The Department is to undertake an evaluation of the National Collaborative Research Infrastructure Strategy in 2009. The evaluation will be conducted by an Evaluation Team who will collaborate with other expert panels with specific areas of expertise to conduct the evaluation. The Evaluation Team and the panels assisting it will consult with NCRIS capability providers, users and key stakeholders including (but not limited to) state and territory governments, universities and publicly funded research agencies.

**Background**

In July 2003 the National Research Infrastructure Taskforce (NRIT) was appointed to develop a strategic framework within which the Government could consider priorities for future investment in large scale infrastructure to support Australia’s research strengths in the national interest.

The central finding arising from the NRIT was that there was a need for a national process to identify and prioritise research infrastructure needs. Further, the NRIT made a number of recommendations regarding research infrastructure funding principles.

The Government announced the National Collaborative Research Infrastructure Strategy (NCRIS) in 2004 as part of Backing Australia’s Ability – Building our Future through Science and Innovation. $542 million in administered funds was provided for the NCRIS over seven years (2004-05 to 2010-11). The objective of the NCRIS was to provide researchers with major research facilities, supporting infrastructure and networks necessary for world-class research.

In October 2004 the NCRIS Advisory Committee was appointed to advise Government on the funding principles and process for implementation of the NCRIS. The Committee presented its advice in July 2005.

One of the NCRIS Advisory Committee’s recommendations was that the Government establish an expert standing committee to oversee the detailed implementation of the NCRIS program, including advising the Government on specific research infrastructure needs, priorities and options. The NCRIS Committee was established in September 2005.
**The NCRIS Program**

The NCRIS Program addresses the problem that many high-priority, medium to large-scale research facilities or infrastructure investments are too large or complex to be supported by any single research institution and too important to the wider research community to be confined to individual interests or jurisdictions. It also seeks to avoid the waste of limited resources that would result from competitive or uncoordinated duplication of key research facilities. The NCRIS approach embodies an innovative collaborative and cooperative method for resourcing of critical research infrastructure. The implementation of the NCRIS program is governed by the NCRIS principles that are applied to achieve the NCRIS objectives, given below.

**The objectives of the NCRIS program are to:**

- Provide major research infrastructure that is national and strategic, collaborative, and world-class;
- Promote a sustained cultural shift towards investment attitudes that are national and strategic, and collaborative; and
- Foster research activity that is collaborative and world-class.

**The key principles underpinning the NCRIS program are that:**

- Australia’s investment in research infrastructure should be planned and developed with the aim of maximising the contributions of the R&D system to economic development, national security, social wellbeing and environmental sustainability.
- Infrastructure resources should be focussed in areas where Australia is, or has the potential to be, world-class (in both discovery and application driven research) and provide international leadership.
- Major infrastructure should be developed on a collaborative, national, non-exclusive basis. Infrastructure funded through the NCRIS program should serve the research and innovation system broadly, not just the host/funded institutions. Funding and eligibility rules should encourage collaboration and co-investment. It should not be the function of the NCRIS program to support institutional level (or even small-scale collaborative) infrastructure.
- Access is a critical issue in the drive to optimise Australia’s research infrastructure. In terms of the NCRIS funding there should be as few barriers as possible to accessing major infrastructure for those undertaking meritorious research.
- Due regard be given to the whole-of-life costs of major infrastructure, with funding available for operational costs where appropriate.
- The Strategy should seek to enable the fuller participation of Australian researchers in the international research system.
**Authority for Review**

The Program Management Guidelines for the implementation of the NCRIS Program referred to an Evaluation Strategy. This Evaluation Strategy was approved by the NCRIS Committee in December 2006. The Evaluation Strategy included a plan for an independent evaluation of NCRIS in 2009.

The timing and nature of this evaluation is consistent with the government requirement for terminating programs to be evaluated, given that funding for the current phase of NCRIS ceases on 30 June 2011.

**Evaluation Scope and Date**

The evaluation will examine the performance of the NCRIS against the criteria of appropriateness, effectiveness, efficiency, integration, performance assessment and strategic policy alignment as described in the Expenditure Review Principles articulated by the Department of Finance and Deregulation.

The evaluation will refer to the NCRIS Principles, the NCRIS Objectives, and the Performance Indicators for the NCRIS program that were described in the NCRIS Evaluation Strategy.

This evaluation will examine the implementation of the NCRIS program from the date of the appointment of the NCRIS Committee in September 2005 to 30 June 2009.

Topics included in the scope of the evaluation are
- the initial Roadmap (February 2006) and its development;
- the NCRIS Investment Framework (April 2006);
- the facilitation processes;
- the selection of investments and approval of investment plans (November 2006);
- the development, implementation and management of Funding Agreements,
- the resulting research infrastructure;
- the outcomes and impact arising from the use of this infrastructure; and
- the Strategic Roadmap for Australian Research Infrastructure (August 2008) and its development.

The evaluation will commence early in 2009. It is expected that the draft findings of the evaluation will be available by the end of September 2009 for inclusion in background material for the budget process for 2010/2011, and the evaluation report will be complete by the end of November 2009. This is to allow the capture of performance data from the NCRIS Capabilities for 2008/2009 that will be included in Annual Reports due by 30 September 2009.

---

1 The NCRIS Program Management Guidelines were approved in November 2006.
Related reviews

Previous reviews and related consultation processes that will be considered by the evaluation are:

- The initial Roadmap (February 2006) and the submissions and consultations leading to its development;
- The Review of the NCRIS Roadmap and Facilitation Processes (April, 2007);
- Public Support for Science and Innovation: Australian Government Public Service Commission Research Report (March 2007);
- The Review of the National Innovation System (August 2008);
- The Strategic Roadmap for Australian Research Infrastructure (August 2008), and the consultations conducted during the development of this roadmap; and
- Reviews of individual NCRIS capabilities due to be conducted in 2009 (such as the Integrated Marine Observing System and Integrated Biological Systems).

Terms of Reference

The evaluation Terms of Reference have been developed in accordance with Department of Finance and Deregulation guidelines, particularly the Expenditure Review Principles.

In assessing Government activity against the Expenditure Review Principles, evidence must be used to demonstrate whether the activity is the most appropriate, efficient and effective way to achieve the Government's outcomes and objectives.

In addressing the following terms of reference the evaluation will have regard to the NCRIS Principles, the NCRIS Objectives and the NCRIS Performance Indicators identified in the Evaluation Strategy.

1. Appropriateness

Provide an overview of the NCRIS program's appropriateness by addressing:

a) The extent to which the NCRIS program has improved resource allocation compared with previous and alternative programs:
   i. Is there a demonstrated need for the NCRIS as a government program?
   ii. Is the NCRIS program consistent with current government policy?
   iii. Is the NCRIS approach the best way to address the need for a national process to identify, prioritise and fund medium to large-scale research infrastructure needs?

2. Effectiveness

Provide an overview of the effectiveness of the NCRIS program by addressing:

a) Is the NCRIS program cost effective?
b) Do the NCRIS activities have clear and consistent objectives and are they effective in achieving their objectives. Do they represent value for money for the expenditure of taxpayer funds? and
c) What is the impact of the NCRIS program on research and how have research outcomes been improved? Specifically:
   i. What has NCRIS provided?
   ii. Has NCRIS-funded infrastructure met research needs?
   iii. Is NCRIS-funded infrastructure world-class?
   iv. What type of collaborative arrangements has NCRIS enabled?
   v. To what extent has NCRIS fostered research activity that is collaborative and world-class?
   vi. Has the collaborative approach been effective?

3. Efficiency

Provide an overview of the efficiency of the NCRIS program by addressing:

   a) Is the NCRIS program administered and delivered in the most efficient way achievable?
   b) taking into account both short and long term economic and fiscal consequences:
      i. Was the administration of the NCRIS program cost-effective across the research sector?
      ii. How much did other parties contribute to the NCRIS investments?
      iii. Was the program implemented on schedule?

4. Integration

Provide an overview of the extent to which the NCRIS program has achieved integration by addressing:

   a) In the delivery of the NCRIS program, are the government agencies involved able to work together effectively to consistently deliver the Government's policy objectives within clearly defined lines of responsibility?

5. Performance assessment

Provide an overview of the extent to which the NCRIS program has incorporated robust and performance measurement by addressing:

   a) Does the NCRIS program incorporate mechanisms for robust performance assessment and measurement in its delivery?

6. Strategic Policy Alignment

Comment on the extent to which the NCRIS program has achieved strategic policy alignment by addressing:
a) Is the NCRIS program consistent with the Government's strategic long term policy priorities, in particular in areas that help sustain economic growth through improved productivity and participation?

**Specific issues to cover**

The evaluation report will also comment on the policy grounds on which further funding for NCRIS could be sought, given that the Review of the National Innovation System recommended funding for a successor program to the NCRIS².

**Approach to the Evaluation**

**Evaluation Team**

The Evaluation Team will have overall responsibility for the evaluation. The evaluation report will be produced as a result of a collaboration between the Evaluation Team and various expert panels who will provide input on and analysis of various aspects of the NCRIS program. The Evaluation Team will ensure that all the Terms of Reference of the Evaluation are addressed and that appropriate methodologies are used to provide evidence for the conclusions drawn in the evaluation report.

The Evaluation Team will comprise the following:

<table>
<thead>
<tr>
<th>SES Officer from DIISR (Chair)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A representative of the Academic Research Sector (such as a University DVC(R))</td>
</tr>
<tr>
<td>A representative of the PFRA Sector (such as a CSIRO Deputy Chief Executive)</td>
</tr>
<tr>
<td>State and Territories government representative</td>
</tr>
<tr>
<td>An expert in cost-benefit analysis</td>
</tr>
<tr>
<td>An expert in Public Sector management</td>
</tr>
<tr>
<td>An NCRIS Committee Member (in an advisory role)</td>
</tr>
<tr>
<td>General Manager, Research Infrastructure Branch (in an advisory role)</td>
</tr>
</tbody>
</table>

The Evaluation Team will meet regularly throughout the evaluation process, as outlined below.

<table>
<thead>
<tr>
<th><strong>Milestone meetings</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Discuss and agree to Terms of Reference</td>
</tr>
<tr>
<td>Discuss consultation process</td>
</tr>
<tr>
<td>Expert panels to present initial findings from consultation processes.</td>
</tr>
<tr>
<td>Discuss analysis of results of findings from consultation and process for drawing report together</td>
</tr>
<tr>
<td>Discuss Draft Report</td>
</tr>
</tbody>
</table>

Staff of the Research Infrastructure Branch will assist the Evaluation Team and the expert panels as appropriate by providing secretariat support, by organising interviews, site visits and Capabilities Meetings as may be required, and in the collection, collation and presentation of relevant data. As this assistance will be provided in-house, it is anticipated that this will be provided at no additional cost.

It is anticipated that the Evaluation Team may need some assistance with the preparation of the cost-benefit analysis of the NCRIS program, and that this may need to be outsourced. An estimate of the cost of this is up to $50,000 ($2,500 per day for 20 days). In addition, the Evaluation Team may require the services of a contractor or professional writer to ensure consistency in the presentation and style of the evaluation report. It is estimated that this would cost up to $75,000 ($2,500 per day for 30 days).

**Science and Research Panel**

A Science and Research Panel of three members, one of whom will be the Chair, who are of international standing in a research field, or who are able to comment broadly on research infrastructure across disciplines, will be appointed. The panel will be selected after consideration of advice from the Australian Research Council (ARC).

The role of the Science and Research Panel will be to evaluate the research outcomes and the research impact of the infrastructure provided under NCRIS. They will consider the effect of the NCRIS-funded infrastructure in terms of quality and the quantity of research outcomes resulting from the provision of this infrastructure.

The Science and Research Panel will be responsible for addressing Terms of Reference 2b and 2c (see above) and providing the sections of the evaluation report and corresponding key findings that relate to these terms of reference.

It is expected that travel and accommodation support would be required for the Science and Research Panel members. It is estimated that this would cost up to approximately $20,000 if one of the panel members was recruited from overseas.

**Process and Impacts Analysis Panel**

An independent panel will be formed to evaluate the economic and social impact of NCRIS-funded infrastructure investments. They will also undertake an evaluation of the NCRIS Processes and Governance. This team may draw on additional external expertise as is deemed appropriate.

The Process and Impacts Analysis Panel will be responsible for addressing Terms of Reference 1a, 2a, 3a, 3b, 4 and 5 and providing the sections of the evaluation report and corresponding key findings that relate to these terms of reference.
It is anticipated that the Process and Impacts Panel may need some assistance with preparation of the evaluation of the economic and social impacts of the NCRIS program, and that this may need to be outsourced. This assistance could cost up to $75,000 ($2,500 per day for 30 days).

**Methodology of Evaluation**

The Evaluation Team will be responsible for the evaluation of the NCRIS program with input as required from the Science and Research Panel and the Process and Impacts Analysis Panel. In order to conduct the evaluation the various teams will use the following methodologies as appropriate:

- Collect and analyse data from DIISR to enable assessment of the efficiency, effectiveness and performance assessment criteria relating to the NCRIS program;
- If appropriate, send out and analyse questionnaires to the NCRIS capabilities and stakeholders, conduct interviews, site visits and round table discussions;
- Meet with representatives of NCRIS Capabilities. This could include attendance at an NCRIS Capabilities Meeting where representatives of the NCRIS capabilities make presentations and answer questions about the NCRIS facilities.
- If required, consult with external experts, including international experts in various scientific disciplines, and international experts in the delivery of research infrastructure;
- Locate and analyse relevant reports and statistical data;
- Conduct consultations with stakeholders.