

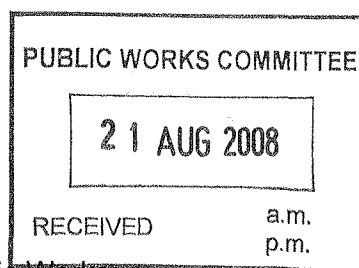


Department of Industry and Resources  
Government of Western Australia

Submission No. 4  
(SKA Pathfinder Radio Telescope)

*M.R. 21/08/08*

Your ref:  
Our ref: R1169/200602  
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Mr Mark Butler, MP  
Chairman  
Parliamentary Standing Committee on Public Works  
Parliament House  
CANBERRA ACT 2600

Dear Mr Butler

### DEPARTMENT OF INDUSTRY AND RESOURCES SUBMISSION ON THE ASKAP PROJECT

Please accept the attached submission on behalf of the Western Australian Department of Industry and Resources, supporting the statement of evidence provided by the Commonwealth Scientific and Industrial Research Organisation (CSIRO) on the proposed Australian SKA Pathfinder (ASKAP) Radio Telescope in Geraldton-Greenough and in the Murchison Shire, Western Australia. As you may be aware, the Western Australian Government is in caretaker mode prior to the state election and thus it is not possible or appropriate to provide a broader statement than is attached at this time.

The Department of Industry and Resources has been working in partnership with the CSIRO on this project. We have long understood the benefits that may accrue to Australia from the presence of the Square Kilometre Array (SKA) Project in the Mid West of Western Australia and fully endorse the importance of the ASKAP Project to Australia's overall strategy to win the right to host the SKA.

I would appreciate an invitation for senior officials of the Department of Industry and Resources to attend and provide evidence to your public hearing. Our staff will be able to provide your Committee with the most recent information about the progress that has been made towards the provision of permanent access by the CSIRO to the land required for the ASKAP Project. The Department has been directly involved in these processes and has worked collaboratively with the CSIRO to achieve the outcomes described in our submission.

Yours sincerely

Anne Nolan  
Director General  
18 August 2008

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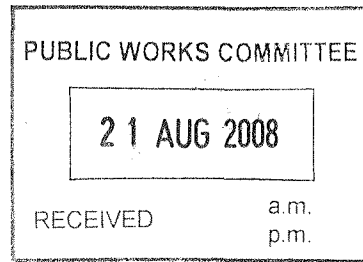
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**Australian SKA Pathfinder Radio Telescope in Geraldton-Greenough  
and in Murchison Shire, WA**

**Submission to the Parliamentary Standing Committee on Public Works  
from the Department of Industry and Resources (Western Australia) to  
provide additional information to the submission from the sponsoring  
department, the Commonwealth Scientific and Industrial Research  
Organisation**

**22 August 2008**

## Introduction

1. The Department of Industry and Resources (Western Australia) is the lead agency participating in Western Australia's involvement with Australia's bid to win the right to host the international Square Kilometre Array (SKA) Project in Australia.
2. This submission to the Parliamentary Standing Committee on Public Works (PWC) provides additional information regarding the proposed construction in Western Australia of the proposed Australian Square Kilometre Array Pathfinder (ASKAP) radio telescope by the CSIRO.
3. The Square Kilometre Array (SKA) is a proposed AUD\$2.45 billion next-generation radio telescope project under development by scientists from more than 50 institutions across 19 countries (Australia, New Zealand, and countries in Europe, Asia, Africa, and the Americas). The SKA will be one of the largest scientific projects ever undertaken anywhere in the world and the Australian and Western Australian Governments have agreed that hosting the SKA Project would bring significant potential benefits to Australia. The successful implementation of the ASKAP Project is an important element of Australia's strategy to win the right to host the SKA Project.
4. ASKAP will be an array of up to 36 parabolic dishes, each of 12 metres diameter. Phased array feed receivers at the focus of each dish will measure radio waves received from astronomical sources at frequencies between 800 MHz and 1700 MHz. The signals will be electronically combined, and transported to a large supercomputer that will further process the information.
5. It is proposed that the ASKAP antenna array be constructed in the Mid West of Western Australia at the Murchison Radio-astronomy Observatory (MRO). The MRO is approximately 315 km northeast of Geraldton, on Boolardy Station pastoral lease. Support and remote operation facilities will be located at Boolardy Station, and at Geraldton.

6. Successful operation of ASKAP on the MRO site will significantly strengthen Australia's site bid for the international Square Kilometre Array (SKA) radio telescope Project through:
  - successful demonstration of innovative radio-astronomy technologies that will facilitate a detailed system design and costing for Phase 1 of the SKA;
  - successful demonstration of remote operation of radio-astronomy equipment in the Australian environment;
  - successful demonstration of the radio-quietness of the MRO through the acquisition of high quality scientific data;
  - successful demonstration of Australian industry capacity and capability to construct, operate and maintain high technology remote-region infrastructure; and
  - successful demonstration of the approvals and joint governmental structures needed to deploy infrastructure and operate a facility.
  
7. More generally, ASKAP and the SKA projects have the potential to benefit Australia, and international science more broadly, in many ways:
  - cultural and scientific value through the advancement of fundamental knowledge about the Universe;
  - educational value through the inspiration provided by hosting and involvement with an iconic international scientific project;
  - industrial value through the opportunities for Australian industries to collaborate in leading developments in information and knowledge processing technologies, and radio science areas with commercial spin-off potential; and
  - national and regional value through the employment and infrastructure provision in remote areas of Australia that could support communities for the expected greater than 30 year lifetime of ASKAP and 50 year lifetime of the SKA facility.

8. The Western Australian Government, through its science, innovation and land management agencies such as the Department of Industry and Resources and the Department of Planning and Infrastructure, has been actively involved in the development of the SKA Project and its potential attraction to Western Australia for over ten years.
9. The Western Australian Government worked collaboratively with CSIRO and the Australian SKA Consortium to prepare the *Proposal for Siting the SKA in Australia* which resulted in Australia being considered for final selection.
10. Australia was shortlisted in September 2006, along with Southern Africa, as an acceptable site for the SKA. In November 2006, stakeholders met in a meeting facilitated by the Department of Industry and Resources. It was decided at that meeting that Boolardy Station was likely to provide the optimum location for radio-astronomy in the Mid West.
11. Investigations of the feasibility of the Boolardy Station site were conducted over December 2006 and January 2007 and, in mid-February 2007, the Premier of Western Australia announced that the Boolardy Station site was the favoured site for radio-astronomy activities in Australia.
12. The Western Australian Government proposed the establishment of a formal collaborative arrangement between the Commonwealth Government, CSIRO and itself to support Australia's approach to winning the SKA Project.
13. In recognition of the value of large international science projects to Australia and to Western Australia and the potential benefits of ASKAP and SKA to radio-astronomy and to Australian science more generally, the Australian Government and the Government of Western Australia signed a Memorandum of Understanding to provide a basis for the Governments to work together towards a successful bid for Australia to host the SKA.

14. An intergovernmental committee, the Australian SKA Coordination Committee (ASCC), advises the Governments on the Australian SKA project and takes day-to-day decisions to advance the Australian SKA project. The Western Australian Government provides half the membership of the ASCC and acts as a co-chair.
15. The Western Australian Government has consistently resourced its involvement in Australia's SKA Project and its financial commitment is currently approaching \$30 million, including the funding of activities that support Australia's broader strategy for winning the right to host the SKA Project as well as the more direct support for ASKAP Project outcomes.
16. The Western Australian Government has identified a range of outcomes beneficial to the State and Australia more generally that will accrue from the hosting of the SKA Project on the MRO and endorses the view that the successful construction and operation of the ASKAP Project on the MRO is an essential part of Australia's SKA strategy.

### **Western Australia's Support for the ASKAP Project**

17. The Premier, as Minister for Science and Innovation, directed the State's involvement in and support for the ASKAP and SKA projects and in February 2008 announced a number of new initiatives, including \$20 million funding for the establishment of an international radio-astronomy research centre in WA, that will provide additional support to the ASKAP Project.
18. The identification of Boolardy Station in the Mid West of Western Australia as the preferred site for CSIRO to build and operate the ASKAP telescope, and thereby to demonstrate the site as being the best site in the world to host the SKA Project, was endorsed by the Western Australian Government in February 2007.

19. Boolardy Station is a privately held Western Australian pastoral lease, the tenure of which is administered under the Western Australian Land Administration Act (1997), and the Western Australian Government therefore has a leading role in establishing permanent arrangements for access to the land required to be used for radio-astronomy purposes (the MRO) and for the management of Radio Frequency Interference (RFI) that would impact adversely on radio-astronomy activities on the MRO.
  
20. As part of its commitment to the successful establishment of the ASKAP Project on the MRO, the Western Australian Government:
  - Imposed a prohibition on mining activities under Section 19 of the WA Mining Act on a large area of land surrounding the MRO in order to prevent the emission of RFI from those mining activities that would negatively impact on the radio-astronomy projects;
  - Imposed a further control zone, the Mineral Resource Management Area, under the Mining Act over an area of 80 km radius from the MRO core site that restricts mining activities to those that can demonstrate satisfactory management of RFI to levels that do not impact on the radio-astronomy projects;
  - Provided CSIRO with access to a central part of the MRO (the Early Research Area) under a Temporary Licence under the Land Administration Act to enable low impact radio-astronomy activities to be carried out;
  - Established the Western Australian Radio-astronomy Committee (WARAC) to manage early issues arising in the projects;
  - Worked collaboratively with the ASKAP team, other government departments and the local stakeholders to prepare for the implementation of the ASKAP Project when approved;
  - Funded and implemented a heritage survey of the Early Research Area in order to determine the basis on which the Temporary Licence could be granted in accord with heritage requirements;
  - Funded and implemented a flora and fauna survey of the MRO as part of the preparation for environmental approval for the ASKAP Project.



21. It has been determined by the ASCC that the following actions should be undertaken to establish the appropriate forms of tenure, access and management over the land on which it is proposed to construct and operate the ASKAP Project:
- The CSIRO should purchase the Boolardy Station pastoral lease from the current lease-holder and operate it as a pastoral lease, thereby establishing management control over all the land immediately surrounding the MRO for the purposes of controlling the RFI that is emitted by pastoral activities;
  - The CSIRO should surrender the MRO out of the Boolardy pastoral lease back to the Western Australian Government;
  - The Western Australian Government should then lease the MRO to CSIRO for radio-astronomy purposes, including the construction and operation of the ASKAP Project;
  - The CSIRO, the Commonwealth and the Western Australian Government should negotiate and agree an Indigenous Land Use Agreement (ILUA) with the Native Title Claimants whose claim covers the land surrounding and including the MRO, for the continuation of access rights by all parties to the MRO.
22. As part of its commitment to the ASKAP and SKA Projects the Western Australian Government agreed to provide the funds necessary for the CSIRO to purchase the Boolardy pastoral lease, subject to the price being acceptable and the negotiations being concluded in a reasonable timeframe. At the time of the announcement of the Western Australian state election, a formal Agreement was being drawn up between the parties to that effect and negotiations with the leaseholder were underway.
23. The Western Australian Government had agreed to lease the MRO to the CSIRO for radio-astronomy purposes for the duration of the ASKAP and related projects, and a lease agreement was being drafted when the election was called.

24. The Western Australian Government had agreed to be a signatory to the ILUA and was the lead negotiator in the preparation of the agreement.
25. The Western Australian Government has provided support resources to CSIRO to assist the progress of the ASKAP Project to the current stage such that, once approved, the Project is able to deliver the outcomes for Australia that are indicated, as follows:
  - Preparation of an Australian SKA Industry Capability Directory for use by ASKAP in its procurement of goods and services for the Project;
  - Assistance in the development of Australian SKA Industry Opportunities Register to identify ASKAP-based industry development opportunities;
  - Assistance in the preparation of an Australian Industry Participation Plan for use in the ASKAP Project's procurement processes;
  - General assistance with the provision of information and support for the determination of the optic-fibre cable route between the MRO and Geraldton.

#### **Current Status of Land Access Activities (18 August 2008)**

26. The funding agreement being drawn up between the CSIRO and the Western Australian Government for the purchase of the Boolardy Station pastoral lease was in the final stages of drafting when the election was announced.
27. The purchase price and details of the transaction were being negotiated with the pastoral leaseholder.
28. The details of the lease agreement by which the CSIRO will lease the MRO from the Western Australian Government were in the negotiation stage.
29. The CSIRO and the Western Australian Government were participating in the ILUA negotiation process with the Wajarri Yamatji Native Title Claimant Group and their

legal representatives, and the process was proceeding according to its planned timeline.

30. The Department of Industry and Resources intends to send representatives to the Public Works Committee's Public Hearing to provide any further information and an update on progress made on these matters.

