’. 17 According to ANSTO, currently, at ‘any given time, there are approximately 120 postgraduate researchers from over 30 universities who spend time as postdoctoral researchers directly leveraging ANSTO’s infrastructure and platforms’. 18 The proposed Institute will expand this program to allow approximately 300–400 graduate and postgraduate students to undertake research studies at ANSTO. 19

The Innovation Incubator will offer ‘physical office and co-working space for eligible members’ as well as ‘access to ANSTO graduates, structured programs, business support services and innovation toolkits’. 20

According to the second reading speech, the proposed Technology Park will ‘crowd-in SMEs, high-tech industry and knowledge-intensive business, which will have the benefit of close access to ANSTO’s unique capabilities, nuclear applications and research infrastructure’. 21 Notably, businesses that have ‘already approached ANSTO regarding possible co-location’ include those in ‘high-end medical manufacturing, next generation food production and 3D data capture’. 22

Committee consideration

Selection of Bills Committee

At its 9 August 2017 meeting, the Selection of Bills Committee deferred consideration of the Bill. 23

Senate Standing Committee for the Scrutiny of Bills

The Scrutiny of Bills Committee had no comment on the Bill. 24

Policy position of non-government parties/independents

At the time of writing, non-government parties and independents do not appear to have publicly commented on the Bill. However, during Senate Estimates hearings in May 2017, Australian Labor Party Senator Kim Carr, Shadow Minister for Innovation, Industry, Science and Research, indicated that he was ‘not opposed’ to a possible ANSTO innovation precinct, but sought a more detailed briefing from ANSTO. 25

Position of major interest groups

At the time of writing, no major interest groups appear to have publicly commented directly on the Bill. However, according to the Explanatory Memorandum, ANSTO has been:

... working in partnership with local industry groups, universities and all levels of government in developing an ANSTO Innovation Precinct. These stakeholders have been supportive of the proposal and have been working with ANSTO to achieve the successful development of the Innovation Precinct. 26

Similarly, the second reading speech indicates:

Industry groups, universities, state and local government have all been actively engaged in the planning process for the ANSTO Innovation Precinct and are excited about the opportunities it will bring. 27

17. McGrath, op. cit., p. 4358.
19. Ibid.
22. Ibid.
In November 2016, the Greater Sydney Commission released a draft South District Plan for public consultation which identified the expansion of ANSTO facilities at Lucas Heights, including the technology park, as a ‘productivity priority’. 28 In its submission on that consultation process, the relevant local government authority, the Sutherland Shire Council, was supportive of the proposed ANSTO expansion, but noted that improved transport may be needed to support that growth. 29 The need for enhanced public transport and road infrastructure was also identified by ANSTO in its own submission on the draft South District Plan. 30

Financial implications
According to the Explanatory Memorandum, the Bill will not have any direct financial impact on the Budget. However, the Explanatory Memorandum states that the Bill ‘will allow ANSTO to leverage its facilities to generate additional capability and increase opportunities for ANSTO to generate commercial revenues from its land, facilities and research’. 31

Statement of Compatibility with Human Rights
As required under Part 3 of the Human Rights ( Parliamentary Scrutiny) Act 2011 (Cth), the Government has assessed the Bill’s compatibility with the human rights and freedoms recognised or declared in the international instruments listed in section 3 of that Act. The Government considers that the Bill is compatible. 32

Parliamentary Joint Committee on Human Rights
The Parliamentary Joint Committee on Human Rights considers that the Bill does not raise human rights concerns. 33

Key issues and provisions
Functions of ANSTO
Section 5 of the ANSTO Act sets out the functions of ANSTO. As noted earlier in this Digest, these include, for example, to undertake research and development in relation to nuclear science and nuclear technology; to encourage and facilitate the application and use of the results of such research and development; to manage and store radioactive materials and waste; and to provide advice on aspects of nuclear science and technology.

In particular, paragraph 5(1)(ea) currently provides that ANSTO may make available to other persons, on a commercial basis, its knowledge, expertise, equipment, facilities, resources and property by:

• providing training and management expertise
• selling or leasing equipment
• leasing land, buildings and facilities or
• any other action that ANSTO thinks appropriate.

Section 6 of the ANSTO Act also provides ANSTO with a range of general powers in connection to the performance of its functions, including powers to enter into contracts, acquire and dispose of property, and erect buildings and structures. Subsection 6(3) also specifically provides ANSTO with the power to construct buildings and facilities for the sole purpose of performing the function in paragraph 5(1)(ea).

Item 2 of Schedule 1 of the Bill amends paragraph 5(1)(ea) to replace the words ‘on a commercial basis’ with ‘whether or not on a commercial basis’, meaning that ANSTO’s ability to make its knowledge, expertise,
equipment, facilities, resources and property available to others will not be limited to being provided on a commercial basis. The Explanatory Memorandum suggests:

By encompassing non-commercial activities, the Bill provides the flexibility for the potential construction of post-graduate accommodation and facilities, for example, which may not necessarily be undertaken on a commercial basis, but would help support research, innovation and training outcomes.  

The Government suggests this flexibility will enable the establishment of the proposed ANSTO Innovation Precinct at Lucas Heights (and potentially similar developments at other ANSTO sites in the future). In doing so, the Bill will ‘facilitate enhanced collaboration between industry, universities, researchers and ANSTO across all its sites’. Also, the Bill aligns with the priorities articulated in the NISA and the National Science Statement, as outlined earlier in this Digest.

The costs associated with developing the innovation precinct are unclear. However, as noted earlier in the Digest, the Explanatory Memorandum states that the Bill will have no direct financial impact, but will ‘allow ANSTO to leverage its facilities to generate additional capability and increase opportunities for ANSTO to generate commercial revenues from its land, facilities and research’.  

Item 4 inserts a new subsection 5(4A) which provides that, without limiting paragraph 5(1)(ea), ANSTO may perform its function under that paragraph for the purposes of scientific research, innovation and training. Item 1 inserts a new definition of ‘scientific research, innovation and training’ into section 3 of the ANSTO Act. That definition provides that ‘scientific research, innovation and training’ includes (whether or not related to nuclear science and nuclear technology):

- any activities in the fields of natural or applied science (including engineering and technology) for the extension or application of knowledge
- any activities that involve innovation or high levels of technical risk for the purposes of creating new or improved materials, products, devices or processes and
- education and training of persons in matters related to activities mentioned in the above paragraphs.

Unlike other aspects of ANSTO’s functions listed in section 5, this new subsection and associated definition is not limited to nuclear science and nuclear technology, which may have the potential of broadening ANSTO’s role.

Constitutional aspects

Subsection 5(5) of the ANSTO Act currently provides that ANSTO may not exceed the functions conferred upon it by virtue of the legislative powers of Parliament, and refers to several potentially relevant powers under the Australian Constitution such as the trade and commerce power and external affairs, territories and defence powers. This subsection reflects the fact that there is no direct head of legislative constitutional power for the Commonwealth relating to science and research (or, in ANSTO’s case, nuclear science and research). However, subsection 5(5) does not mention some other potentially relevant heads of constitutional power, perhaps because, as the Explanatory Memorandum notes, it was drafted on the basis of constitutional law as it was understood in 1987.

Item 5 proposes to repeal subsection 5(5) and item 6 replaces it with a proposed section 6A, setting out an updated and broader constitutional basis for ANSTO’s functions, listing a much larger number of constitutional heads of power. In particular, proposed section 6A adds legislative powers such as those relating to

34. Explanatory Memorandum, op. cit., p. 4.
35. Ibid., p. 1.
36. Ibid., p. 1.
37. Ibid., pp. 1–2.
38. Australian Constitution, section 51(j); ANSTO Act, paragraph 5(d).
39. Australian Constitution, section 51(xxix); ANSTO Act, paragraph 5(e).
40. Australian Constitution, section 122; ANSTO Act, paragraph 5(f).
41. Australian Constitution, section 51(vi); ANSTO Act, paragraph 5(g).
42. Explanatory Memorandum, op. cit., p. 5.
astronomical and meteorological observations; census and statistics; weights and measures; copyrights, patents, designs and trademarks; provision of medical and dental services; and Commonwealth places.  