



Anglo-Australian Telescope Agreement Amendment Bill 2005

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Anglo-Australian Telescope Agreement Amendment Bill 2005

Date Introduced: 9 November 2005

House: House of Representatives

Portfolio: Education, Science and Training

Commencement: Clauses 1-3 commence on Royal Assent. The operative provisions (Schedule 1) only commence once *both* Royal Assent is given *and* the Supplementary Agreement¹ is in force in Australia. The relevant Minister must make a gazettal notice announcing the date the Supplementary Agreement comes into force in Australia. However, if that Agreement is not in force with six months of Royal Assent, Schedule 1 does not commence at all.

Purpose

To incorporate the 2005 Supplementary Agreement regarding the Anglo-Australian Telescope into the *Anglo-Australian Telescope Agreement Act 1970*.

Background

Most observing activity in Australian optical astronomy occurs at Siding Spring Observatory located near Coonabarabran NSW, where a large number of significant telescopes and facilities coexist. Few astronomers peer through a telescope these days as most observing is computerised. Work also involves theoretical study, instrumentation development and teaching. Astronomy is a science enabling and inspiring discipline, particularly for young people, with Australia's extensive expertise being demonstrated by the level of citations in relevant publications, while also contributing to scientific applications and technological advancement.

In 1969, Australia and the UK signed a treaty (the [Anglo-Australian Agreement](#)²) providing for the establishment and operation of a large 3.9m telescope at Siding Spring – the Anglo-Australian Telescope (AAT). The AAT is managed and operated by the Anglo-Australian Telescope Board (AATB), which was also established by the Anglo-Australian Agreement. The AATB is an independent bi-national authority funded on an equal basis by Australia and the UK. The AATB was given statutory recognition in Australia by the *Anglo-Australian Telescope Agreement Act 1970* (the Act).

In addition to the AAT, the AATB's facilities include the 1.2-metre UK Schmidt Telescope (UKST), also at Siding Spring, and a laboratory at Epping in Sydney. Collectively, these form the [Anglo-Australian Observatory](#) (AAO).

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In 2001, the UK advised Australia that it had other astronomy priorities and intended to terminate its involvement with the AAT. According to the recent [report](#) of the Joint Standing Committee on Treaties (JSCOT):

The Committee was informed that the UK would be directing some of its astronomy assigned funding towards facilities such as the European Southern Observatory and Gemini Observatories both of which operate next generation eight-metre optical telescopes.

Instead of terminating the Agreement with Australia, the UK agreed to amend the Agreement to continue the UK's commitment to the AAT, but at a reduced level until the termination of both agreements. The new termination and the AAT handover arrangements will ensure long term access for Australian astronomers to a valuable scientific instrument in the lead up to Australia's acquisition of the AAT.³

The administrative arrangements to reflect this progressive withdrawal by the UK from the AAT are contained in an amendment (the '[Supplementary Agreement](#)') to the Anglo-Australian Agreement. Under the Supplementary Agreement, which was signed in August 2005, ownership of the AAT will be transferred to Australia on 1 July 2010, at which time the Anglo-Australian Agreement will cease.

As a national facility in high demand, AAT usage is allocated on the basis of the merit of proposed observing programs. The Observatory has thus been involved in activities such as the [2dF Galaxy Redshift Survey](#) and the [6dF Galaxy Survey](#) (UKST). The 2dF survey mapped more than 221,000 galaxies in space while the 6dF survey covered 20,000 quasars of distant galaxies. According to a recent study, the AAT has fared well in terms of citations of scientific papers, being the most productive telescope for those greater than 3m in size.⁴ The AAT's most highly cited papers came from the 2dF Survey.

The draft Australian Astronomy Decadal Plan 2006-15 proposes a strategic vision for national benefit through research and expertise in optical and radio facilities, with a focus on international collaborations and global projects. The two major projects are the Square Kilometre Array (SKA) radio telescope program and development of Extremely Large Telescope (ELT) optical facilities. Australian expertise in automated optical imaging systems has enabled entry into major overseas scientific projects such as the Gemini Observatories located in Hawaii and Chile.

The Plan aims to build on a proud history of local achievements in astronomy, but how Australia will sit in future proposals, such as the \$1 billion SKA project and \$500 million ELT project, is problematic. While these may represent the new generation of astronomy research, their astronomical prices may forever confine Australian interests to mere niche activities. Australia's participation in international collaborative observatories, although useful, is also said to be viewed by some overseas participants as stingy, being at around 6 to 10 per cent.⁵

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In 2005-06 Australia is providing \$4.6 million of funding for the AAT and associated matters, with the UK, if it follows past practice, contributing somewhat over \$4 million. According to the Explanatory Memorandum, forward estimates indicate that Australian funding through annual budget appropriations will increase incrementally up to \$4.9 million in 2008-09.⁶ However, according to the JSCOT report, the UK will halve its current contribution to around \$2 million in 2006-07 and \$1 million in 2007-08.⁷ The Supplementary Agreement provides for a minimum annual contribution of \$0.5 million by both parties to 2010. The Department of Education, Science and Technology (DEST) has indicated that some additional funding for the AAT's continued operation, without UK support, may be available through the competitive grants program, assuming a successful application.⁸ The astronomical community has expressed its concerns about the uncertain funding arrangements.⁹

More information on the AAT and the funding issues associated with implementation of the Supplementary Agreement can be found in the JSCOT report.

Main Provisions

Schedule 1 makes various consequential changes to the Act to reflect the amendment of the original Anglo-Australian Agreement by the Supplementary Agreement.

Concluding Comments

The concerns of astronomers mentioned may well be validated, as funding for even very basic astronomy programs have sometimes been not forthcoming. For instance, there remains no funded Australian component of the international effort to detect Earth-threatening asteroids and comets under project Spaceguard. Establishment of a Joint Department of Defence and DEST search for Earth-threatening asteroids has been long-deferred. As well, space science remains a poor cousin here, despite Australia's obvious expertise in astronomy research. So, as stated by the AATB: 'To be effective, astronomical research requires stable, long-term funding'.¹⁰

Endnotes

- 1 See background for an explanation of the Supplementary Agreement.
- 2 The full title is *The Agreement between the Government of the Commonwealth of Australia and the Government of the United Kingdom of Great Britain and Northern Ireland to provide for the establishment and operation of a large optical telescope.*

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- 3 JSCOT Report 68: Treaties tabled on 7 December 2004 (5) and tabled on 9 August 2005 – Chapter 4 *Report on the Supplementary Agreement with the United Kingdom of Great Britain concerning the Anglo-Australian Optical Telescope* , pp. 20-21.
- 4 Sky and Space, ‘Anglo-Australian research in world class’, *Sky and Space*, July/August 2005, p. 30.
- 5 This sentiment was expressed verbally by Australian astronomers at a recent visit by Parliamentary Library staff to a major observatory.
- 6 Explanatory Memorandum, *Financial Impact*, p. 2.
- 7 JSCOT Report 68, op. cit, p. 27.
- 8 *ibid.*
- 9 [Submission](#) to JSCOT inquiry by Professor Penny Sackett, Director, Research School of Astronomy and Astrophysics, Australian National University.
- 10 Anglo-Australian Observatory, *AAO Annual Report 2003–2004*, Annual Report of the Anglo-Australian Telescope Board, 2004, p. 17.

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