
The Parliament of the Commonwealth of Australia

Provision of Facilities for Headquarters Joint Operations Command, NSW

Parliamentary Standing Committee on Public Works

August 2004
Canberra

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Membership of the Committee

Chair Hon Judi Moylan MP

Deputy Chair Mr Brendan O'Connor MP

Members Mr Harry Jenkins MP

Mr Peter Lindsay MP

Mr Jim Lloyd MP

Mr Bernie Ripoll MP

Senator Richard Colbeck

Senator Alan Ferguson

Senator Michael Forshaw

Committee Secretariat

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Inquiry Secretary Ms Vivienne Courto

Research Officer Ms Sara Edson

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List of Abbreviations

ACT	Australian Capital Territory
Council	Greater Queanbeyan City Council
DEC SPD	Department of Environment and Conservation Sustainability Programs Division (NSW)
Defence	Department of Defence
EIS	Environmental Impact Statement
ESD	Ecologically Sustainable Development
HJOC	Headquarters Joint Operations Command
MOST	Molonglo Observatory Synthesis Telescope
MOU	Memorandum of Understanding
MRO	Molonglo Radio Observatory
NSW	New South Wales
RFI	Radio Frequency Interference
RTA	Roads and Traffic Authority
SKA	Square Kilometre Array
SKAMP	Square Kilometre Array Molonglo Prototype
SUMSS	Sydney University Molonglo Sky Survey



Extract from the Votes and Proceedings of the House of Representatives

No. 165 dated Wednesday, 31 March 2004

**PUBLIC WORKS—PARLIAMENTARY STANDING COMMITTEE—
REFERENCE OF WORK—PROVISION OF FACILITIES FOR
HEADQUARTERS JOINT OPERATIONS COMMAND, N.S.W.**

Mr Slipper (Parliamentary Secretary to the Minister for Finance and Administration), pursuant to notice, moved—That, in accordance with the provisions of the *Public Works Committee Act 1969*, the following proposed work be referred to the Parliamentary Standing Committee on Public Works for consideration and report: Provision of facilities for Headquarters Joint Operations Command, N.S.W.

Question—put and passed.



List of Recommendations

3 Issues and Conclusions

Recommendation 1

The Committee recommends that the Department of Defence and its private consortium partners liaise with the New South Wales Department of Environment and Conservation Sustainability Programs Division to ensure that the Headquarters Joint Operations Command Facility meets the highest possible standards for the minimisation of waste production and energy use.

Recommendation 2

The Committee recommends that the Department of Defence liaise with the Greater Queanbeyan City Council and the New South Wales Roads and Traffic Authority in respect of traffic management and road safety issues arising from the proposed development.

Recommendation 3

The Committee recommends that the Department of Defence continue close consultation with the University of Sydney Molonglo Radio Observatory and implement all possible radio frequency interference mitigation measures during both the construction and operation of the Headquarters Joint Operations Command facility to ensure that the Molonglo Radio Observatory can continue to operate without interference.

Recommendation 4

The Committee recommends that the Department of Defence provide it with reports on the progress of works and associated costs at each stage of completion of the Headquarters Joint Operations Command project.

Recommendation 5

The Committee recommends that the proposed provision of facilities for Headquarters Joint Operations Command, NSW proceed at the estimated cost of \$318.08 million.

Introduction

Referral of Work

- 1.1 On 31 March 2004 the proposal to provide facilities for the Headquarters Joint Operations Command (HJOC) near Bungendore, NSW, was referred to the Public Works Committee for consideration and report to the Parliament in accordance with the provisions of the *Public Works Committee Act 1969* (the Act)¹. The proponent agency for this work is the Department of Defence (Defence).
- 1.2 The Hon Peter Slipper MP, Parliamentary Secretary to the Minister for Finance and Administration, advised the House that the estimated cost of the proposed works was \$318.08 million at 2003-04 prices. Mr Slipper noted further that, subject to Parliamentary approval, construction of the facilities would commence mid-2005, with a view to completion by late 2007.

Background

Establishment of Australian Theatre Command

- 1.3 In 1995 the Chief of Defence initiated measures intended to realise increased cohesion and operational unity in Australia's Defence command arrangements. These measures included the establishment of Commander

¹ Extract from the *Votes and Proceedings of the House of Representatives*, No. 165, Wednesday, 31 March 2004

Australian Theatre, a permanent joint operational level commander who would exercise command through Headquarters Australian Theatre.

- 1.4 Headquarters Australian Theatre operated from interim premises established at HMAS Kuttabul, Potts Point, Sydney, whilst the Theatre Component Commanders for Maritime, Land, Air and Special Forces remained at their original headquarters elsewhere in the Sydney region.²

Establishment of Joint Operations Command

- 1.5 In March 2004 Joint Operations Command was established to provide simpler and more direct command and control of Defence Force operations. Under the revised arrangements, operational command of the Defence Force is exercised by the Vice Chief of Defence in his role as Chief of Joint Operations. Headquarters Australian Theatre was renamed Headquarters Joint Operations Command.³

Moves towards Collocation

- 1.6 Australia's Defence Policy 2000 identified the establishment of a collocated Headquarters Australian Theatre as a key project for the coming decade and highlighted the importance of improved command arrangements and systems.⁴
- 1.7 In July 2001 the Government announced its decision to construct a new collocated command headquarters in the ACT/Queanbeyan region.⁵

Site of the Proposed Work

- 1.8 The site is located on a greenfield site within the Kings Highway corridor on part of the 'Woodlands' property, 11 kilometres southwest of Bungendore, NSW.⁶
- 1.9 The site will occupy some 100 hectares on the northwest boundary of the 'Woodlands' property.⁷ The entire site to be acquired measures some 200 hectares and is bounded to the north and west by the ACT/NSW border.⁸

2 Appendix C, Submission No. 1, Department of Defence, paragraph 7

3 *ibid*, paragraph 9

4 *ibid*, paragraph 8

5 *ibid*, paragraph 10

6 *ibid*, paragraphs 6 and 22

7 *ibid*, paragraph 33

8 *ibid*, paragraph 47

Inquiry Process

- 1.10 The Committee is required by the Act to consider public works over \$6 million⁹ and report to Parliament on:
- the purpose of the work and its suitability for that purpose;
 - the need for, or the advisability of, carrying out the work;
 - whether the money to be expended on the work is being spent in the most cost effective manner;
 - the amount of revenue the work will generate for the Commonwealth, if that is its purpose; and
 - the present and prospective public value of the work.¹⁰
- 1.11 The Committee called for submissions by advertising the inquiry in *The Canberra Times* on Saturday 1 May 2004. The Committee also sought submissions from relevant government agencies, local government, private organisations and individuals, who may be materially affected by or have an interest in the proposed work. The Committee subsequently placed submissions and other information relating to the inquiry on its web site in order to encourage further public participation.

Inspections and Public Hearing

- 1.12 On 18 June 2004 the Committee inspected the site and environs of the proposed works, and received a commercial-in-confidence briefing on project costs from the Department of Defence and its consultants. A public hearing was held in Queanbeyan later that day.¹¹

9 *Public Works Committee Act 1969*, Part III, Section 18 (8)

10 *Public Works Committee Act 1969*, Part III, Section 17

11 See Appendix D for the official Hansard transcript of the evidence taken by the Committee at the public hearing on Friday, 18 June 2004 in Queanbeyan

The Proposed Works

Objective

- 2.1 Defence's chief objective in carrying out the proposed work is to:
- ...provide a collocated operational level joint headquarters for the Australian Defence Force.¹

Need

- 2.2 Defence states that the establishment of a purpose-built, integrated HJOC facility is
- ...critical to the Australian Defence Force's ability to concurrently conduct a range of war-fighting, peacekeeping, humanitarian operations, and support to the civil community, and to synchronise military and non-military effects to meet national objectives.²
- 2.3 Currently, the functional components of HJOC are dispersed among eight sites in Canberra, Sydney and the Blue Mountains. An interim headquarters was established at HMAS Kuttabul, Potts Point, Sydney, in

1 Appendix C, op cit, paragraph 6

2 ibid, paragraph 17

1996, but was only large enough to accommodate the then Commander Australian Theatre and joint staff.³

2.4 Defence identifies the major advantages of the proposed work as:

- enhanced operational effectiveness;
- the ability to develop Network Centric Warfare;
- improved information management;
- improved logistic support for deployed services;
- rationalisation of administrative procedures; and
- improved ability to work with allied and coalition partners.⁴

Scope

2.5 Works required to meet the Defence objectives comprise:

- construction of a headquarters building;
- provision of command, control, communications and information systems;
- construction of access and service roads;
- provision of engineering services and infrastructure; and
- provision of corporate facilities including logistic/facility support, messing and transit accommodation, physical training complex and a concessionaire area.⁵

2.6 The headquarters building will have floor space of 22,000 – 27,000 square metres and will contain⁶:

- a foyer area;
- an executive area;
- Joint Operations Centre;
- Joint Planning Centre;

3 Appendix C, op cit, paragraph 16

4 ibid, paragraphs 18 - 21

5 ibid, paragraph 42

6 ibid, paragraphs 2 and 42

- Joint Operations Command Intelligence Centre;
- theatre;
- space for allied/coalition partners; and
- planning and operations support functions.⁷

2.7 Associated grounds and engineering works will include:

- roads;
- parking for approximately 1,000 vehicles;
- landscaping;
- sporting areas;
- fencing;
- emergency power facilities; and
- installation of electricity, potable water and waste water services.⁸

Project Delivery

2.8 Defence proposes to procure the buildings and infrastructure under private financing arrangements. Under this process, the private sector will be engaged in design and construction of the headquarters and in maintenance and support for a period of 30 years.⁹

2.9 It is proposed that a conventional procurement methodology will be utilised in the acquisition and installation of the command, control, communications and information systems.¹⁰

Cost

2.10 The total estimated cost of the proposed fit-out project is \$318.08 million at 2003-04 prices. This cost includes:

- buildings and infrastructure;

7 Appendix C, op cit, paragraph 42

8 ibid, paragraph 42

9 ibid, paragraph 64 and Appendix D, Official Transcript of Evidence, page 2

10 Appendix C, op cit, paragraph 65

- command, control, communications and information systems;
- land acquisition;
- workplace relocation costs;
- design;
- preliminaries;
- professional fees and charges; and
- construction contingency.¹¹

11 Appendix C, *op cit*, paragraph 60

Issues and Conclusions

Site Selection

- 3.1 In respect of the selection of a site for the HJOC, Defence's main submission stated that:
- Initial studies examined site options in the Newcastle area (RAAF Williamtown), Blue Mountains (RAAF Glenbrook), Nowra (HMAS Albatross) and the ACT/Queanbeyan region and recommended ACT/Queanbeyan.¹
- 3.2 As no further explanation was provided as to why this recommendation was made, the Committee sought to clarify the issue at the public hearing.
- 3.3 Defence explained that, unlike Nowra, Holsworthy and Newcastle, the ACT/Queanbeyan region provides better opportunities for both spouse employment outside the Defence Force and for back-to-back postings in the region.²

Security

- 3.4 Proposed security arrangements for the HJOC recorded in Defence's Statement of Evidence include:

1 Appendix C, op cit, paragraph 23

2 Appendix D, op cit, page 5

- fencing of both the property boundary and HJOC facility³;
 - round-the-clock monitoring, assisted by electronic surveillance and intruder alarms; and
 - key card access to secured spaces.⁴
- 3.5 At the public hearing, the Committee requested that Defence summarise the security assessment of the site and elaborate on any particular security issues.
- 3.6 Defence explained that a security risk assessment of the facility had been completed as part of the Environmental Impact Statement (EIS) process. This study had revealed that the location of the facility in a semirural area was in itself a security benefit. In addition, it is proposed that the facility will be surrounded by two levels of fencing: a person-proof, access controlled fence at 500 metres from the main building and a vehicle- and person-proof fence, also with access control, at 100 metres.
- 3.7 Defence added that, whilst the security threat level was currently assessed at low to medium, the risk assessment had taken account of any future increase in threat level and sufficient space existed to extend security buffer zones.⁵

Ecologically Sustainable Development (ESD) Principles

- 3.8 Defence's statement of evidence to the Committee lists environmentally sustainable design as one of the key considerations used during the concept design phase of the work.⁶
- 3.9 The Committee received submissions from the NSW Department of Environment and Conservation Sustainability Programs Division (DEC SPD) and the Queanbeyan-Monaro Greens Group, both of whom expressed the view that the proposed HJOC facility should aim to demonstrate the highest possible standards in environmentally sustainable design.⁷
- 3.10 In its submission, the DEC SPD reported that it had had considerable communication with Defence regarding ESD and waste management
-

3 Appendix C, op cit, paragraph 42 (i-6)

4 *ibid*, paragraphs 53 (f) and (g)

5 Appendix D, op cit, page 6

6 Appendix C, op cit, paragraph 54

7 *Volume of Submissions*, Submission No. 2, page 1 and Submission No. 12. Page 6

issues, but expressed disappointment that none of its advice was reflected in Defence's statement of evidence to the Committee.⁸

- 3.11 In its written response to the DEC SPD submission, Defence stated that the planning and design concepts presented in its statement of evidence were "indicative only" and that the final output specification for the project will

incorporate requirements related to best practice sustainability initiatives....⁹

- 3.12 At the public hearing, the Committee sought to ensure that the private consortium responsible for the construction of the HJOC would realise Defence's intentions with regard to the building's ecological sustainability.

- 3.13 Defence stated that it would be placing requirements upon the private consortia to ensure that sustainability issues are addressed in the tender proposals, and that it would

...select the ones that cover those issues to the best degree.¹⁰

Waste Disposal

- 3.14 The DEC SPD submission likened the proposed HJOC development to:

...establishing a township overnight the size of Braidwood in a region undergoing extreme difficulties with the handling of waste and recycling programs....¹¹

- 3.15 However, the submission suggested that it would be possible to

...design procurement practice procedures for this facility, which would see little if any materials ever leave the site as waste.¹²

- 3.16 At the public hearing, the Committee asked Defence how it intended to manage waste from the HJOC facility.

- 3.17 Defence replied that all water waste at the site will be recycled, and that preliminary investigations had commenced into the use of the ACT NOWaste land-fill and the conversion of waste solids into fertiliser. Defence added:

8 *Volume of Submissions*, Submission No. 2, page 1

9 *ibid*, Submission No. 6, pages 1 - 2

10 Appendix D, *op cit*, page 6

11 *Volume of Submissions*, Submission No. 2, page 2

12 *ibid*

Our intention is to have no waste whatsoever coming off the site, but we need to wait and see what comes back from the tenders to see how they intend to do that.¹³

- 3.18 The Chair sought and received an assurance from Defence that it would continue to liaise with the DEC SPD regarding waste management issues.¹⁴

Energy Use

- 3.19 According to Defence's main submission, energy management and lighting in the HJOC building will be designed to reduce energy consumption and greenhouse gas emissions and may incorporate a building management system, to enable regular energy audits.¹⁵
- 3.20 When questioned about energy management at the public hearing, Defence explained that it intended that the HJOC should be a five-star green building.¹⁶ Defence added that as the successful private consortium would bear energy use costs for the building, it was in the developer's interest to minimise energy consumption at the site.¹⁷

Recommendation 1

The Committee recommends that the Department of Defence and its private consortium partners liaise with the New South Wales Department of Environment and Conservation Sustainability Programs Division to ensure that the Headquarters Joint Operations Command Facility meets the highest possible standards for the minimisation of waste production and energy use.

Traffic Management and Road Safety

- 3.21 The Committee received several submissions expressing concern at the impact of the proposed development on local road infrastructure and

13 Appendix D, op cit, page 10

14 Appendix D, op cit, page 10

15 Appendix C, op cit, paragraphs 57 - 58

16 Appendix D, op cit, page 5

17 *ibid*, page 7

traffic management.¹⁸ This issue was also raised in an article in *The Canberra Times* on 11 May 2004, which referred to an estimated additional 850 cars that will be using the Kings Highway every day as a result of the proposed work.

- 3.22 In its submission, the Greater Queanbeyan City Council identified eight intersections along the Canberra Avenue – Lanyon Drive corridor, which it believes will be adversely impacted by the HJOC development. The Council reported that it had conducted analyses of two key intersections using the traffic figures presented in Defence’s EIS report. These studies had indicated a reduction in level of service at these intersections to ‘F’; an unacceptable standard entailing forced flow, flow breakdown, excessive queuing and delays.¹⁹
- 3.23 In view of these findings, the Council concluded that an upgrade of the road corridor and intersections should be considered; or alternatively, that the proposed Northern Ring Road, which will enable traffic to by-pass Queanbeyan, should be fast-tracked by the State government. The Council was of the view that Defence should make a financial contribution to enable the proposed road upgrades to be executed.²⁰
- 3.24 A submission from the RTA supported the Council’s assertion that the proposed development will have a deleterious impact upon the State and local road network. In particular, the RTA highlighted:
- the need for increased maintenance of, and provision of more overtaking opportunities on, the Kings Highway;
 - the possible requirement to bring forward the development of the Queanbeyan Northern Ring Road, estimated to cost \$100 million; and
 - the need to provide public transport to connect the HJOC site to Queanbeyan and Canberra.²¹
- 3.25 At the public hearing, the RTA elaborated on its concerns regarding traffic management and road safety; with particular reference to:
- the impact of heavy vehicles during the HJOC construction phase;
 - the reduction in level of service on the Kings Highway and at associated intersections; and
 - the increased potential for road accidents.

18 *Volume of Submissions*, Submissions 9, 10 and 11

19 *Volume of Submissions*, Submission No. 11, pages 1 - 2

20 *Volume of Submissions*, Submission No. 11, pages 3 - 4

21 *ibid*, Submission No. 9

- 3.26 The RTA stated that it had held preliminary discussions with the Greater Queanbeyan City Council regarding these issues and that it intended to initiate further consultation. The RTA expressed the view that further studies into the traffic implications of the development were required.²²
- 3.27 A submission made by the Carwoola Community Association also expressed concerns about road safety. The authors noted that Defence's draft EIS had failed to address community concerns relating to the safety of the Kings Highway – Captains Flat Road intersection, and had avoided the issue of accident 'black spots'. The Association argued that both these problems will be exacerbated by the additional traffic generated by the proposed development.²³
- 3.28 In supplementary submissions addressing points raised by the RTA and the Greater Queanbeyan City Council, Defence stated that, while any road upgrades would be the responsibility of State and Territory authorities, it intended to ensure that the
- “...appropriate planning authorities are provided with the necessary information on the likely and projected impacts of the Headquarters on traffic management and road capacity in a timely manner to enable their planning to proceed.”²⁴
- 3.29 At the public hearing, Defence explained that it would be directly responsible for the funding and construction of the primary access road into the site and associated intersection with the Kings Highway.
- 3.30 Defence reiterated that it was aware of the potential impact of an additional 800 cars on local roadways and would continue to provide impact assessment advice to the relevant planning authorities.²⁵

22 Appendix D, op cit, pages 40 - 41

23 *Volume of Submissions*, Submission No. 10, Section 1

24 *Volume of Submissions*, Submission No. 15, pages 1 – 2 and Submission No. 21, page 2

25 Appendix D, op cit, pages 7 and 48

Recommendation 2

The Committee recommends that the Department of Defence liaise with the Greater Queanbeyan City Council and the New South Wales Roads and Traffic Authority in respect of traffic management and road safety issues arising from the proposed development.

Transport Alternatives

- 3.31 Submissions made by the RTA and the Queanbeyan-Monaro Greens Group suggested that potential traffic problems may be alleviated by the extension of existing public transport services from Canberra and Queanbeyan to the HJOC site.²⁶
- 3.32 Further, at the public hearing, the Committee queried the environmental sustainability of a development intended to accommodate over 1,000 people, most of whom will travel by private car.
- 3.33 Defence responded that it was continuing to investigate the viability of a bus service to the site and would be conducting staff surveys to determine whether such a service would be used if it were available. Should a bus service prove feasible, Defence envisages that buses would operate from both the Canberra and Queanbeyan city centres.²⁷
- 3.34 Defence reported that studies undertaken by its consultants had demonstrated that a rail service to the site would not be viable using the current infrastructure.²⁸
- 3.35 The RTA supported the proposal to extend public transport to the site, stating that it:
- ...would encourage the use of regular bus services to the facility to reduce the number of vehicles on the state network.²⁹

Car-pooling

- 3.36 At the public hearing, a representative of the RTA noted that, although over 1,000 people would be employed at HJOC, the calculations relating to traffic impacts in Defence's draft EIS had relied upon a figure of 860

26 *Volume of Submissions*, Submission No. 9; Submission No. 12, paragraph 24

27 Appendix D, op cit, page 7

28 *ibid* page 8

29 Appendix D, op cit, page 41

vehicle movements to the facility per day; that is, 1.25 persons per car. The RTA pointed out that:

If this figure could not be substantiated or maintained, many of the calculations or assumptions made in the draft EIS regarding level of service on the Kings Highway and at major intersections become very questionable.³⁰

- 3.37 Defence explained that the figure of 1.25 persons per vehicle had been taken from RTA research and was based on an Australia-wide average for car-pooling. Although Defence could not state definitively whether, and to what extent, staff would car-pool to reach the site, witnesses attested that car-pooling did occur at other Defence sites in the region, such as Russell Offices in Canberra.³¹

Social Infrastructure Impacts

- 3.38 A submission from the Queanbeyan-Monaro Greens Group expressed concern that the estimated 3,000 people who will move into the Canberra-Queanbeyan area as a result of the proposed development will place an additional burden upon social infrastructure such as housing, schools, and health care.³²
- 3.39 In a supplementary submission, Defence acknowledged that social services in the region are strained. Defence expressed the intention to provide childcare services for HJOC staff and stated that it will be holding discussions with relevant State/Territory and local government social service agencies.³³
- 3.40 When questioned on potential social impacts at the public hearing, Defence stated that the Defence Housing Authority had begun working to meet the requirement for an additional 400 to 450 Defence homes in the region. In terms of schooling, Defence explained that its personnel would be spread throughout the region, so it is unlikely that an excessive burden would fall upon any one institution. While Defence members are catered for by Defence medical services, the impact placed on local medical

30 Appendix D, op cit, page 41

31 *ibid*, page 48

32 *Volume of Submissions*, Submission No. 12, paragraphs 30 - 35

33 *Volume of Submissions*, Submission No. 22, page 7

services by family members would depend upon where the family lives and the existing level of service in that area.³⁴

- 3.41 Defence anticipates that, from early 2005, it will have access to survey data indicating where incoming personnel and their families intend to live. Once this information becomes available, Defence will meet with relevant social service agencies to discuss any impacts of the HJOC development.³⁵

Local Employment

- 3.42 A submission from the NSW Department of State and Regional Development expressed the wish that the HJOC project should provide local business and industry with every opportunity

...to participate in the construction and ongoing support services for the new headquarters.³⁶

- 3.43 The Committee was interested to know whether the decision to deliver the project through a private consortium might reduce opportunities for local tradespeople and businesses.
- 3.44 Defence responded that no difficulties of that kind were evident and stated that local tradespeople and businesses would be employed if local industry had the capacity to support the project. Defence had recently received advice indicating that the region's building and construction industry was nearing capacity and that there may, therefore, be a requirement to bring in labour from elsewhere to complete the project.³⁷

Impacts on Neighbouring Properties

Carwoola Community

- 3.45 The Carwoola Community Association represents the interests of the rural residential community nearest to the proposed HJOC site. Carwoola has a population of approximately 1,000 and is 2 kilometres from the site at its

34 Appendix D, op cit, page 9

35 Appendix D, op cit, page 9

36 *Volume of Submissions*, Submission No. 4

37 Appendix D, op cit, page 50

closest point. In its submission, the Association sought formal assurances in respect of the following unresolved matters of community concern:

- increased traffic and road safety;
- the impact of the development on local communications services;
- light and visual pollution;
- noise pollution (especially during construction); and
- ongoing consultation.³⁸

3.46 Addressing these issues at the public hearing, Defence assured the Committee that there would be no impact upon local communications services as a result of the HJOC development. Noise impacts will be minimised by restricting construction activities to certain hours. It is intended that visual impact will be mitigated by landscaping and by ensuring that the buildings are of a colour that blend into the surrounds. While light will be emitted from the windows of the building during the evening, the building management system will turn lights off as occupants depart. Outdoor lighting will be minimal and will comprise focused beams for security purposes only. Additionally, Defence stated that the presence of the facility would not inhibit normal farming practices such as crop-dusting, machinery operation or burning-off.³⁹

Kowen Forest

3.47 ACT Forests is the Territory government agency responsible for the management of forest resources in the ACT. In its submission to the inquiry, ACT Forests stressed the importance of the continued operation of Kowen Forest, particularly in view of the loss of some two-thirds of the ACT's plantation estate in the January 2003 bush fires.

3.48 As Kowen Forest lies adjacent to the proposed HJOC site, ACT Forests sought assurances:

- that the works should not hinder ACT Forest's normal land management practices in the area;
- that the construction of the HJOC should not impede recreational use of Kowen Forest;

38 *Volume of Submissions*, Submission No. 10

39 Appendix D, *op cit*, pages 46 - 47

- that Defence personnel wishing to use Kowen Forest would follow the same procedures as any other person or group;
- that ACT Forests could not support any future proposal to enlarge the current HJOC buffer zone; and
- that an MOU will be developed between ACT Forests and Defence in order to reach agreement on issues of concern.⁴⁰

Molonglo Radio Observatory

- 3.49 A submission from the University of Sydney's Molonglo Radio Observatory (MRO) outlined the potential negative impacts of the construction of HJOC on its operations and expressed concern that measures to mitigate radio frequency interference (RFI) were not mentioned in Defence's statement of evidence to the Committee.⁴¹
- 3.50 The MRO houses the largest radio telescope in the southern hemisphere, the Molonglo Observatory Synthesis Telescope (MOST). Located some 30 kilometres east of Canberra, the telescope is engaged in important research projects such as the Sydney University Molonglo Sky Survey (SUMSS) and the Square Kilometre Array Molonglo Prototype (SKAMP).⁴² The sensitivity of the telescope is such that it could detect a signal one thousand times weaker than that produced by a single mobile telephone transmitting from the moon.
- 3.51 The MOST is located in a radio-quiet area remote from habitation, and has hitherto not required protection from radio frequency interference (RFI). With the construction of the HJOC 5 kilometres away, the SUMSS project will be vulnerable to RFI from electronic devices. The University estimated that the HJOC will house some 5,000 computers and 1,000 mobile telephones, which would have a catastrophic effect on the images produced by the telescope, should the headquarters building remain unshielded.⁴³
- 3.52 The MOST operates by receiving radio transmissions from the sky in a narrow band of 843 +/- 1.5 Megahertz, which is also used by mobile telephone companies. The next generation of telescope, the Square Array (SKA) facility will receive transmissions in the range of 300 – 1,400 Megahertz. As there is no formal spectrum protection within this range,

40 *Volume of Submissions*, Submission No. 5

41 *Volume of Submissions*, Submission No. 13

42 *ibid*, pages 1 - 2

43 Appendix D, *op cit*, page 29

RFI mitigation will be a major part of the project, however the SKA project will not commence for another decade.

3.53 The Sydney University submission characterised the potential impact of the HJOC on the operation of the MOST as “poorly determined”, despite limited testing executed as part of the EIS. The University pointed out that

...simulations with a single transmitter simply do not represent an accurate picture of a facility housing more than 1,000 staff with computers, diverse electronic equipment, vehicle traffic and supporting systems.⁴⁴

3.54 The University stated that if radio emissions from the HJOC render the MRO unviable, provision will have to be made to relocate the observatory, resulting in considerable cost and delay. At the hearing, a University representative informed the Committee that the replacement cost of the telescope alone was in the order of \$15 million.⁴⁵

3.55 The University’s submission recorded that a steering committee and working group have been established jointly with Defence to assess and manage the mutual impact of the MOST and HJOC; and that research into RFI has been accelerated. Proposed RFI mitigation measures include:

- planting of vegetation on the ridgeline between the facilities;
- shielding of all buildings, including meshing windows;
- restricted use of radios by perimeter security guards;
- use of low-powered mobile telephones;
- enforcement of Australian shielding standards; and
- adherence to all RFI mitigation measures by all construction contractors.⁴⁶

3.56 Whilst not welcoming the proposed construction of the HJOC, the University expressed appreciation for the cooperation shown by Defence, and was “cautiously optimistic” that the RFI issue can be resolved. The University intends to enter into an MOU with Defence, a draft of which was under discussion at the time of the public hearing.⁴⁷

44 *Volume of Submissions*, Submission No. 13, page 2

45 Appendix D, op cit, page 31

46 *Volume of Submissions*, Submission No. 13, pages 3 - 4

47 *ibid*, page 4 and Appendix D, op cit, pages 30 and 33

- 3.57 At the public hearing, the Committee questioned both the University and Defence regarding RFI mitigation measures and progress made on the MOU.
- 3.58 The University reported that research undertaken with Defence had demonstrated the benefits of planting trees along the ridgeline between the MRO and HJOC. It was envisaged that trees of approximately one metre in height (some two to three years' growth) would significantly attenuate the radio signal.⁴⁸
- 3.59 In addition to planting trees, Defence stated its intention to further mitigate RFI by cladding the HJOC building in metal and meshing the windows [Appendix D, page 8]. The University confirmed that, even with a leakage of about one per cent from this shielding, the MOST would be able to operate effectively.⁴⁹
- 3.60 Defence proposes to implement further procedures to minimise RFI from motor vehicles and mobile telephones once the HJOC becomes operational.⁵⁰

Recommendation 3

The Committee recommends that the Department of Defence continue close consultation with the University of Sydney Molonglo Radio Observatory and implement all possible radio frequency interference mitigation measures during both the construction and operation of the Headquarters Joint Operations Command facility to ensure that the Molonglo Radio Observatory can continue to operate without interference.

Consultation

- 3.61 Having received submissions from a range of government agencies, other stakeholders and members of the public, the Committee wished to learn what consultation Defence and its consultants had undertaken in respect of the proposed development.

48 Appendix D, op cit, page 32

49 *ibid*, page 29

50 Appendix D, op cit, page 8

- 3.62 Defence responded that the EIS process had included a range of community and focus group meetings, and discussions with the relevant planning authorities. A further round of community consultation had commenced following the completion of the draft EIS.⁵¹
- 3.63 The Committee also received a submission from the owner of the 'Woodlands' property, in which he outlined a number of issues arising from the land acquisition process, which had not been satisfactorily addressed.
- 3.64 At the public hearing, the land owner stated that communication with Defence had improved and that he had received assurances that the issues would be addressed in the supplementary EIS report.⁵²
- 3.65 Defence confirmed that it would continue to consult with the proprietors of 'Woodlands' and with other stakeholders, including:
- the DEC SPD;
 - the Australian Greenhouse Office;
 - community groups;
 - the MRO;
 - ACT Forests;
 - the RTA; and
 - planning organisations.⁵³

Project Delivery

- 3.66 Defence attested that the decision to undertake the buildings and infrastructure component of the HJOC project using private financing was based on a business case, which had indicated that this option represented better value for money than traditional procurement methods. The benefits anticipated by Defence as a result of this decision include:
- timely project delivery;
 - certainty of cost for a defined scope;

51 Appendix D, op cit, page 9

52 *ibid*, page 38

53 Appendix D, op cit, pages 46 - 50

- sustained quality service delivery; and
 - improved financial management and accountability on a whole-of-life basis.⁵⁴
- 3.67 In order to satisfy itself that the proposed delivery methodology would provide better value for the Commonwealth dollar, the Committee requested that Defence supply it with a direct comparison of project cost estimates for both private financing and traditional delivery methodologies. This information was provided to the Committee at a commercial-in-confidence briefing conducted prior to the public hearing.
- 3.68 The Committee requested that Defence inform it of the outcome of the selection process for the joint venture partner and provide regular updates on the progress of the project and associated costs.

Recommendation 4

The Committee recommends that the Department of Defence provide it with reports on the progress of works and associated costs at each stage of completion of the Headquarters Joint Operations Command project.

Recommendation 5

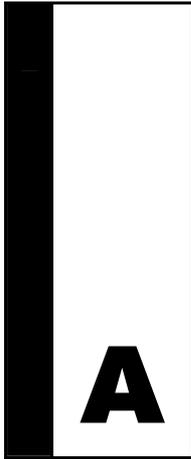
The Committee recommends that the proposed provision of facilities for Headquarters Joint Operations Command, NSW proceed at the estimated cost of \$318.08 million.

Hon Judi Moylan MP

Chair

11 August 2004

⁵⁴ Appendix D, op cit, page 3



Appendix A – List of Submissions and Exhibits

Submissions

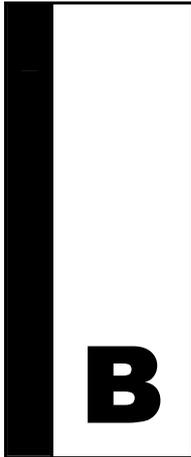
1. Department of Defence
2. Department of Environment and Conservation NSW
3. Mr Hugh Dakin
4. New South Wales Department of State and Regional Development
5. ACT Forests
6. Department of Defence (supplementary)
7. Department of Defence (supplementary)
8. Department of Defence (supplementary)
9. Roads and Traffic Authority
10. Carwoola Community Association
11. Greater Queanbeyan City Council
12. Queanbeyan-Monaro Greens Group
13. University of Sydney, School of Physics
14. Department of Defence (supplementary)
15. Department of Defence (supplementary)
16. StateRail

17. Department of Defence (supplementary)

18. Mr Robert Hyles

Exhibits

1. Amendments to Statement of Evidence dated March 2004, Department of Defence
2. Supplementary Information to Submission No. 9, Roads and Traffic Authority NSW



Appendix B – List of Witnesses

Mr Harvey Alfred Bell, Facilities Engineer, Greater Queanbeyan City Council

Mr Duncan Campbell-Wilson, Officer in Charge, Molonglo Radio Observatory, University of Sydney

Colonel James David Davey, Director Command, Intelligence and Support Systems, Electronic Systems Division, Command and Support Systems Branch, Defence Materiel Organisation, Department of Defence

Mr Gerard Bradbury Gillespie, Manager, Sustainability Programs Division, South East, Department of Environment and Conservation, New South Wales

Associate Professor Anne Josephine Green, Director, Molonglo Radio Observatory; and Associate Professor, School of Physics, University of Sydney

Mr Robert Roy Hyles, Shareholder and Director, Woodlands Pty Ltd; and Partner, W R Hyles and Co.

Mr Matthew Justin Lynch, Strategic Town Planner, Greater Queanbeyan City Council

Ms Kitty Marmanidis, Project Manager, Headquarters Joint Operations Command Project, Department of Defence

Mr Iain Moore, Senior Strategic Planner, Greater Queanbeyan City Council

Air Commodore Brian (Jack) Plenty, Director General, Headquarters Joint Operations Command Project, Department of Defence

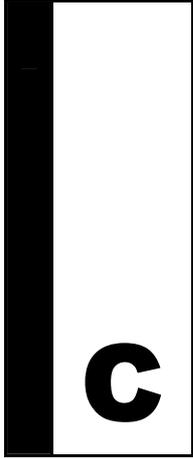
Mr Gary Michael Rake, President, Carwoola Community Association

Mr Duncan Sheppard, Executive Officer, ACT Forests

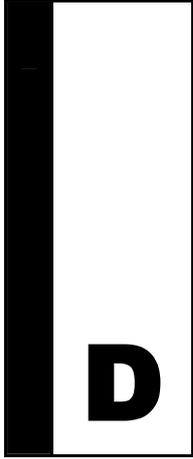
Mr Wallace John Smart, Land Use Planner, Southern Region, Roads and Traffic Authority, New South Wales

Mr Hilton Taylor, Manager, Strategic Planning and Forest Management, ACT Forests

Mr John Leslie Thorpe, Projects Engineer, Greater Queanbeyan City Council



**Appendix C – Submission No. 1 from the
Department of Defence**



**Appendix D – Official Transcript of
Evidence**