

Centre for Accelerator Science and extension to facilities for the Australian Nuclear Science and Technology Organisation, Sydney, NSW

- 2.1 The proposed construction of a Centre for Accelerator Science, and the extensions to the Bragg Institute and OPAL Reactor buildings for the Australian Nuclear Science and Technology Organisation (ANSTO), aim to provide facilities for new Accelerator Mass Spectrometry and Ion Beam Analysis, as well as additional offices, laboratories workshops and assembly areas at ANSTO's Lucas Heights site in Sydney, NSW. The estimated cost of the project is \$62.5 million (including GST).
- 2.2 The proposal was referred to the Committee on 25 February 2010.

Conduct of the inquiry

- 2.3 The inquiry was advertised in *The Australian* and submissions sought from those with a direct interest in the project. The Committee received four submissions and two confidential supplementary submissions detailing the project costs. A list of submissions can be found at Appendix A.
- 2.4 The Committee undertook a site inspection, public hearing and an in-camera hearing on the project costs on 9 April 2010 in Sydney. The hearings were held in the council room of the Australian Institute of Nuclear Science and Engineering, publicly accessible and adjacent to the ANSTO visitors centre.

- 2.5 The transcript of the public hearing as well as the submissions to the inquiry are available on the Committee's website.¹ Plans for the proposed works are detailed in Submission 1: ANSTO.

Need for works

- 2.6 The ANSTO submission states the need for works as:
- the Centre for Accelerator Science (CAS) will house two new world-class accelerators, along with associated laboratories, workshops and offices. The accelerators will be used to conduct research that is prominent within the National Research Priorities;
 - the Bragg Institute extensions will provide sufficient office, laboratory, assembly, amenity and meeting-room space to service planned new Neutron Beam Instruments, as well as allowing for the consolidation of deuteration facilities currently spread across the site; and
 - the OPAL Reactor building extensions will accommodate all parts of Reactor Operations in the Reactor building, which will improve efficiency of staff, provide space for increased production of radioisotopes, as well as vacate ageing buildings scheduled for demolition.
- 2.7 The Committee finds that there is a need for the proposed works.

Scope of works

- 2.8 The proposed scope of the works is detailed in Submission 1: ANSTO. In short the project proposes the following:

Centre for Accelerator Science

- 2.9 The Centre for Accelerator Science will comprise two buildings, incorporating:
- accelerator hall and associated plant rooms, control room, technical work areas and user laboratories (total 1986 m²);
 - Accelerator Mass Spectrometry Chemistry laboratories, including office space and staff common areas (total 912 m²);
 - Uranium Series Laboratories, including instruments (total 394 m²); and

1 <aph.gov.au/pwc>

- visitor display area, particularly for school and tour groups to view facilities.
- 2.10 During the site inspection, the Committee noted that ANSTO had not made a final determination about the number of buildings to be constructed for the CAS. At the hearing, the Committee was told that ANSTO was awaiting architectural costings to determine the most cost-efficient building solution.²
- 2.11 ANSTO has since made a supplementary submission advising the Committee of its final decision regarding the layout of the Centre, outlined above. It is fundamental that projects are developed to an appropriate level of detail when referred for inquiry, particularly as failure to do so can delay the Committee reporting on projects.

Bragg Institute

- 2.12 The Bragg Institute project comprises major extensions to the Neutron Guide Hall and Bragg Institute building, (building numbers 82 & 87 respectively) entailing:
- 3250 m² of floor space, providing accommodation for approximately 150 people;
 - assembly areas, laboratories and offices;
 - a basement which will house a future carpark; and
 - a new enclosed linkway between buildings 83 and 87.

OPAL Reactor

- 2.13 The OPAL Reactor project comprises:
- an extension to the existing OPAL Reactor building (building number 80), providing an additional 2388 m² floor space, and 283 m² of minor refurbishment;
 - within those areas laboratory, workshop and office accommodation for:
 - ⇒ Engineering and Maintenance Facilities (including the Instrument and Control group);
 - ⇒ Nuclear Analysis group;
 - ⇒ IT Services group;

- ⇒ Technical Support group;
- ⇒ Target and Canning group;
- ⇒ Training group; and
- ⇒ Utilisation group.

- 2.14 Construction is due to commence in December 2010 and be completed in late 2012.
- 2.15 The Committee finds that the proposed scope of works is suitable to meet the needs of the ANSTO project.

Cost of works

- 2.16 The total estimated out-turn cost for this project is \$62.5 million including GST. The Committee received a confidential supplementary submission detailing the project costs and took evidence in the in-camera hearing regarding the project costs.
- 2.17 The Committee notes that, if project savings are made, they will be delivered back to ANSTO's central fund. The Committee understands that there are extensions to the project scope that could then be funded, such as an increase in the voltage of accelerators for the new Centre for Accelerator Science.³
- 2.18 The Committee is satisfied that the costings for the project provided to it are adequate, and suitable contingency planning is in place to ensure budget overruns in any one area do not compromise the project as a whole.

Project issues

Strategic planning

- 2.19 During its site inspection and public hearing, the Committee discussed ANSTO's internal planning structures. In particular, ANSTO has recently developed a 'site plan' for the next 45 years, that is until 2055.⁴ The plan will enable ANSTO to make prudent site-wide decisions about the

3 Dr A. Paterson, CEO, ANSTO, *Transcript of Evidence*, 9 April 2010, p.5.

4 Dr A. Paterson, CEO, ANSTO, *Transcript of Evidence*, 9 April 2010, p.11.

footprint of new buildings, and the Committee is pleased to note that the three projects currently under consideration form part of the 45-year plan.

- 2.20 While it is concerning that ANSTO has never before had such a plan, the Committee is pleased to note its inception and is encouraged by the enthusiastic acceptance of it by staff. This kind of long-term planning is particularly important for an organisation like ANSTO, as its research equipment generally has a long lifetime, and some low-level radioactive waste is produced and stored onsite.⁵
- 2.21 Scientific research organisations develop and maintain equipment and infrastructure that is often unique in Australia. In addition, scientific instruments are generally built at the ‘bleeding edge’ of design.⁶ For these reasons, such organisations must often rely on internal expertise and collaboration, making organisational planning absolutely fundamental to the success of new equipment and infrastructure. This planning is also crucial to ensure that publicly funded research is sustainable and provides value for money. The Committee commends ANSTO on its renewed attention to long-term planning.

Committee comment

- 2.22 The research undertaken by ANSTO spans a wide range of fields, including:
- climate and environmental science, nuclear safeguards and forensics, human history;⁷
 - materials science and structural biology;⁸ and
 - life sciences, medicine, chemistry, engineering science, medical, physical and radiation physics.⁹
- 2.23 As well as its scientific research, ANSTO makes significant contributions to medicine. The most important of these contributions is the production of Molybdenum-99, which is a precursor material to Technetium-99m, used for medical nuclear-imaging in hospitals around the world. Whilst

5 Dr A. Paterson, CEO, ANSTO, *Transcript of Evidence*, 9 April 2010, p.14.

6 Dr A. Paterson, CEO, ANSTO, *Transcript of Evidence*, 9 April 2010, p.6.

7 Dr A. Paterson, CEO, ANSTO, *Transcript of Evidence*, 9 April 2010, p.2.

8 Submission 1b, ANSTO, p.2.

9 Submission 1c, ANSTO, p.4.

much of the world's supply of Molybdenum-99 has to date been produced in Canada, there is a looming international shortage.¹⁰

- 2.24 ANSTO indicated at the public hearing that it would be seeking regulatory approval from the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) to produce more Molybdenum-99 in the short term.¹¹ ANSTO also indicated its desire to be a bigger contributor to radiopharmaceutical production in the long-term.¹²
- 2.25 The Committee reiterates the importance of the scientific research carried out by ANSTO, and also underlines the practical contribution ANSTO makes to medicine. The proposals before the Committee all contribute to ANSTO's ability to continue its research and production, and highlight the contribution made by public research organisations to Australia and the world.
- 2.26 Overall, the Committee is satisfied that this project has merit in terms of need, scope and cost.
- 2.27 Having examined the purpose, need, use, revenue and public value of the work, the Committee considers that it is expedient that the proposed works proceed.

Recommendation 1

The Committee recommends that the House of Representatives resolve, pursuant to Section 18(7) of the *Public Works Committee Act 1969*, that it is expedient to carry out the following proposed work: construction of a Centre for Accelerator Science and extension to facilities for the Australian Nuclear Science and Technology Organisation, Sydney, NSW.

10 Dr A. Paterson, CEO, ANSTO, *Transcript of Evidence*, 9 April 2010, p.15.

11 Dr A. Paterson, CEO, ANSTO, *Transcript of Evidence*, 9 April 2010, p.15.

12 Dr A. Paterson, CEO, ANSTO, *Transcript of Evidence*, 9 April 2010, p.17.