
The Parliament of the Commonwealth of Australia

Upgrade Patrol Boat
Facilities, HMAS
Coonawarra, Darwin, NT

Parliamentary Standing Committee on Public Works

August 2005
Canberra

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Membership of the Committee

Chair Hon Judi Moylan MP

Deputy Chair Mr Brendan O'Connor MP

Members Mr John Forrest MP

Senator Alan Ferguson

Mr Harry Jenkins MP

Senator the Hon Judith Troeth

Mr Bernie Ripoll MP

Senator Dana Wortley

Mr Barry Wakelin MP

Committee Secretariat

Secretary Mrs Margaret Swieringa

Inquiry Secretaries Ms Vivienne Courto

Research Officer Mr Raymond Knight

Administrative Officer Mr Peter Ratas



List of Abbreviations

ACPB	ARMIDALE Class Patrol Boats
AGO	Australian Greenhouse Office
ANAO	Australian National Audit Office
BCA	Building Code of Australia
CEMP	Construction Environmental Management Plan
DEH	Department of Environment and Heritage
DMO	Defence Materiel Organisation
DNB	Darwin Naval Base
Defence	Department of Defence
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
RAN	Royal Australian Navy



Extract from the Votes and Proceedings of the House of Representatives

No. 28 dated Thursday, 11 May 2005

HVP No. 28 PUBLIC WORKS – PARLIAMENTARY STANDING COMMITTEE –
REFERENCE OF WORK – UPGRADE OF PATROL BOAT FACILITIES, DARWIN
NAVAL BASE, NT

Dr Stone (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: Upgrade of Patrol Boat Facilities, Darwin Naval Base,
NT.

Question – put and passed.



List of Recommendations

3 Issues and Conclusions

Recommendation 1

The Committee recommends that the Department of Defence maintain close consultation with the Northern Territory Department of Lands, Planning and Environment to ensure minimisation of damage to the marine environment occasioned by dredging activities at *HMAS Coonawarra*.

Recommendation 2

In view of the importance of fire protection and evacuation measures, the Committee recommends that the Department of Defence supply it with details of the fire protection system proposed for the Standby Crew and Port Services Organisation building, including any departures from the requirements of the Building Code of Australia, when these have been determined.

Recommendation 3

The Committee recommends that the proposed upgrade of patrol boat facilities at *HMAS Coonawarra*, Darwin, proceed at the estimated cost of \$19.2 million.

Introduction

Referral of Work

- 1.1 On 11 May 2005 the proposal to upgrade patrol boat facilities at Darwin Naval Base (DNB), Darwin, NT, 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 Dr Sharman Stone MP, Parliamentary Secretary to the Minister for Finance and Administration, advised the House that the estimated outturn cost of the proposed works was \$19.17 million. She reported that, subject to parliamentary approval, construction could commence in early 2006 and be completed by December 2006.

Background

- 1.3 The Royal Australian Navy (RAN) currently operates 15 FREMANTLE Class Patrol Boats, ten of which are homeported in Darwin. These vessels

¹ Extract from the *Votes and Proceedings of the House of Representatives*, No. 28, Wednesday 11 May 2005

have exceeded their design life by six years and are to be phased out of service from April 2005.

- 1.4 In October 2002 the Government approved the acquisition of a replacement patrol boat capability. A contract for the supply of 12 ARMIDALE Class Patrol Boats (ACPBs) was signed in December 2003, and the purchase of two additional ACPBs was announced in September 2004. It is proposed that eight of the 14 new vessels will be homeported in Darwin.²
- 1.5 At the public hearing of 19 July, a spokesperson for Defence informed the Committee that Darwin Naval Base was renamed HMAS *Coonawarra* in May 2005.³

Location

- 1.6 The site of the proposed works is HMAS *Coonawarra*, which is located within Larrakeyah Barracks, some two kilometres west of the Darwin CBD.⁴

Inquiry Process

- 1.7 The Committee is required by the Act to consider public works over \$6 million⁵ 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.⁶
- 1.8 The Committee called for submissions by advertising the inquiry in the *Northern Territory News* on Monday, 30 May 2005. The Committee also

2 Appendix C, Submission No. 1 from the Department of Defence, paragraphs 4 - 6 and 11

3 Appendix D, Official Transcript of Evidence, page 2

4 Appendix C, Submission No. 1, paragraph 28

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

6 *ibid*, Section 17

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.

Public Hearing

- 1.9 On Tuesday, 19 July 2005 the Committee visited HMAS Coonawarra and inspected at first hand the scope and environs of the proposed works. Later that day, the Committee received a commercial-in-confidence briefing on project costs from Defence, and held a public hearing at the Northern Territory Legislative Assembly, Darwin.⁷

⁷ See Appendix D for the official Hansard transcript of the evidence taken by the Committee at the public hearing held on Tuesday, 19 July 2005 in Darwin

The Proposed Works

Purpose

- 2.1 The purpose of the proposed work is to
- provide facilities at DNB for the berthing and effective operation of eight ACPBs, and
 - to provide more suitable facilities for the Darwin Naval Base Port Services Organisation.¹

Need

- 2.2 The proposed work is necessitated by a Government decision to replace the existing FREMANTLE Class Patrol Boats with new ACPBs. The ACPBs will provide improved patrol boat availability and performance.²
- 2.3 A report on the ACPB project, tabled in February 2005 by the Australian National Audit Office (ANAO), recommended that:

1 Appendix C, Submission No. 1, paragraph 4

2 *ibid*, paragraphs 4 - 6 and 12

Defence ensure that complementary Defence Corporate Services and Infrastructure Group facilities projects are well programmed, prioritised, and co-ordinated, to deliver capability in a timely fashion to support the requirements of the capability being delivered by the DMO [Defence Materiel Organisation].³

- 2.4 As the ACPB is a larger vessel than the FREMANTLE Class Patrol Boat, it is necessary to extend existing infrastructure. In addition, ACPB capability will be enhanced by the construction of a Standby Crew facility, to minimise handover time between crews and maximise operational availability of the boats; and upgraded facilities and equipment for the Port Services Organisation, which is responsible for the management of DNB harbour.⁴

Options Considered

Siting Options

- 2.5 As there is no intention to relocate DNB during the service life of the ACPBs, the existing infrastructure provides the most economic solution for siting of the new facilities.⁵

Technical Options

- 2.6 In order to achieve the most economical design solutions, Defence considered alternative siting options for the new Standby Crew and Port Services Organisation facilities; namely:
- a single collocated facility; and
 - two separate buildings.
- 2.7 The location of the Port Services Organisation facility is dictated by requirement for visibility over the harbour, while the Standby Crew facility must be close to the wharf.⁶

3 Appendix C, Submission No. 1, paragraph 8

4 *ibid*, paragraphs 12 - 15

5 *ibid*, paragraph 20

6 *ibid*, paragraph 22

Preferred Option

- 2.8 The most cost effective solution was considered to be a combined facility maximising oversight of the harbour and proximity to the wharf. The benefits of this option are:
- cost savings in the provision of building infrastructure and services;
 - maximisation of availability of ACPBs through rapid handover between crews.⁷

Scope

Wharf Extension Medium Work

- 2.9 On 19 July 2004 wrote to the Committee requesting that wharf extension works at DNB be approved as a separate 'medium work'⁸ prior to the referral of the remainder of the Patrol Boat Facilities Upgrade Project. The works, estimated to cost \$5.53 million, comprised
- extension of the southern wharf to 197.8 metres to provide three alongside berths for the ACPBs, stairs and platforms and service connections; and
 - modification of service connections at the northern wharf to allow for emergency berthing of two additional ACPBs.
- 2.10 Prior approval of these work elements was sought to meet the immediate operational support requirements of the ACPBs, the first of which was programmed for delivery to Darwin in April 2005.⁹
- 2.11 On 21 July, having considered the Department's request, the Committee granted approval for the wharf works to proceed. At the time of the Committee's visit in July 2005, the wharf extension was under construction.

7 Appendix C, Submission No. 1, paragraph 24

8 that is, a work estimated to cost between \$2 million and \$6 million

9 Letter from Defence Infrastructure Asset Development Branch, 19 July 2004

Remaining Works

- 2.12 The remaining works to be carried out under the Patrol Boat Facilities upgrade comprise:
- extension of synchrolift (vertical ship lift) by 12 metres to accommodate new ACPBs;
 - extension of three existing land berths to provide hardstand storage for ACPBs;
 - modification of existing support cradles to accommodate ACPB hull size and shape;
 - construction of an additional 250 kilolitre fuel tank to increase fuel holding capacity at DNB;
 - construction of a Standby Crew facility to provide working accommodation for two standby patrol boat crews; and
 - provision of a new facility for the DNB Port Services Organisation.¹⁰

Project Delivery

- 2.13 The approved portion of the works (wharf extension) is being delivered using a head contract system, with completion anticipated for October 2005.¹¹
- 2.14 It is proposed that the remainder of the works will be procured under two separate contracts as follows:
- a head contract for the synchrolift and land berths infrastructure works; and
 - a design and construct contract for the building works.¹²
- 2.15 Subject to parliamentary approval, it is intended that the works should commence in early 2006, with completion in late 2006.¹³

10 Appendix C, Submission No. 1, paragraph 19

11 *ibid*, paragraphs 61 and 67

12 *ibid*, paragraph 68

13 *ibid*, paragraph 62

Cost

2.16 The estimated outturn cost of the proposed work is \$19.17million.¹⁴

¹⁴ *ibid*, paragraph 60

Issues and Conclusions

Environmental Considerations

Environment Protection and Biodiversity Conservation Act 1999

3.1 According to Defence's main submission, an Environmental Review determined that the proposed works do not require referral under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), but identified the following potential threats:

- impacts to marine biota from the construction and operation of the new wharf; and
- impacts to marine mammals from underwater noise and vibration during construction activities.

A subsequent investigation of these issues concluded that:

...while some impacts may occur, they are not deemed to be significant.¹

3.2 When questioned about the potential environmental impacts of the project, Defence stated that the Northern Territory Wildlife Park had recently dived in the basin at HMAS *Coonawarra* and had commented

1 Appendix C, Submission No. 1, paragraphs 25 - 26

favourably on the water quality and abundant marine life, which includes dolphins, crocodiles and sea turtles.²

- 3.3 Members noted that the works involved the driving of marine piles, which creates considerable noise underwater, and queried the effect this would have on dolphins. Defence responded that:

...given the noise travel in the water, the topography of the harbour and the transient nature of marine mammals, the chance of an incident occurring was low, notwithstanding that there is a process that is within the controls that if marine mammals are sighted in the vicinity while construction is taking place then there are procedures that have to be taken.³

Environmental Management Plan

- 3.4 Defence's main submission stated that mitigation of non-significant environmental impacts arising from construction activities would be addressed through the implementation of an Environmental Control Plan, adding that such an approach had proven successful with wharf extension works undertaken to date.⁴ The Committee sought an explanation as to how and by whom such a plan would be devised, implemented and monitored.
- 3.5 Defence explained that, like all Defence bases, HMAS *Coonawarra* operates under a Base Environmental Management Plan which remains in force before, during and after any proposed construction activities. In addition to the general Environmental Management Plan, Defence proposes to develop and implement a separate Construction Environmental Management Plan (CEMP) specifically relating to the new works. The CEMP would be devised by the contractor carrying out the works and would be overseen by Defence's environmental officer.⁵
- 3.6 Given that the proposed works do not constitute a controlled action under the terms of the EPBC Act, and would therefore, not be subject to external scrutiny, Committee members were concerned to ensure that internal oversight of the CEMP by Defence personnel would provide sufficient environmental protection. Defence assured the Committee that it maintained close consultation with the Department of Environment and Heritage (DEH) to ensure that all self-regulatory activities meet DEH
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2 Appendix D, Official Transcript of Evidence, page 8

3 *ibid*, page 10

4 Appendix C, Submission No. 1, paragraph 26

5 Appendix D, Official Transcript of Evidence, pages 10 - 11

requirements. Further, Defence highlighted its 25-year record of sound environmental management in the area, stating that it was

...actually promoting marine life in that environment.⁶

- 3.7 At the Committee's request, Defence tabled copies of the *HMAS Coonawarra Environmental Management Plan Phase 3 Environment and Heritage Strategy*, prepared by Brown and Root Services Asia Pacific Pty Ltd in June 2001, and the *Darwin Naval Base Environmental Review*, completed by Bill Ross and Associates in July 2004.

Excavation of Hardstand Area

- 3.8 In addition to the project's potential impact upon the marine environment, the Committee was also concerned that appropriate environmental impact studies and mitigation measures would be applied to the proposed excavation of the expanded hardstand area. Defence assured members that the excavation would entail the extension by four metres of an existing excavation in an area which had already been subject to considerable disturbance, and that no heritage issues had been identified.⁷

Dredging

- 3.9 The Committee was interested to know whether there would be any dredging activities associated with the proposed works. Defence responded that dredging of the harbour basin was not included in the current proposal, but was executed at regular intervals as part of routine maintenance operations. Dredging was carried out in 1999 and is scheduled to occur again in 2006.
- 3.10 Whilst acknowledging that the dredging of the basin lies outside the scope of the proposed works, Committee members were concerned to ensure that Defence would take due cognisance of the serious environmental impacts of dredging, and monitor the process appropriately in consultation with the relevant authorities. Defence responded that the execution and monitoring of dredging activities were covered in the *HMAS Coonawarra Environmental Management Plan Phase 3 Environment and Heritage Strategy*, which was supplied to the Committee subsequent to the public hearing.⁸

6 Appendix D, Official Transcript of Evidence, page 10

7 *ibid*, page 9

8 *ibid*, pages 17 - 18

- 3.11 The Environmental Management Plan identifies sedimentation resulting from dredging as a potential impact upon water quality at HMAS Coonawarra and, in respect of dredging activities, stipulates that:
- approval must be obtained from the Northern Territory Department of Lands, Planning and Environment;
 - marine water quality sampling must be conducted during operations; and
 - dredging and subsequent disposal of soil must be undertaken in a way that minimises reduced water quality.⁹

Recommendation 1

The Committee recommends that the Department of Defence maintain close consultation with the Northern Territory Department of Lands, Planning and Environment to ensure minimisation of damage to the marine environment occasioned by dredging activities at *HMAS Coonawarra*.

Ecologically Sustainable Development (ESD) and Energy Management

- 3.12 In its main submission, Defence stated that:

The design of all power supply, electrical and mechanical equipment will include an assessment of energy use applying life cycle costing techniques and power demand analysis.

- 3.13 At the public hearing, the Committee asked whether the proposed energy use assessment had been conducted and what results, if any, had been produced. Defence replied that to date, it had determined the anticipated annual power consumption for the facility. This figure would provide the basis for improving the overall energy efficiency of the facility during the detailed design phase. Improvements may be achieved through such measures as the installation of energy efficient light fittings and controls that turn off lights when rooms are not in use.¹⁰
- 3.14 The Committee also noted Defence's statement that the facility

9 *HMAS Coonawarra Environmental Management Plan Phase 3 Environment and Heritage Strategy*, Table 5.5

10 Appendix D, Official Transcript of Evidence, page 5

...may incorporate building management systems [BMS], metering and other provisions to measure energy use and allow regular energy audits.¹¹

Members were interested to know whether a decision had been reached regarding these proposed measures. Defence responded that it was trying to install BMSs throughout its bases, however, given the relatively small size of the new Port Services Organisation building, it would be unlikely to have a BMS of its own, but may be linked into another base or similar building.¹²

Zoning and Approvals

3.15 As the proposed works will be located on Commonwealth land, Defence is not bound by the office building approval requirements of the Northern Territory Department of Infrastructure, Planning and Environment which stipulate:

- a height limitation of seven metres; and
- provision of 2.5 car-parking spaces per 100 square metres of net lettable floor area.¹³

3.16 Defence proposes, however, that the operations room area of the new Port Services Organisation building, which has a requirement to view the harbour and its approaches, will have a height of eight metres.¹⁴

3.17 Whilst acknowledging that the local planning requirements do not apply on Commonwealth land, the Committee wished to ensure that Defence had consulted with the relevant Northern Territory authorities, both in the interest of being a good citizen and to mitigate any future problems that may arise.

3.18 Defence responded that it maintained close contact with the local authorities and community, through regular industry briefings and an annual Northern Territory Government – Defence consultative forum. In respect of the proposed eight metre height of the Port Services Organisation building, Defence stated that:

11 Appendix C, Submission No. 1, paragraph 57

12 Appendix D, Official Transcript of Evidence, page 6

13 Appendix C, Submission No. 1, paragraph 46

14 *ibid*, paragraph 47

...there has been no feedback from any of the local authorities that they have any concerns over that.¹⁵

Scope of Works

Support Cradles

- 3.19 Defence's submission reported that, as the ACPBs have a wider beam and a different hull shape to the FREMANTLE Class Patrol Boats, changes would be required to the cradles which support the boats out of the water. Defence stated that these cradles would be modified where possible, or constructed new.¹⁶
- 3.20 At the hearing, the Committee sought confirmation as to whether the existing cradles would be adapted or new cradles constructed. Defence replied that, under the current proposal, two of the existing cradles would be modified and one new cradle would be built. Defence explained that the decision to have three dedicated ACPB cradles had been based on an analysis of the deployment and maintenance requirements of the ACPB fleet.¹⁷

Synchrolift

- 3.21 The Committee observed that the proposed extension of the synchrolift would interfere with the RAN's ability to remove ships from the water for maintenance or other purposes, and wished to know what measures would be taken to minimise disruption to normal operations during the course of the works. Defence responded that the staging of the works would take account of both the dry/wet season turnover and the maintenance cycle of the vessels. Defence assured the Committee that, in the past, there had been no difficulty in scheduling operations and boat movements to accommodate routine maintenance, which had rendered the synchrolift inoperable for periods of a few weeks. On this basis, Defence did not anticipate that the proposed upgrade of the synchrolift would impede operations.¹⁸

15 Appendix D, Official Transcript of Evidence, page 4

16 Appendix C, Submission No. 1, paragraph 32

17 Appendix D, Official Transcript of Evidence, pages 6 - 7

18 *ibid*, page 16

- 3.22 Defence added that, in the event of an emergency, there were commercial facilities available in Darwin that could lift boats from the water.¹⁹

Working Accommodation

- 3.23 In respect of the indicative working accommodation layout provided at Figure Four of Defence's main submission, the Committee wished to know how much space would be provided for each workstation, based on the anticipated number of occupants. Defence replied that it intended to observe standard Defence Public Service guidelines, which allocate an average of 6.5 meters per workstation area and 12 square metres for each office.²⁰

Fire Protection Systems

- 3.24 Defence's main submission stated that all fire protection requirements would, as a minimum, comply with the requirements of the Building Code of Australia (BCA), adding that:

Any recommended departures from Building Code of Australia requirements in relation to the project will be technically assessed by Defence specialist fire protection staff.²¹

- 3.25 Given the importance of fire protection, the Committee requested that Defence elaborate on the philosophy to be adopted in the design of the fire protection systems, and upon any anticipated departures from the BCA. Defence explained that the proposed Standby Crew and Port Services Organisation building would comply with the standard BCA requirements, rather than employing an engineered solution, and that no departures from the code were currently anticipated. The Chair requested that Defence provide the Committee with details of the fire protection system, including any departures from the BCA requirements, when these had been determined.²²

19 Appendix D, Official Transcript of Evidence, page 16

20 *ibid*, page 15

21 Appendix C, Submission No. 1, paragraph 56

22 Appendix D, Official Transcript of Evidence, page 21

Recommendation 2

In view of the importance of fire protection and evacuation measures, the Committee recommends that the Department of Defence supply it with details of the fire protection system proposed for the Standby Crew and Port Services Organisation building, including any departures from the requirements of the Building Code of Australia, when these have been determined.

Economic Considerations

Construction Workforce

- 3.26 At the public hearing, the Committee sought clarification as to the number of workers anticipated to be employed throughout the construction works. Defence confirmed that it would expect a maximum of 20 workers on-site during peak construction and that additional employment would be associated with off-site prefabrication and material preparation.²³ Defence added that the principal contractor on the wharf extension works undertaken to date was a Darwin company employing local subcontractors.²⁴
- 3.27 The Committee was interested to learn more about the local construction market; specifically, what additional costs were incurred by the relatively remote location, and whether there was an over-reliance on government contracts. Defence stated that it had undertaken a number of projects in the region in recent years and had a sound appreciation of the local market. Generally, Defence observed that construction prices in the Northern Territory had been escalating at a significantly higher rate than in other parts of Australia, particularly across certain trades and skills. Defence attributed this to isolation, a shortage in some trades, and to the large number of mining operations and other projects, which were offering high rates of pay to attract workers.²⁵

23 Appendix D, Official Transcript of Evidence, page 12 and Appendix C, Submission No. 1, paragraph 65

24 *ibid*, page 13

25 *ibid*, page 20

Economical Design Solutions

3.28 The main submission recorded that, as the proposed work is an extension of an existing facility, there were no realistic alternative siting options. Defence noted, however, that:

...a number of technical options have been explored which resulted in more economical design solutions.²⁶

3.29 At the request of the Committee, Defence explained that foremost among the cost-effective design solutions was the decision to collocate the ACPB Standby Crew and Port Services Organisation facility in a single building. Other measures included the re-use and modification of existing boat support cradles, a decrease in the width of the wharf extension and the value-management of the proposed Standby Crew and Port Services Organisation building to minimise the contingency requirement and to ensure the nest possible value for money.²⁷

Recommendation 3

The Committee recommends that the proposed upgrade of patrol boat facilities at HMAS *Coonawarra*, Darwin, proceed at the estimated cost of \$19.2 million.

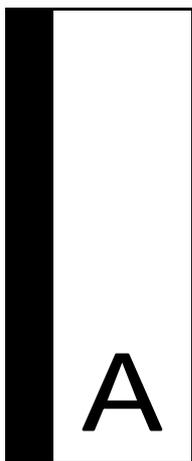
Hon Judi Moylan MP

Chair

17 August 2005

²⁶ Appendix C, Submission No. 1, paragraph 21

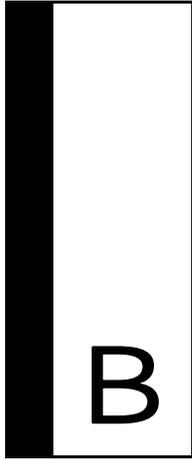
²⁷ Appendix D, Official Transcript of Evidence, page 19



Appendix A – List of Submissions

Submissions

1. Department of Defence
2. Mr Carl Cossill
3. Department of Defence (Supplementary)



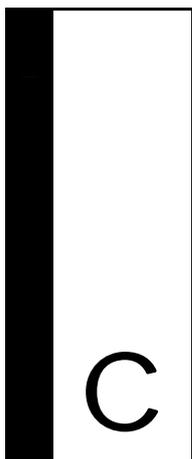
Appendix B – List of Witnesses

Mrs Anne Bradford, Manager Technical Services, Corporate Services and Infrastructure, Northern Territory/Kimberley, Department of Defence

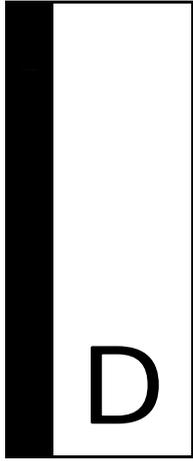
Mr Gregory Hammond, Project Director – Australian Capital Territory/Southern New South Wales, Infrastructure Asset Development Branch, Department of Defence

Brigadier Peter Hutchinson, Director General Infrastructure Asset Development, Infrastructure Asset Development Branch, Department of Defence

Mr William Ross, Principal, Bill Ross and Associates



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



Appendix D – Official Transcript of Evidence