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Performance Audit

Management of the Cape Class Patrol Boat Program

Australian Customs and Border Protection Service

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Canberra ACT
16 December 2014

Dear Mr President
Dear Madam Speaker

The Australian National Audit Office has undertaken an independent performance audit in the Australian Customs and Border Protection Service titled *Management of the Cape Class Patrol Boat Program*. The audit was conducted in accordance with the authority contained in the *Auditor-General Act 1997*. Pursuant to Senate Standing Order 166 relating to the presentation of documents when the Senate is not sitting, I present the report of this audit to the Parliament.

Following its presentation and receipt, the report will be placed on the Australian National Audit Office's website—<http://www.anao.gov.au>.

Yours sincerely



Ian McPhee
Auditor-General

The Honourable the President of the Senate
The Honourable the Speaker of the House of Representatives
Parliament House
Canberra ACT

AUDITING FOR AUSTRALIA

The Auditor-General is head of the Australian National Audit Office (ANAO). The ANAO assists the Auditor-General to carry out his duties under the *Auditor-General Act 1997* to undertake performance audits, financial statement audits and assurance reviews of Commonwealth public sector bodies and to provide independent reports and advice for the Parliament, the Australian Government and the community. The aim is to improve Commonwealth public sector administration and accountability.

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Abbreviations

ACV	Australian Customs Vessel
AGS	Australian Government Solicitor
AMSA	Australian Maritime Safety Authority
ANAO	Australian National Audit Office
BPC	Border Protection Command
BRTC	Business Readiness Transition Committee
CCPB	Cape Class Patrol Boat
CDR	Critical Design Review
CMMS	Computerised Maintenance Management System
CMS	Contract Master Schedule
CMSS	Civil Maritime Security System
CMSCP	Civil Maritime Security Capability Plan
CPGs	Department of Finance and Deregulation, <i>Commonwealth Procurement Guidelines</i> , December 2008
CPRs	Department of Finance, <i>Commonwealth Procurement Rules</i> , July 2014
CSF	Critical Success Factor
Customs	Australian Customs and Border Protection Service
DLM	Depot Level Maintenance
FIC	Fundamental Inputs to Capability
FPS	Functional Performance Specification

HVAC	Heating, Ventilation and Air-Conditioning
ILM	Intermediate Level Maintenance
ISS	In-Service Support
KPI	Key Performance Indicator
LFL	Like-for-Like
LOTE	Life-of-Type Extension
MSF	Monthly Service Fee
OCD	Operational Concept Document
OLM	Organisation Level Maintenance
OT&E	Operational Test and Evaluation
PPP	Public Private Partnership
PSC	Project Steering Committee
PT&E	Production Test and Evaluation
RAN	Royal Australian Navy
RPDE	Rapid Prototype Development and Evaluation
RFP	Request for Proposal
RFT	Request for Tender
SEP	Solicitation Evaluation Plan
SER	Solicitation Evaluation Report
SMMC	Strategic Maritime Management Committee

Summary and Recommendations

Summary

Introduction

1. In November 2009, the Government endorsed the Civil Maritime Security Capability Plan (CMSCP), which provided guidance for maritime security planning in Australia to 2020. The plan included a number of key performance requirements for an effective maritime patrol function that were beyond the capabilities of the Australian Customs and Border Protection Service's (Customs) existing fleet of eight Bay Class patrol boats. At that time, the Bay Class patrol boats were also entering the latter stages of their planned 10-year operational life.
2. In response to the planned capability requirements, in the May 2010 Federal Budget the Government approved funding of \$573.6 million over 10 years (2010–11 to 2019–20) for the acquisition and operating costs (including crew, maintenance and fuel costs) of eight larger and more capable patrol boats to replace the Bay Class patrol boat fleet—the Cape Class patrol boats (CCPBs).¹ As part of its approval, the Government required that Customs maintain a level of effort of 2400 patrol days per annum across the patrol boat fleet.
3. Following an open request for tender (RFT) in July 2010, a contract for the acquisition of eight Cape Class patrol boats and in-service support (ISS) was signed on 12 August 2011 between the Commonwealth (represented by Customs) and the prime contractor (Austal Ships Pty Ltd, based at Henderson in Western Australia). The total budget for the acquisition was set at \$316.5 million over the period 2011–12 to 2015–16. This included \$277.7 million in acquisition contract milestone payments to the contractor.²
4. The schedule for Customs' acceptance of the eight vessels extends from 1 March 2013 to 31 August 2015, and is outlined in Table S.1.

1 The CCPBs, which are 58.1 metre aluminium monohull vessels, have greater range, endurance and flexibility to respond to maritime security threats than the current Bay Class fleet, with the vessels able to operate in more severe conditions.

2 The remaining budget covered the costs of: government furnished material; foreign exchange risk; and an allowance for design/equipment changes and rectification work.

Table S.1: CCPB acceptance schedule

CCPB Number	Name	Planned Acceptance Date	Actual Acceptance Date
CCPB#1	<i>Cape St George</i>	1 March 2013	17 April 2013
CCPB#2	<i>Cape Byron</i>	16 June 2014	19 May 2014
CCPB#3	<i>Cape Nelson</i>	15 September 2014	15 September 2014
CCPB#4	<i>Cape Sorrell</i>	15 December 2014 ⁽¹⁾	-
CCPB#5	<i>Cape Jervis</i>	2 March 2015	-
CCPB#6	<i>Cape Leveque</i>	1 May 2015	-
CCPB#7	<i>Cape Wessel</i>	1 July 2015	-
CCPB#8	<i>Cape York</i>	31 August 2015	-

Source: Customs program documentation.

Note 1: Customs advised that, as at November 2014, acceptance of CCPB#4 is on schedule.

5. The acquisition of the CCPBs is one component of a broader program of activities necessary to deliver a fully capable patrol boat fleet. Customs has used elements of the Department of Defence's (Defence's) fundamental inputs to capability (FIC) model (personnel, organisation, collective training, major systems, supplies, facilities, support, and command and management) as a conceptual framework for the management of the activities and schedule required to achieve the CCPBs full capability. A key area of planning involves an expansion in crew numbers and an increased qualification and training effort to meet regulatory requirements associated with the increased size and capability of the new vessels.³

6. The CCPB acquisition program is managed within Customs' Border Force Division in Canberra. The program office also maintains a small resident project team at the contractor's shipyard.

Audit objective and criteria

7. The objective of the audit was to assess the effectiveness of Customs' management of the Cape Class patrol boat program.

8. To form a conclusion against this objective, the ANAO adopted the following high-level criteria:

3 The existing Bay Class patrol boat fleet normally operates with 10 crew members per vessel, and an overall workforce of approximately 200 officers. With the introduction of the CCPB fleet, the larger vessels will normally require a crew of 18 and a total workforce of around 340 officers by 2015–16.

- sound capability development and government approval processes were in place to deliver the best value for money;
- the contract arrangements are currently facilitating the delivery of the program at the agreed cost, schedule and performance parameters;
- appropriate governance and program oversight arrangements were in place; and
- suitable arrangements have been established for the future operation of the capability through the ISS arrangements, crew recruitment and training, and the necessary support infrastructure.

Overall conclusion

9. At a total budgeted cost of \$316.5 million, the program to deliver eight Cape Class patrol boats over the period from 2013 to 2015 represents the largest procurement activity undertaken by Customs.

10. Overall, Customs established sound arrangements to underpin the acquisition of the CCPB fleet, with the initial three vessels delivered in-line with the agreed schedule and, where testing has been completed, to the established capability requirements. In this context, the complex vessel acquisition stage of the program has been well managed by Customs as a key element of its program to deliver an enhanced patrol boat capability. There are, however, remaining risks relating to the ongoing support of vessel operations that will require active management, particularly in regard to the: development of a clear resourcing strategy for ongoing vessel operations; and expansion of the number and qualifications of crew members required to operate the new, larger patrol boats.

11. To manage the development and delivery of the CCPBs, Customs implemented a capital acquisition process similar to that employed by Defence. A number of lessons from the Royal Australian Navy (RAN) experience with the acquisition of the Armidale Class patrol boats were successfully incorporated into Customs' approach to the management of the acquisition program.⁴ Further, an early focus on engaging industry in relation to the technical detail and cost estimates for the two capability options being

4 These lessons included ensuring a production pause between the first and second vessels to enable any design changes arising from operational test and evaluation of the first vessel to be incorporated into the second and subsequent vessels and, ultimately, a common design platform across all vessels.

considered (a like-for-like replacement of the existing Bay Class patrol boats or an enhanced patrol boat capability) provided Customs with early insights into industry's capacity to deliver a fleet of patrol boats. In addition, sound governance and generally appropriate probity oversight arrangements were utilised, with the acquisition process managed in accordance with approved plans.

12. The acquisition of the CCPBs has been supported by sound contractual arrangements, with contractor payments linked to the achievement of major milestones such as Customs' formal acceptance of each CCPB. The outcomes from the operational test and evaluation program in September 2013 confirmed that the first CCPB was capable of meeting critical operational requirements. The contractual arrangements also cover the maintenance arrangements for the CCPBs, and include a range of performance benchmarks that are to be met. However, operational aspects of the in-service support (ISS) arrangements are yet to develop sufficient maturity. In this regard, the initial application of the ISS has resulted in the identification of a number of areas of contention between Customs and the contractor that will require resolution.

13. Over recent years, Customs has encountered challenges in fully crewing the existing Bay Class patrol boat fleet due to a number of resourcing and operational issues. This challenge is reflected in the progressive decline in the achievement of patrol boat effort. In approving the CCPB acquisition in May 2010, the Government required Customs to maintain the level of patrol boat fleet effort at 2400 patrol days per annum. In 2013–14, the level of patrol boat effort totalled 1847 patrol days. In this regard, program estimates highlight that after 2014–15, the CCPB program's operating budget (which is set internally by Customs) to cover crew, fuel and maintenance costs, will be insufficient to meet expected operating costs for the CCPB fleet. To manage the program's budget and meet the commitment to maintain the fleet effort at agreed levels, Customs will need to develop a clear resourcing strategy to inform its forward planning, including contingency arrangements. Further, the development of a medium to longer-term strategic workforce plan would provide greater assurance that future marine workforce challenges have been identified and clear approaches are in place to address this area of high risk in relation to sufficient patrol boat crew.

14. To support the ongoing management of the CCPB program, the ANAO has made two recommendations for Customs to: develop a clear strategy to address expected CCPB operational funding shortfalls; and develop an

appropriate marine unit strategic workforce plan to address medium to longer-term workforce requirements.

Key findings by chapter

Capability development and approval processes (Chapter 2)

15. On-water patrol and response activities are the primary means of enforcing civil maritime security, with Customs a key contributor to the patrol and response system. The growing challenge in controlling and managing Australia's maritime zones was highlighted in a 10-year strategic plan endorsed by the Government in 2009, which established the basis for acquiring new patrol vessels with a greater capability to operate much further from shore.

16. In establishing the CCPB program to manage the acquisition of the new vessels, Customs has demonstrated the sound use of a number of processes similar to those employed by Defence. This has included a fundamental inputs to capability (FIC) model to manage the inputs that are required for a fully functioning CCPB fleet (involving the vessels, workforce, support systems, safety management, operational command and organisational arrangements)⁵ and the development of detailed documentation concerning the vessel's planned performance (for example, patrol range and duration, sea handling ability, and accommodation for transportees). Importantly, lessons from the RAN's experience with the acquisition of the Armidale Class patrol boats were integrated by Customs into the design of the CCPBs and the construction schedule.

17. Customs undertook a number of industry engagement exercises early in the program to help in determining likely costs and to assess industry capability in regard to undertaking a patrol boat construction program. While the number of industry participants contributing to these exercises was limited in some areas, industry engagement assisted Customs to refine its cost estimates to procure an enhanced patrol boat capability, prior to formally approaching the market.

5 The Customs FIC model used in the CCPB program is broadly similar to the Defence FIC model outlined in paragraph 5. The Defence FIC model identifies eight FIC elements for program management, while the Customs FIC model identifies six FIC elements for program management.

18. The formal approach to the market was conducted through an RFT in July 2010, with a sound tender evaluation regime and a transparent process to identify a preferred tenderer. The RFT was characterised by strong management involvement and an effective review and approval process that ensured that management was regularly informed of the status of the evaluation and negotiation activities.

19. In terms of the value for money outcome, the acquisition of the enhanced vessel option was assessed as best meeting the capability requirements, as defined in civil maritime capability planning documentation. The capability was achieved through utilising an open approach to market that delivered an acceptable solution within a target price based on similar acquisitions. Further, the acquisition schedule was intended to align with the planned disposal of Customs' Bay Class patrol boats. The achievement of a value for money outcome in relation to the procurement of the CCPBs does, however, rely upon successful delivery and integration with other inputs to capability including: the recruitment of additional crew and upgrading existing workforce skills; the effective operation of new ISS arrangements; and availability of appropriate infrastructure support arrangements for the CCPBs. Once the CCPB fleet and support systems are completed and the vessels have been operating for some time, the extent to which an overall value for money outcome has been achieved from the CCPB program will become clearer.

Design and build contract (Chapter 3)

20. Customs has drawn upon contracting and engineering processes similar to those employed by Defence to effectively manage the vessel design and build aspects of the CCPB program to date.

21. Customs established appropriate acquisition contract terms, with most of the \$277.7 million contract price set on a firm price basis. The acquisition budget made provision for allowances to cover the proportion of the contracted price that was subject to foreign exchange exposure. Further, contract payments are linked to the achievement of 17 major milestones, including at the point of Customs' acceptance of each CCPB from the contractor.

22. The early phase of the contract has involved the design, testing and evaluation of the CCPBs. Known design risks associated with aluminium vessels (such as areas of aggressive corrosion and fatigue in the form of hull cracking) were identified early to enable considered mitigation strategies as

part of the design process. A sound construction schedule to manage design risks was also established. While a number of design risks and issues remain, the outcomes from the operational test and evaluation (OT&E) phase in September 2013 have confirmed to Customs that the first CCPB was capable of meeting critical operational requirements.

23. The contract management arrangements have proven generally effective in managing issues between the contractor and Customs. Nevertheless, a significant outstanding issue concerns the absence of an approved contract master schedule (CMS). The purpose of the CMS—which is to be developed by the contractor—is to provide Customs with visibility concerning the tasks required to achieve key milestones. While Customs has established an alternative arrangement to monitor contract progress, this is a less satisfactory outcome.

Program management (Chapter 4)

24. A sound management framework, incorporating effective governance and assurance arrangements, provides a strong basis for the overall success of a program. Customs established a high level board that provides strategic program assurance to Customs' senior management, and a more technically oriented project steering committee that provides assurance to the program's national director. These assurance arrangements have been augmented by a number of external reviews, including the Department of Finance's Gateway Review Process (since February 2009) and reviews on the acquisition process (March 2013) and workforce planning (June 2013) by Customs internal audit. In this regard, while the CCPB acquisition element of the program has well-developed planning documentation, the elements of the program beyond the immediate transition of the CCPB fleet, including important areas such as strategic workforce planning, have not been well articulated.

25. The progressive introduction of the CCPB fleet has significant additional resource demands on the CCPB program's operational budget. When approving the CCPB acquisition in 2010, the Government required Customs to find savings from within the agency's budget to offset the additional costs to operate the CCPB fleet, above those costs of operating the Bay Class patrol boat fleet—and a funding shortfall has been identified. In this context, a clear resourcing strategy to address the expected shortfall in the CCPB program's operational budget after 2014–15 should be developed by

Customs, including contingency arrangements in the event that shortfalls are not budgeted.

26. Customs has adopted an active approach to risk management for the CCPB program, although the operation of two risk registers separately covering CCPB acquisition and transition activities reduces the clarity in whole-of-program risk management and reporting. To address this issue, there would be benefit in Customs adopting a single risks and issues register to provide greater assurance in relation to risk identification, reporting and management.

27. Despite considerable planning to mitigate a number of known high risks with the CCPB design, the first vessel suffered a mechanical failure of the propulsion system three months after operational release in September 2013 due to aggressive corrosion in a stern tube that partly encases a propeller shaft. While a detailed monitoring program has been established, this remains a key program risk in the immediate term for vessel performance. In this regard, many design risks and issues with the CCPBs are not unique to Customs' fleet of aluminium patrol boats. There would be benefit in Customs exploring options for more structured and ongoing engagement with key stakeholders across the aluminium shipbuilding industry (including shipbuilders, maintenance providers and vessel operators), to help support the planned operational life of the CCPBs and other aluminium patrol boat fleets operated by the Commonwealth.

28. The CCPB program was established as a major competitive procurement with a detailed assessment process by the entity. Customs implemented a number of sound probity controls, including procurement oversight by an independent probity advisor. However, arrangements for managing conflicts of interest were not clearly documented and a conflict of interest register was not maintained. Further, the final probity report for the acquisition stage of the program was not completed. In the context of the overall probity of the procurement process, allegations were raised by a Customs officer regarding bias towards a particular ship builder early in the process. Customs conducted two separate investigations (a criminal investigation and an Australian Public Service Code of Conduct investigation) that found that the allegations were not supported by the evidence.

In-service support and transition (Chapter 5)

29. The CCPB program contracting arrangements established responsibility for construction of the vessels and initial ISS (until August 2019) under one contractor. Customs has designed a sound ISS framework to manage the maintenance of the vessels, including performance benchmarks to be met by the contractor. Nevertheless, with less than half the CCPB fleet having entered the ISS phase by September 2014, operational aspects of the ISS are yet to reach sufficient maturity. In this regard, the initial application of the ISS arrangements has resulted in the identification of a number of areas of contention between Customs and the contractor that require resolution. For example, Customs and the contractor have not reached agreement on the number of days the first CCPB was unavailable due to a stern tube failure in late 2013 and, therefore, the level of financial claim that may be available to Customs under the ISS performance management regime.

30. The transition from the Bay Class patrol boat capability to the enhanced CCPB capability also represents a significant program management and logistical challenge for Customs. In particular, Customs has identified the availability of qualified personnel to crew vessels as the single largest risk to its capability upgrade program. In this regard, a significant expansion in patrol boat crew numbers (from around 200 officers to over 300 officers) and a more qualified workforce is required to deliver the operational capabilities of the CCPBs. As Customs has encountered challenges in fully crewing the Bay Class patrol boat fleet due to a number of workforce operational and resourcing issues, the level of patrol boat effort has been progressively decreasing since 2009–10. In approving the CCPB acquisition in May 2010, the Government required Customs to maintain the level of patrol boat fleet effort at 2400 patrol days per annum. In 2013–14, the level of patrol boat effort totalled 1847 patrol days.

31. Further, while an extensive array of workforce preparation initiatives has been undertaken, this has not been informed by an appropriate strategic workforce plan for addressing the patrol boat crewing requirements over the medium to longer-term.⁶ The integration of such plans with fit-for-purpose operational plans would provide greater assurance that future marine

6 Customs has developed marine workforce planning documentation for the period to 2015. The Australian Public Service Commission identifies that strategic workforce planning usually covers a three to five year time horizon.

workforce challenges have been identified and clear approaches are in place to address this area of high risk.

32. An additional input to the CCPB's operational capability concerns infrastructure support. As with the Bay Class patrol boats, the CCPBs operate from existing commercial and/or Defence marine facilities, rather than a dedicated base or facility. The vessels' main operating location is the port of Darwin. Infrastructure limitations at Darwin, particularly access to secure berthing arrangements in an emergency, have added to the logistical complexity for Customs in managing its patrol boat fleet. While various berthing options in Darwin have been investigated (for example, a floating pontoon arrangement), a suitable long term solution has yet to be established.

Summary of agency and program participant responses

33. Customs' summary response to the proposed report is provided below, while the full response is provided at Appendix 1.

The Australian Customs and Border Protection Service (ACBPS) has welcomed the scrutiny of ANAO in this important program. The findings and recommendations are not unexpected and are entirely consistent with other reviews to which this Program has been subjected. In particular, the Program has undergone five Gateway Reviews as part of the Gateway Review process conducted on large-scale programs by the Department of Finance, two internal audits and six quality system audits. Of the five Gateway Reviews, four Reviews have assessed that successful delivery of the Program to time, cost, quality standards and benefits realisation appears highly likely. The program has also received two Achievement Awards from the Australian Institute of Project Management (AIPM).

The success of the program has been built on robust systems engineering principles; procurement processes; and, program management methods and techniques. The systems engineering approach ensured comprehensive requirements development, accurate translation into specifications, thorough design reviews and comprehensive testing to ensure that operational requirements were met.

A clear and deliberate procurement strategy that was in compliance with the Commonwealth Procurement Guidelines and which was facilitated by the best practice ASDEFCON templates developed by the Department of Defence, has delivered an excellent capability and a clear value-for-money outcome.

To facilitate program delivery and, hence, capability realisation, the Program developed its own version of the Fundamental Inputs to Capability Model

(FIC). The audit appropriately identified a shortcoming in the “workforce” FIC element, insofar as workforce planning has not yet completely addressed longer term workforce arrangements. Strategic workforce planning commenced with the ACBPS Reform Programme and is now part of the “Blueprint for Integration” of the Department of Immigration and Border Protection and the ACBPS, with the workforce model being incorporated into arrangements for the new Australian Border Force.

The only other notable shortcoming identified by the audit pertained to a known shortfall in operational funding that will need to be addressed by ACBPS in the next budget cycle.

Overall, ACBPS remains confident that this Program will successfully deliver a critically important component of Australia’s Civil Maritime Security System.

34. Austal Ships’ covering letter in response to an audit extract is reproduced at Appendix 2.

Recommendations

Recommendation No.1
Paragraph 4.14

The ANAO recommends that, given the CCPB program's estimate that CCPB operational costs are likely to exceed its available operational budget, the Australian Customs and Border Protection Service develops a clear strategy to address the estimated operational funding shortfalls, including contingency arrangements.

Customs' response: *Agreed*

Recommendation No.2
Paragraph 5.47

The ANAO recommends that, to improve marine unit workforce planning, the Australian Customs and Border Protection Service develops an appropriate strategic workforce plan to address future workforce requirements.

Customs' response: *Agreed*

Audit Findings

1. Background and Context

This chapter provides an overview of the Australian Customs and Border Protection Service (Customs) Cape Class patrol boat program, which involves the delivery of eight vessels and a support system to replace the existing Bay Class patrol boat fleet. It also sets out the audit approach.

Introduction

1.1 The maritime security policy governing patrol boat operations by Customs was established in the Australian Civil Maritime Security Capability Plan, which was endorsed by the Government in November 2009. The plan provided guidance for maritime security planning to 2020 and included a number of key performance requirements for patrol boat operations that were beyond the capabilities of Customs' existing Bay Class patrol boat fleet. At that time, the Bay Class patrol boats were also entering the latter stages of their planned 10-year operational life. The key capability requirements under the plan included:

- range (ability to transit to and conduct patrols within the outer limits of Australia's maritime zones in all weather conditions throughout the year);
- endurance (ability to conduct 24 hour per day operations for the duration of a patrol);
- communications and surveillance (ability to receive and share information with other supporting vessels and aircraft via interoperable systems);
- accommodation (transport of government officers, passengers or transportees in compliance with safety and legal requirements);
- vessel operations (ability to undertake a range of activities, including vessel interception, search and rescue, and marine pollution responses); and
- workforce skilling (projects to improve staff resourcing and skills development).

1.2 In response to the planned capability requirements, in the context of the May 2010 Federal Budget the Government approved funding of \$573.6 million over 10 years (2010–11 to 2019–20) for the acquisition and operating costs

(including crew, maintenance and fuel costs) of new patrol boats to replace the Bay Class patrol boat fleet—the Cape Class patrol boats (CCPBs). Over the 10 year period, the Government required Customs to offset approximately 90 per cent of the additional operating costs associated with the CCPBs, compared to the Bay Class patrol boats, from within Customs’ internal allocations. The Government also required that the replacement vessels maintain a patrol function of 2400 sea days per annum across the fleet.

1.3 In general, the process used by Customs to refine the operational requirements for replacement patrol boats was similar to that employed by the Department of Defence (Defence), including operational concept documentation and subsequent detailed vessel specifications. The development of the detailed specifications was informed by advice from industry, prior to formally approaching the market to acquire the vessels through an open request for tender (RFT) in July 2010. The RFT set out a significantly enhanced patrol boat capability compared to Customs’ existing Bay Class patrol boats. Three companies responded to the RFT. Two of these companies entered the contract negotiation phase, with final negotiations concluded with a single tenderer.

Cape Class patrol boat acquisition and operation

1.4 A contract for the acquisition of eight aluminium patrol boats and in-service support (ISS) was signed on 12 August 2011 between the Commonwealth (represented by Customs) and the prime contractor (Austal Ships Pty Ltd, based at Henderson in Western Australia). The total budget for the acquisition was set at \$316.5 million over the period 2011–12 to 2015–16. This included \$277.7 million in acquisition contract milestone payments to the contractor. The remaining budget covers the costs of: government furnished material⁷; foreign exchange risk; and an allowance for design/equipment changes and rectification work.

1.5 The contract also included the prime contractor’s provision of ISS to the CCPBs until mid-2019⁸, which involves fixed costs of \$63.4 million. Customs has estimated other likely costs relating to the provision of ISS

7 Government furnished material involves Customs purchasing equipment for inclusion on the CCPBs.

8 The ISS element of the contract has been sub-contracted by the prime contractor to DMS Maritime Pty Ltd. The ISS arrangements involve activities to enable the CCPBs to be effectively operated and supported so that they can meet their operational requirements. A key ISS activity involves vessel maintenance.

services, but these costs are commercially sensitive and have not been publicly released.

1.6 The agreed schedule for acceptance of the eight vessels extends from 1 March 2013 to 31 August 2015. The first vessel, Australian Customs Vessel (ACV) *Cape St George* (shown in Figure 1.1) was accepted on 17 April 2013, which was slightly later than planned. The second vessel was accepted one month ahead of the planned acceptance date, and the third vessel was accepted on the planned acceptance date.

Figure 1.1: Cape Class patrol boat – ACV *Cape St George*



Source: Austal Ships Pty Ltd.

1.7 The acceptance schedule included a break of more than 12 months between the first CCPB and the second vessel. This schedule incorporated a six month vessel build pause under the contract, which was intended to capture and address design issues arising from the operational test and evaluation of the first CCPB, before construction commenced on the second vessel. Data provided by Customs shows that, as at September 2014, the contractor's vessel production schedule for vessels four to eight was generally in-line—within a few weeks—to meet the planned acceptance schedule as detailed in Table 1.1.

Table 1.1: CCPB acceptance schedule

CCPB Number	Name	Planned Acceptance Date	Actual Acceptance Date
CCPB#1	<i>Cape St George</i>	1 March 2013	17 April 2013
CCPB#2	<i>Cape Byron</i>	16 June 2014	19 May 2014
CCPB#3	<i>Cape Nelson</i>	15 September 2014	15 September 2014
CCPB#4	<i>Cape Sorrell</i>	15 December 2014 ⁽¹⁾	-
CCPB#5	<i>Cape Jervis</i>	2 March 2015	-
CCPB#6	<i>Cape Leveque</i>	1 May 2015	-
CCPB#7	<i>Cape Wessel</i>	1 July 2015	-
CCPB#8	<i>Cape York</i>	31 August 2015	-

Source: Customs program documentation.

Note 1: Customs advised that, as at November 2014, acceptance of CCPB#4 is on schedule.

1.8 The ACV *Cape St George* was subject to a four and a half month operational test and evaluation program to validate the CCPB's capability against expectations detailed in operational documentation developed by Customs. At the completion of the operational test and evaluation program in September 2013, critical operational matters were assessed as satisfied and the vessel achieved operational release in the same month.

1.9 The acquisition of the CCPBs is one component of a broader program of activities necessary to deliver a fully capable patrol boat fleet. Customs has used elements of Defence's fundamental inputs to capability (FIC) model (personnel, organisation, collective training, major systems, supplies, facilities, support, and command and management) as a conceptual framework for planning and managing the activities and schedule required to achieve the CCPB's full capability.⁹ A key area of planning involves an expansion in crew numbers and training effort to meet regulatory requirements associated with the increased size and capability of the new vessels. The existing Bay Class patrol boat fleet normally operates with 10 crew members per vessel, and an overall workforce size of approximately 200 officers. With the introduction of the CCPB fleet, the larger vessels will normally require a crew of 18 and a total workforce of around 330 officers by 2015–16.

9 The FIC model employed by Customs is outlined in Chapter 2 at paragraph 2.6.

Administrative arrangements

1.10 The acquisition of the CCPBs is managed within Customs' Border Force Division's Air and Marine Branch in Canberra. The branch's CCPB program office operates with around 13 full-time equivalent (FTE) staff, and is responsible for overseeing the construction, acceptance and introduction of support systems for the CCPBs. The program office's resident project team (RPT), located at the contractor's shipyard in Western Australia comprises a further four FTE staff. The RPT plays an important on-the-ground role for Customs, with key activities including: monitoring the build schedule and any production issues; reviewing design and technical documentation; witnessing testing; and reporting to the program office in Canberra.

1.11 Among other responsibilities, the Air and Marine Branch is managing the withdrawal of the Bay Class patrol boats and the gifting of two vessels each to Sri Lanka and Malaysia, as well as supporting Custom's Border Protection Command¹⁰ by providing air and marine capability, including patrol boats, workforce, and other FIC elements on a day-to-day basis.

Audit objective, criteria and methodology

1.12 The objective of the audit was to assess the effectiveness of Customs' management of the Cape Class patrol boat program.

1.13 To form a conclusion against this objective, the ANAO adopted the following high-level criteria:

- sound capability development and government approval processes were in place to deliver the best value for money;
- the contract arrangements are currently facilitating the delivery of the program at the agreed cost, schedule and performance parameters;
- appropriate governance and program oversight arrangements were in place; and

¹⁰ Border Protection Command (BPC) is a multi-agency taskforce. BPC is administered as a division of Customs and is staffed by officers from Customs, the Australian Defence Force (ADF) and the Australian Fisheries Management Authority. BPC coordinates task assigned military and civilian assets to respond to civil maritime security risks. BPC has operational control of both ADF and Customs assets when they are assigned to civil maritime security operations.

- suitable arrangements have been established for the future operation of the capability through the ISS arrangements, crew recruitment and training, and the necessary support infrastructure.

Methodology

1.14 In undertaking the audit, the ANAO reviewed Customs' files and documentation covering the planning and management of the program. Discussions were also held with representatives from a number of organisations, including: relevant Customs staff; past and present independent probity advisors to the program; the prime contractor and ISS sub-contractor; the Australian Maritime Safety Authority; the Department of Finance; and the Defence Materiel Organisation's patrol boat systems program office.

1.15 The audit was conducted in accordance with the ANAO Audit Standards at a cost to the ANAO of \$567 000.

Report structure

1.16 The report structure is outlined in Table 1.2.

Table 1.2: Report structure

Chapter Title	Chapter Overview
2. Capability Development and Approval Processes	Examines the processes used to inform Customs' decision to replace its Bay Class patrol boat fleet. It also examines government approval processes, the approach to market and the value for money outcomes.
3. Design and Build Contract	Examines the approach to, and structure of, the contractual arrangements for the management of the CCPB program by Customs. It also examines the processes adopted by Customs to provide assurance in regard to operational and regulatory requirements for the acquired CCPBs.
4. Program Management	Examines key elements of the CCPB program that are designed to ensure sound acquisition management and the delivery of a fully capable CCPB fleet.
5. In-Service Support and Transition	Examines the support arrangements that are designed to ensure the CCPBs remain operational once they have been placed into service. It also examines workforce arrangements as part of the transition from Bay Class patrol boats to CCPBs, as well as infrastructure requirements.

2. Capability Development and Approval Processes

This chapter examines the processes used to inform Customs' decision to replace its Bay Class patrol boat fleet. It also examines government approval processes, the approach to market and the value for money outcomes.

Introduction

2.1 Customs' fleet of eight Bay Class patrol boats were introduced into service in 1999–2000, with an estimated useful operating life of 10 years.¹¹ The vessels were designed to perform a range of maritime constabulary operations within the coastal and territorial waters of Australia.¹² Since the introduction of the Bay Class patrol boats, the civil maritime security environment has become increasingly challenging and the tasks assigned to the vessels involve patrols much further from shore where rougher sea conditions prevail. The demands placed on Customs' patrol boats had also increased significantly, with the fleet operating at 2400 sea days per year in 2002–03—twice the initial planned rate of effort.

2.2 By 2005, Customs analysis highlighted that structural fatigue in the Bay Class patrol boats was occurring—cracking in the hulls had been identified—and an increased maintenance regime was required. Further, a range of maritime regulatory changes, such as enhanced environmental standards for civilian vessels, also meant the Bay Class patrol boats were not able to meet contemporary regulatory requirements.¹³

11 A useful operating life encompass the period before a range of major equipment becomes obsolete (for example, communications equipment). The life of the vessel hull may be significantly longer. In the case of the Bay Class patrol boats, the vessel hull life was expected to be 20 years. However, significant structural fatigue cracking was identified after only 10 years, which reduced the planned operational life.

12 Coastal waters are a belt of water between the limits of the Australian states and the Northern Territory and a line three nautical miles seaward of the territorial sea baseline. The territorial sea is a belt of water not exceeding 12 nautical miles in width measured from the territorial sea baseline. Geoscience Australia, available from <www.ga.gov.au/scientific-topics/marine/jurisdiction/maritime-boundary-definitions#heading-3> [accessed 21 July 2014].

13 Vessels are required to comply with the maritime regulatory arrangements in place at the time of their launch. Unless otherwise specified, changes to maritime regulations are not retrospectively applied to vessels.

2.3 Against this background, in the May 2006 Federal Budget, the Government provided funding over two years for a project team within Customs to progress preliminary work on the development of options for the replacement of the Bay Class patrol boats. Further Budget funding was provided in May 2009 to enable Customs to explore and refine replacement options for government consideration in the May 2010 Budget context.

2.4 The ANAO examined the capability and approval processes used to replace the Bay Class fleet and establish the CCPB program, including:

- the capability requirements development processes;
- early industry engagement to scope industry capability and likely acquisition costs against requirements;
- formal approaches to the market, including request for proposals (RFP) and RFT;
- the arrangements governing negotiations with tenderers;
- the Government's approval processes; and
- whether a value for money outcome has been achieved through the procurement process.

Capability development

2.5 The Defence Capability Manual 2006 defines capability as:

the power to achieve a desired operational effect in a nominated environment, within a specified time, and to sustain that effect for a designated period. Capability is generated by Fundamental Inputs to Capability comprising organisation, personnel, collective training, major systems, supplies, facilities, support, command and management.

2.6 In the case of the CCPB program, Customs has drawn on this definition and Defence's FIC model to manage the CCPB program as a system of interdependent elements. The FIC model used by Customs to define the CCPB capability identifies the following six key inputs:

- mission system (eight CCPBs);
- workforce (including crewing, training and recruitment);
- support (including maintenance and facilities);

- safety management (including regulatory requirements for the safe operation of the vessels);
- operational command and management (including standard operating procedures, information management, communications and interoperability with other mission systems, such as Royal Australian Navy (RAN) vessels); and
- organisation system (including overall governance of the program).

2.7 Overall, the FIC model adopted by Customs provides a useful conceptual framework for identifying and managing the inputs required to achieve the CCPB’s full capability.

Capability requirements framework

2.8 In the lead up to the Government’s approval to replace the Bay Class patrol boats in May 2010, a substantial body of work had been undertaken to progressively refine future patrol boat capability requirements for eventual government consideration. However, beginning in mid-2005, a key feature of the early capability requirements development work focused on replacement of the patrol boats, rather than the strategic context/requirements for civil maritime security within which any particular solution needed to be considered. The key milestones in the requirements development framework for replacing the Bay Class patrol boats are outlined in Table 2.1.

Table 2.1: Capability requirements framework timeline

Date	Milestone	Key Outcome
Jun 2005	Customs discussion paper <i>Towards a Future Surface Maritime Capability for the Australian Customs Service</i>	Identified the need to replace the Bay Class patrol boats. Proposed a modest increase in capability and establishment of a project team.
Mar 2007	Bay Class replacement— <i>Options Definition Study</i>	Industry consultations to assist Customs to develop requirements for the Bay Class replacement prior to an anticipated approach to market.
Sep 2007	Strategic Maritime Management Committee (SMMC) ⁽¹⁾ consideration of Border Protection Command’s (BPCs) <i>Future Operating Concept</i>	Examined the future challenges and expected broadening of civil enforcement responsibilities within the maritime domain, and the capabilities required to conduct effective civil maritime patrols. SMMC endorsed BPC’s <i>Future Operating Concept</i> as providing the capability framework for the Bay Class replacement project.

Date	Milestone	Key Outcome
Jun 2008	Rapid Prototype Development and Evaluation (RPDE) Workshop	Industry advice on potential solutions for the replacement of the Bay Class patrol boat, using draft operational concept and performance specification documentation from Customs.
Oct 2008	Government consideration of BPC's <i>Future Operating Concept</i>	Government noted that refurbishment and replacement options for the Bay Class patrol boats were to be informed by an SMMC review of civil maritime security. Customs was directed to develop a 10 year rolling plan to provide strategic guidance and inform future consideration of long term investment decisions.
Dec 2008	Government consideration of SMMC's review of the Civil Maritime Security System (CMSS)	Government noted the CMSS and provided approval for Customs to bring forward replacement and refurbishment options for the Bay Class patrol boats for first stage consideration as part of the 2009–10 Budget cycle.
May 2009	First stage Business Case approval 2009–10 Budget cycle	Government approval to progress to second stage consideration of replacement options for the Bay Class patrol boats.
Nov 2009	Civil Maritime Security Capability Plan (CMSCP) approval	Government approved the CMSCP that identified a range of capability deficiencies in the CMSS.

Source: ANAO analysis of Customs information.

Note 1: The SMMC, which was chaired by the Department of the Prime Minister and Cabinet, was a whole-of-government committee tasked with monitoring the effectiveness of maritime compliance and enforcement operations. The committee reported to the Government on developments and changing priorities in the broader maritime environment. The SMMC was replaced in 2009 with the Homeland and Border Security Policy Coordination Group and Border Management Group. The Secretaries Committee on National Security and the Border Management Group are now the senior officials committees that are responsible for advising government on border protection policy.

2.9 The first step in providing a more strategic framework for considering the replacement of the Bay Class patrol boats was the establishment of a whole-of-government Civil Maritime Security System (CMSS), with Customs as the lead agency.¹⁴ As outlined in Table 2.1, the CMSS was endorsed by government in late 2008 and comprises a range of assets, resources, activities, policies and legislative arrangements that integrate into a series of core civil

14 Key agencies that contributed to the CMSS included: Customs; the Department of Defence; the Australian Quarantine and Inspection Service (now the Department of Agriculture); the Australian Fisheries Management Authority; and the Department of Immigration.

maritime security functions.¹⁵ A key planning outcome from the CMSS has been the development of an Australian Civil Maritime Security Capability Plan (CMSCP). However, as outlined in Table 2.1, it was only in November 2009 that the Government endorsed the CMSCP, which provided the strategic guidance for planning and investment decisions out to 2020.¹⁶ By this time, a significant body of work to develop the Bay Class patrol boat replacement capability requirements, including industry engagement, had been completed. This work was necessary to meet planned timeframes for the decommissioning of the existing Bay Class patrol boats and the consideration of replacement options in the context of two Federal Budget cycles.

2.10 The key operational requirements of the patrol boats established in the CMSCP were identified earlier in Chapter 1 at paragraph 1.1, and were designed to address the capability deficiencies of the Bay Class patrol boats, including: range¹⁷; endurance¹⁸; surveillance and communications equipment; and the ability to undertake the full range of required activities within the civil maritime patrol function.

Capability options

2.11 In late 2008, the Government directed Customs to develop a CMSCP and provided approval for Customs to continue developing options to either replace or refurbish the Bay Class patrol boats, to enable it to perform its civil maritime enforcement role.

15 The core functions of the CMSS are stated as: shaping the strategic environment; producing and disseminating intelligence; coordinating maritime security activities; conducting surveillance; conducting patrols; and responding to maritime security threats. In this regard, the CMSS is a 'system of systems'.

16 The CMSCP was intended as a rolling 10 year plan, however, the plan has not been updated since its initial approval in November 2009. Customs has advised that the plan is expected to be updated after the Defence White Paper is released, which is planned to occur in 2015.

17 The range of the replacement vessels was required to extend to the outer limits of the Australian Exclusive Economic Zone (EEZ). The outer limit of the EEZ cannot exceed 200 nautical miles from the Australian mainland. Geoscience Australia, available from <www.ga.gov.au/scientific-topics/marine/jurisdiction/martime-boundary-definitions> [accessed 8 September 2014].

18 The Bay Class patrol boats are designed to undertake 21 day patrol cycles and can only operate in moderate sea states, which is defined as the top of Sea State 4. Sea states characterise the degree of turbulence at sea, generally measured on a scale from 0 (calm/glassy) to 9 (phenomenal) according to average wave height. Sea State 4 involves wave heights of between 1.25 and 2.5 metres. Bureau of Meteorology, available from <<http://www.bom.gov.au/lam/glossary/seaswell.shtml>> [accessed 8 September 2014].

2.12 The three capability options that Customs identified (in consultation with the central agencies)¹⁹ and submitted to government for approval were a life-of-type extension (LOTE) as a refurbishment option, and replacement options for the Bay Class patrol boat fleet with a like-for-like (LFL) or an enhanced option.

2.13 The LOTE, LFL and enhanced options were evaluated in the first stage business case submitted to government in early 2009. The first stage business case concluded that the LOTE and LFL options would not provide value for money to government and failed to meet the capability requirements identified as necessary by Customs.

2.14 At this time, a Department of Finance gateway review²⁰ supported Customs' analysis of the options proposed and stated that the enhanced option would meet the strategic direction and operational requirements. However, the review noted risks relating to the increased crewing numbers required and higher acquisition costs associated with the enhanced option.²¹ The increased crewing and training requirements associated with the enhanced option are examined in Chapter 5.

2.15 The Government agreed with Customs' assessment that the LOTE option did not meet key operational requirements, and provided funding in the 2009–10 Budget cycle for Customs to continue to develop the LFL and enhanced options. These options were to be brought forward for second stage consideration in the 2010–11 Budget cycle. The key operational requirements, as identified by Customs, and the extent to which each replacement option would meet these requirements is outlined in Table 2.2.

19 The central agencies involved in Customs' development of capability options for government consideration were: the Department of Finance; the Department of the Treasury and the Department of the Prime Minister and Cabinet.

20 The Government's Gateway Review Process is designed to strengthen the oversight and governance of major projects with a total procurement/infrastructure cost of \$30 million or more. The CCPB program is subject to the Gateway Review Process at key milestones, with each review being conducted by a Department of Finance team. The reviews are examined in more detail in Chapter 4.

21 Department of Finance and Deregulation, *Bay Class Replacement or Refurbishment Project Gateway 0 Report – Business Need Review*, February 2009.

Table 2.2: Bay Class replacement options comparison

Capability	Requirement	LOTE	LFL	Enhanced
Range	>3000 nautical miles	No	No	Yes
Speed	Sustainable 25 knots	No	No	Yes
Endurance	>28 days	No	No	Yes
Boarding	Two ships boats of six boarding party members ⁽¹⁾	No	No	Yes
Crewing	Crew complement sufficient to deploy two boarding parties	No	No	Yes
Sea-keeping	Ability to operate effectively in moderate and survive high sea states	Poor	Average	Good
Communications	Ability to receive and share information with other supporting vessels and aircraft via interoperable systems	No	Yes	Yes
Accommodation	Ability to accommodate crew and provide austere accommodation for transportees	10 crew +12 transportees	16 crew +24 transportees	18 crew +50 transportees
Towing capacity	Ability to tow a similar size vessel or a number of smaller sized vessels	Yes	Yes	Yes
Growth margins	Sufficient to cater for changes to regulatory regimes and future capability needs	No	Yes	Yes
Surveillance	Ability to detect and track suspect vessels at sufficient range for overt and covert operations	Partial	Partial	Yes
Protection and offensive capabilities	Ability to deploy lethal and non-lethal self-protection measures	No	Partial	Yes

Source: ANAO analysis of Bay Class patrol boat replacement, first and second stage business cases (February 2009 and February 2010), and Solicitation Evaluation Report for Request for Proposals, November 2009.

Note 1: Ships boats are utility boats carried by the larger vessels to perform various roles. The CCPBs carry two 7.3 metre ships boats. The boats' primary role is to facilitate boarding, surveillance and interception duties.

Industry engagement

2.16 Industry engagement occurs throughout the requirements definition, delivery, and ISS phases of large and complex acquisition projects. The early engagement of industry to help assess commercial interest and capacity is generally encouraged and is a useful mechanism for mitigating many of the risks associated with industry's ability to successfully deliver a large and complex acquisition project. As outlined earlier, Customs refined future patrol boat capability requirements, in consultation with industry, prior to the development of a strategic framework for civil maritime security.

2.17 Initial industry consultation took place prior to any formal approach to market through a Customs funded options definition study (ODS). The ODS was conducted with four companies that Customs had identified as having a track record in delivering similar projects. The ODS commenced in December 2006 and responses from companies invited to participate were submitted to Customs in March 2007.

2.18 The aim of the ODS was to obtain sufficient information from the companies invited to participate to enable Customs to further develop and refine the requirements for a replacement of the Bay Class patrol boats. It was also designed to obtain indicative costings prior to an anticipated approach to market—upon government approval of the second stage business case.²²

2.19 In June 2008, Customs approached the Rapid Prototype Development and Evaluation (RPDE) organisation²³ to conduct a workshop for companies interested in participating in the Bay Class patrol boat replacement project. Through the conduct of the workshop, Customs sought specialist industry assessments and advice for the replacement project. Participants reviewed

22 The information sought from the four companies approached included: capability options in the form of availability of existing (proven designs) or new hull designs; acquisition options available, including direct purchase, operating lease and Public Private Partnership (PPP); through life support maintenance options; and any other solutions that could meet Customs' requirements.

23 The RPDE organisation is a joint venture between Defence and industry that provides a mechanism to obtain industry advice on capability requirements, explore the feasibility of capability options proposed, and seek industry input with regard to the impact of new technologies and their applicability to new or existing projects.

initial project documentation developed by Customs, including the operational concept document (OCD) and functional performance specifications (FPS).²⁴

2.20 The conduct of the RPDE workshop demonstrated that there was sufficient capacity, capability and expertise to meet the proposed replacement vessel capability requirements as outlined by Customs. In addition, the RPDE workshop also assisted Customs to: refine its requirements; assess the level of industry interest; and identify major cost drivers and constraints associated with the replacement of the Bay Class patrol boats.

2.21 As part of the RFP and RFT approaches to market (discussed later), opportunities were provided for industry engagement through industry briefing sessions held in July 2009 and August 2010. These briefings were open to companies that had registered their interest in participating prior to each session in accordance with the RFP and RFT documentation released on Austender.

2.22 As part of the RFP and RFT industry briefings, Customs provided opportunities for companies to attend one-on-one briefing sessions, where commercial-in-confidence information could be disclosed in a secure environment. The probity advisor attended each one-on-one session, with the matters discussed recorded.

2.23 Overall, the approach adopted by Customs to engage industry was comprehensive and undertaken at appropriate stages prior and subsequent to the release of the RFP and RFT to industry. This consultation informed Customs' development and refinement of capability requirements for the replacement of the Bay Class patrol boats and assisted in the development of cost estimates that were sufficiently robust to include in the business cases submitted to government for consideration and approval. The level of industry consultation and engagement was appropriate for a large and complex project.

24 The OCD outlines why the proposed capability is needed and how the proposed capability will be used to meet the identified capability need. The FPS is used to describe the requirements of the capability system and provide a means by which individual stakeholders propose to meet the capability system requirements. The OCD and FPS are the key capability definition documents used to outline the capability needs and requirements to be applied to the acquisition and support of the capability. Department of Defence, available from <www.defence.gov.au/publications/DefenceCapabilityDevelopmentHandbook.pdf> [accessed 5 August 2014].

Approach to market

2.24 At the time of the commencement of the procurement phase of the CCPB program, the *Financial Management and Accountability Act 1997* and Commonwealth Procurement Guidelines (CPGs)²⁵ established the Government's procurement policy framework.²⁶ Among other things, the CPGs required all procurements above pre-determined thresholds that were not subject to an exemption to be competitively tendered.

2.25 As a major capital acquisition, a two stage approach to the market for the CCPB acquisition was adopted, with an RFP followed by an RFT. These approaches to market were informed by advice obtained from the Australian Government Solicitor (AGS).²⁷

Requests for Proposal

2.26 As part of the May 2009 Federal Budget, the Government provided approval for Customs to further develop the LFL and enhanced options for replacement of the Bay Class patrol boats. Subsequently, Customs issued through Austender an RFP seeking industry responses for each of the replacement options. The RFP opened on 23 June 2009 and closed on 17 September 2009.

2.27 The aims of the RFP process were to:

- engage industry as part of a two stage acquisition process that would be followed by a select or open RFT;
- determine likely costs of two possible capability solutions for the Bay Class replacement vessel prior to seeking government approval for a funded acquisition; and
- inform Customs about any future ISS arrangements for each option.

25 Department of Finance and Deregulation, *Commonwealth Procurement Guidelines*, December 2008.

26 This framework was subsequently replaced by the *Public Governance, Performance and Accountability Act 2013* and the Commonwealth Procurement Rules (CPRs) – Department of Finance, *Commonwealth Procurement Rules*, July 2014.

27 Customs, in planning its approach to market, sought AGS advice regarding the appropriateness of issuing an RFT with two statements of work (one each for the LFL and enhanced options). AGS advised Customs that an RFT with two separate statements of work was not appropriate as this was not in accordance with the then CPG requirements. AGS was subsequently asked to provide advice regarding a proposal to issue an RFP with two separate statements of work, with the intention of shortlisting respondents. Shortlisted respondents would then be invited to respond to a subsequent RFT. AGS advised that this approach was more appropriate.

2.28 Interested companies were advised that they could provide a response to either the LFL or enhanced option, or both. During the RFP period, 24 addendums were issued, the majority of which were minor administrative/clarification of detail amendments. There were, however, two changes that were significant in nature.²⁸

2.29 Customs' evaluation of the responses to the RFP was conducted in accordance with the criteria disclosed in the conditions of proposal and Customs' solicitation evaluation plan (SEP). The SEP outlined a detailed evaluation governance framework, which included utilising specialist project management, engineering, operational, financial and commercial working groups to evaluate the relevant sections of RFP responses. The working groups were comprised of internal project staff, with appropriate skills and expertise and external consultants with specialist skills not available internally to evaluate responses. In addition to the working groups, the independent probity advisor was used to provide oversight of the evaluation process. Specialist legal, technical and financial advisors were also nominated and advice sought on an 'as required basis'. The working groups reported to an evaluation board, and recommendations were made in the form of a solicitation evaluation report (SER) on the merits of the responses received. The SER was then submitted to the project steering committee (PSC) for endorsement and to the program board and agency delegate for approval (program governance and assurance arrangements are outlined at Figure 4.1 in Chapter 4).

2.30 While Customs informed the ANAO that it had expected a number of responses to the RFP, only one company responded. Nevertheless, Customs has advised that, based on existing knowledge and further insights gained through the RFP process, it was able to state in the SER that there was industry interest, capacity and capability to successfully deliver a fleet of vessels that would substantially meet the capability requirements of the LFL and enhanced options.

2.31 With only one company responding to the RFP, the costing data obtained through the exercise was insufficiently robust to inform the project's second stage business case to government. Customs used the RFP data that was obtained from the company that responded and benchmarked this against:

28 The ANAO assessed significant addendums as those amendments that adjusted, added, or removed functional specifications, key contractual documents, clauses and definitions in the draft contract. The two significant addendums to the RFP documentation related to the definition of the LFL vessel option. The first adjusted the definition to include a reference to vessel size and the second clarified the meaning of this change to the definition.

the contracted price to Defence for the Armidale Class patrol boats; a project undertaken by the United States Coast Guard to replace its fast response cutters; and the price offered by one of the firms that responded to Customs' 2007 options definition study for the replacement of the Bay Class patrol boats.

2.32 In general, companies considered that the RFP process was a costly activity, with one company that considered responding to the RFP advising Customs that:

Given (i) the significant design effort required to offer solutions to within $\pm 10\%$ of final price, (ii) the absence of any indicative budget, and (iii) the need to develop and offer two options ahead of any decision by Government as to the preferred option, [the company] does not believe it can provide a competitive proposal that would currently meet Customs requirements.

2.33 Additional industry feedback obtained by the ANAO in May 2014 also highlighted that industry considered that it needed to address both capability options within the three month timeframe of the RFP to maximise the chances of progressing to the next stage in the procurement process. The cost to industry of responding to two capability options was considerable, with one company advising the ANAO that:

The bid cost for the RFP was in the seven figures, and was approximately five times the cost of a usual tendering activity. It was the largest tendering activity undertaken by the company to date.

2.34 Overall, while the RFP exercise was useful, the low response rate (one response) diminished its value. The low response rate has been attributed to the cost of participating in the RFP. An industry perception was that two complete solutions (LFL and enhanced) needed to be provided in order to progress to the next stage of the planned procurement. To address the limited costing data obtained from the RFP activity additional data was, however, sourced by Customs from alternative approaches to market, and costings provided via early industry engagement and consultation.

Request for Tender

2.35 The RFP exercise was followed by a further approach to market through an open RFT process.²⁹ The RFT was released through Austender on 30 July 2010 and closed on 22 October 2010.³⁰ The RFT sought responses from industry for the acquisition and ISS for a fleet of eight vessels to patrol against, and respond to, civilian threats to Australia's maritime domain. During the course of the RFT, 17 addendums were issued, only one of which was significant.³¹ Three responses to the RFT were submitted by the closing date.

2.36 The evaluation of the responses received was conducted in accordance with the criteria disclosed in the conditions of tender and Customs' tender evaluation plan (TEP). The TEP established a detailed evaluation governance framework, which included specialist engineering, operational, financial and commercial working groups to evaluate the relevant sections of RFT responses. The working groups reported to an evaluation manager, and ultimately the PSC. Further, the probity adviser was actively engaged in the oversight of the evaluation process, and delegate approval and endorsement of the outcome of each stage of the evaluation process was obtained.

2.37 The TEP outlined a detailed approach to the evaluation of RFT responses, following: initial screening of responses in Stage 1; a metric based assessment methodology to calculate technical merit scores and total cost of ownership in Stage 2; value for money indices in Stage 3 for each tenderer; and risk assessment in Stage 4 of the tender evaluation. The risk assessment stage included an adjustment methodology whereby the assessed risk profile of each tender response that had not been excluded or set aside at the end of Stage 3 was independently assessed.

2.38 A sound tender evaluation regime and a transparent process to identify a preferred tenderer was utilised by Customs. The tender evaluation report was completed and formally endorsed by the agency's delegate

29 In accordance with the *Financial Management and Accountability Act 1997*, Customs obtained Regulation 9 and 10 approvals for the estimated contract price prior to release of the RFT for the acquisition and ISS for the Cape Class patrol boats. The RFT was released to market on 30 July 2010. Regulation 10 approval was provided by the then Minister for Home Affairs on 31 May 2010 and Regulation 9 approval was provided by the Chief Financial Officer of Customs on 18 June 2010.

30 On 18 June 2010, exposure drafts of information to inform industry of the technical requirements of an enhanced vessel, including copies of the OCD and FPS were released.

31 The significant addendum involved a change to the FPS whereby the secure local area network equipment to be provided by the contractor was changed so that the majority of the equipment would be provided as government furnished material.

(Senior Executive Service Band 3) in February 2011. The report recommended setting aside one response due to technical and cost deficiencies, with the two remaining respondents demonstrating sufficient technical merit for each to enter into the negotiation phase with Customs. Broadly, one respondent was offering an aluminium vessel and the other respondent was offering a steel vessel.

Negotiation phase

2.39 The approved contract negotiation strategy proposed a two stage approach³², and sought to commence parallel negotiations with the two tenderers that were assessed as offering similar value for money outcomes.

2.40 The critical issues identified for negotiation were design related for one tenderer and affordability in relation to the other. A target price of \$280 million (firm price) was set by Customs for the acquisition of the CCPBs, based on the funding approved by government in the May 2010 Federal Budget (\$316.5 million), inclusive of allowances for likely cost increases as a result of design changes and forecast price escalation. In order to achieve the target price, Customs' negotiation team was given authority to consider proposals that amended non-essential technical requirements and commercial and schedule arrangements within predefined limits.

2.41 Negotiations with the two shortlisted tenderers commenced in February 2011 and were planned for completion by early May, with a contract to be signed by late May 2011. Negotiations with one respondent progressed until April 2011, when the company advised Customs that it would withdraw from the process. This resulted in negotiations continuing with the remaining respondent. By July 2011, critical design issues had been resolved, resulting in an acceptable offer within the target price, although a number of high risk items requiring ongoing monitoring (for example, the high risk of stern tube corrosion—which is examined in Chapter 4) were identified. A negotiation report approved by the agency delegate made a number of recommendations, including that the Commonwealth enter into a contract for the acquisition and ISS for a fleet of enhanced vessels for a period of eight years.

32 The two stage negotiation approach involved: first stage – addressing critical issues raised in the tender evaluation report (completed on 25 March 2011); and second stage – addressing remaining issues arising from initial tender evaluation (completed on 22 July 2011, which was three months later than planned). A separate report was prepared for each stage and submitted to the agency's delegate.

2.42 Overall, the RFT process was well managed by Customs. The outcome was transparent, utilised sound governance arrangements, and was managed in accordance with approved plans. A range of expertise outside the immediate program was utilised to assist with the evaluation, including AGS advice at key points throughout the evaluation process. The RFT utilised a sound reporting regime, integrated with appropriate probity oversight. The outcome of each stage of the RFT was submitted to the agency delegate for endorsement, with approval sought to progress through each stage of the evaluation and into the negotiation phase.

Government approval process

2.43 In September 2007, the SMMC had established that the Bay Class patrol boat replacement project would be subject to a two stage approval process, similar to that used in Defence for major capital acquisitions. More specifically, in August 2008 the then Prime Minister directed that the project would be subject to the Government's two stage capital works process.³³ As a consequence, the CCPB program was considered in the context of two Federal Budget cycles (2009–10 and 2010–11) and was required to obtain National Security Committee of Cabinet approval, in addition to Expenditure Review Committee of Cabinet approval. The review processes that were stipulated for the CCPB program were novel, both for Customs and the central agencies advising government on a non-Defence, but Defence-like project.

2.44 As an early part of the Government's consideration process, the CPGs required Customs to consider the use of a Public Private Partnership (PPP) to procure the proposed replacement vessels. As the procurement of the replacement Bay Class patrol boats was estimated to substantially exceed the \$100 million PPP threshold (now \$50 million threshold), a business case needed to be developed.³⁴

2.45 In February 2008, a Customs examination of PPP options concluded that, although the replacement Bay Class patrol boat project was rated suitable for a PPP approach, it was unlikely to provide superior value for money over a

33 The two stage capital works process applies to: information and communication technology projects costing at \$10 million or more; and infrastructure projects costing at \$20 million or more. In addition, infrastructure projects assessed as high risk, are subject to the Government's Gateway Review Process. The Cape Class patrol boat program met both these thresholds, and has been subject to both the approval and review processes.

34 Department of Finance and Administration, *Financial Management Guidance No. 17, Public Private Partnerships: Business Case Development*, December 2006.

traditional procurement approach.³⁵ Customs, therefore, proposed that a traditional procurement approach be utilised rather than a PPP arrangement. The proposed procurement approach was incorporated into the first stage business case, which was agreed by the Government.

Government decisions

2.46 The first stage business case for the Bay Class replacement project was included in Customs’ 2009–10 submission for the Federal Budget. The submission included: an analysis of the need to replace the Bay Class patrol boats; the proposed procurement approach vis-à-vis a PPP or traditional procurement; and provided costing estimates for two replacement options and a refurbishment option. As outlined earlier, the Government agreed to Customs continuing to develop two replacement options—LFL and enhanced options—utilising a traditional procurement approach.

2.47 The second stage business case was included in Customs’ 2010–11 submission for the Federal Budget. The submission provided an overview of the CMSS and the extent to which each of the two options contributed to the achievement of the key requirements of the system. The submission also reported on the outcome of the RFP process and advised that an enhanced option provided government with the best value for money. The estimated cost impact of each option is outlined in Table 2.3.

Table 2.3: Second stage business case ten year cost estimates

Cost Element	LFL Option \$m	Enhanced Option \$m
Vessel acquisition	249.8	316.5
Personnel	69.9	85.4
Operating	110.8	159.8
ACV <i>Triton</i> retention	243.0	67.5
Total cost over 10 years (2010–11 dollars)⁽¹⁾	673.5	629.2

Source: Second stage business case.

Note 1: The total cost includes the cost to retain the offshore support vessel ACV *Triton* across the ten year period. Under the enhanced option, the operation and cost of retaining the ACV *Triton* was planned to cease in 2013–14.

35 Following Customs’ examination of PPP options, and advice from the Department of Finance, a consultant was engaged by Customs to review its analysis. This further analysis broadly supported Customs’ assessment that a PPP was unlikely to provide superior value for money over a traditional procurement approach.

2.48 The enhanced option involved a significantly larger and more capable vessel. In this context, key cost elements are greater than the LFL option. The increased personnel cost for the enhanced option is attributed to the increased numbers of crew per vessel, while operating cost increases are attributable to fuel and maintenance. On a simple cost basis, the enhanced option only represented a lower cost option over a ten year period on the basis that the ACV *Triton* was phased out from operations in 2013–14. In August 2014, Customs informed the ANAO that due to an increase in operational requirements, the planned retirement date for the currently leased ACV *Triton* is December 2014—12 months after the originally planned date used to cost the enhanced vessel option in the second stage business case.³⁶

2.49 In the May 2010 Federal Budget, the Government agreed to fund the acquisition of the enhanced vessels (\$316.5 million) and over the forward estimates period (2010–11 to 2013–14) provided \$52.4 million for personnel and operating costs. The funding approval across the major cost elements is outlined below at Table 2.4.

Table 2.4: Bay Class replacement vessels – government funding approval (May 2010) by cost elements

Cost Elements	Forward Estimates (2010–11 to 2013–14) \$m	Ten Year Costing (2010–11 to 2019–20) \$m
Vessel acquisition	228.7	316.5
Personnel and operating	52.4	257.1
Total funding	281.1	573.6

Sources: ANAO analysis of Customs information.

2.50 The net effect of the funding provided by the Government is that Customs was required to find the majority of the increased personnel and operating costs to operate the vessels from within the agency’s existing budget. The additional funding required to operate the CCPB fleet is significant (approximately 40 per cent higher than the operating cost of the Bay Class patrol boat fleet), and Customs is yet to develop a clear strategy to address the expected funding shortfall, including contingency arrangements. CCPB program estimates regarding the future CCPB operational costs and budgets are examined further in Chapter 4.

³⁶ A further 12 month delay to December 2015 would result in the total cost of ownership over ten years for the enhanced option exceeding the total cost of ownership over ten years of the LFL capability option.

Value for money

2.51 The achievement of value for money is the core principle underpinning Australian Government procurement. In this regard, the CPGs that were current at the time of the CCPB program's approach to market, provided that procurements should:

- encourage competition and be non-discriminatory;
- use public resources in an efficient, effective, economical and ethical manner that is not inconsistent with the policies of the Commonwealth; and
- facilitate accountable and transparent decision making.

2.52 Officials involved in the procurement were also required to consider factors including: fitness for purpose; supplier performance history; risk profile of proposals; and direct and indirect whole-of-life cycle costs.

2.53 The ANAO examined the value for money outcomes achieved through the procurement process, with a focus on competition and the use of government resources in an efficient, effective, economical and ethical manner.

Encouraging competition

2.54 The Bay Class patrol boat replacement was conducted through an open, competitive tender process. Prior to formally approaching the market through an RFP/RFT process, Customs consulted with industry, including: a direct approach to four companies in 2007 to assist in developing the requirements for the CCPB program; and the use of the RPDE organisation in 2008 to gain industry assistance in the identification of the most significant cost drivers from a design perspective. These exercises provided industry with an awareness of a possible future approach to market. Program records also highlight that Customs was aware of the importance of generating strong industry interest in the project in order to encourage a number of competitive submissions. In this regard, Customs informed the ANAO that it had anticipated receiving around four responses to the RFT, with three companies ultimately responding. As outlined earlier, of the three responses received, only one company remained at the final stage of negotiations for consideration by the delegate.

2.55 The competitive basis for the procurement also needs to be considered against the ‘entry’ requirements established by Customs, set out in the RFT. This included that the vessels were to be based on a proven design³⁷ from a ship builder with a proven record in the construction of the type of vessel. These requirements reflected Customs’ approach to reducing some of the areas of key procurement risk³⁸, which was not unreasonable given the importance of managing the program to a fixed budget.

Efficiency and effectiveness

2.56 As a large and complex procurement, the acquisition process was conducted in a generally efficient manner. Customs was able to achieve government consideration and approval of the CCPB program across two sequential budget cycles. Similar Defence procurements have been given a minimum of two years to progress from the first stage business case consideration to the second stage business case approval by government.³⁹ Once the CMSCP was endorsed in November 2009, a strategic framework to support replacing the Bay Class patrol boats with an enhanced vessel was established. This approach facilitated the timely progression of the procurement to the RFT stage in July 2010, a negotiation phase with tenderers between February and July 2011, and final progression to contract signature in August 2011.

2.57 While delivery of the CCPB fleet is still underway, the procurement process has been effectively managed by Customs, with the vessels largely delivered to the capability requirements. Customs has advised that the CCPBs delivered have met all regulatory requirements and, where required, have obtained relevant exemptions necessary to meet operational requirements. Following considerable design work, the operational test and evaluation of the first CCPB (examined in Chapter 3) demonstrated close alignment between vessel capability requirements and the performance of the first CCPB. Further, the procurement contract has ensured the acquisition is within the program

37 Within the tender documentation (operational concept document) released to the market, the definition of a proven design was one that had been previously constructed and accepted in to service with another security/military force.

38 Risks that may arise with an unproven vessel design and contractor construction record include: potential failures in the vessel design to meet capability requirements; and potential project cost increases and schedule delays due to design failures and poor project management by the contractor.

39 For example, the Defence project to replace the Armidale Class patrol boats involves first stage approval which is planned for 2014–15, with the Government’s decision planned two years later in 2016–17. Department of Defence, available from www.defence.gov.au/publications/capabilityplan2012.pdf > [accessed 8 September 2014].

budget agreed by government, with a delivery schedule that has supported the planned withdrawal of the Bay Class patrol boats.⁴⁰

2.58 Nevertheless, the achievement of the broader benefits related to the procurement of the CCPBs relies upon successful delivery and integration with other inputs to capability, including: expanded and more skilled crews; the operation of new ISS arrangements; and improved support facilities. With less than half the CCPB fleet in place by September 2014, a number of capability inputs are still to be fully developed and tested on a whole-of-fleet basis. Deficiencies or delays with any of these inputs have the potential to affect the planned operational capability of the vessels, and their ability to deliver the outcomes required by government. The key systems to support the effective operation of the vessels and meet the capability requirements are examined in Chapter 5.

Economy

2.59 The economic rationale for the selection of the enhanced option over the LFL replacement patrol boat option was soundly based, and the case well documented. The inability of the LFL option to meet the operational and performance requirements outlined in the CMSCP and the ability of the enhanced option to meet the range and endurance requirements outlined in the CMSCP supported Customs' analysis that the enhanced option would provide the best value for money. In considering the value for money of any enhanced capability option, Customs had regard to benchmark costs for vessels in Australia and overseas. The cost of an enhanced patrol boat obtained through the RFP (\$39.5 million) was benchmarked against three similar patrol boat capabilities, as indicated in Table 2.5.

40 The transition planning from Bay Class patrol boats to CCPBs has involved the replacement of each Bay Class once a CCPB is accepted into service. A logistical consideration in this transition phase has also involved the gifting of four Bay Class patrol boats to Sri Lanka and Malaysia.

Table 2.5: Vessel benchmark costs

Vessel	Acquisition Cost Per Vessel \$m
Industry early advice (options definition study phase)	35.0
RAN Armidale Class patrol boats	39.9
United States Coast Guard (fast response cutter)	46.6

Source: Second stage business case.

Note: The comparative vessel cost data in the table should, however, be treated with caution. The data provides a range of costings for vessels broadly similar to Customs’ enhanced vessel proposal. Key variances across the vessels include hull material and operational capabilities.

2.60 The achievement of a value for money outcome for the enhanced option is, however, contingent on Customs’ ability to: ensure sufficient crew and skills are available to perform the range of operational activities planned for the eight CCPBs; retire the ACV *Triton* as planned (originally December 2013, although at the completion of audit fieldwork this asset was still under contract to Customs); and successfully deliver the remaining FIC elements, such as access to support facilities for the vessels.

Ethical

2.61 Adopting a transparent approach to procurement enables business to be conducted fairly and reasonably. The acquisition process, including: government consideration of the options; project approval and tendering processes were conducted in a manner consistent with the application of procurement policies. Industry was actively engaged from the early phases of the project, with appropriate probity oversight arrangements in place, requiring formal endorsement at key stages. In the context of the overall probity of the procurement process, allegations were raised by a Customs officer regarding bias towards a particular ship builder early in the process. Customs conducted two separate investigations that found that the allegations were not supported by the evidence.⁴¹ Overall, procurement governance and probity oversight was appropriate for a project of this size and complexity.

41 The governance and probity arrangements, including the management of the allegations relating to the procurement, are examined in further detail in Chapter 4.

Conclusion

2.62 While there was an initial delay in the development of the strategic framework to support the replacement of the Bay Class patrol boats, Customs' development of the CMSCP (which was endorsed by the Government in November 2009) provided an appropriate framework to determine the required capability for civil maritime security.

2.63 The level of industry engagement undertaken by Customs was appropriate for a large and complex project. Initially, industry was engaged through a direct approach to known industry representatives. This early engagement was important in assisting Customs to estimate the expected costs to procure an enhanced vessel. The RFP was a less successful approach to market than the RFT as it generated limited input, with the costing information obtained needing to be benchmarked against similar acquisitions both nationally and internationally. These benchmarking activities utilised previous projects of like capability and complexity.

2.64 The RFT was well managed, with Customs implementing a sound tender evaluation regime and transparent process to identify a preferred tenderer. The RFT was characterised by strong management involvement and an effective review and approval process that ensured that management was regularly informed of the status of the evaluation and negotiation activities.

2.65 In terms of the value for money outcome, the acquisition of the enhanced vessel option was assessed as best meeting the capability requirements as defined in the CMSCP. The capability was achieved through utilising an open approach to market that delivered an acceptable solution within a target price based on similar acquisitions. Further, the acquisition schedule was intended to support the timely replacement of the Bay Class patrol boats. However, the achievement of a value for money outcome related to the procurement of the CCPBs also relies upon successful delivery and integration with other inputs to capability including: the recruitment of additional crew and upgrading existing workforce skills; the effective operation of new ISS arrangements; and appropriate infrastructure support arrangements for the CCPBs.

3. Design and Build Contract

This chapter examines the approach to, and structure of, the contractual arrangements for the management of the CCPB program by Customs. It also examines the processes adopted by Customs to provide assurance in regard to operational and regulatory requirements for the acquired CCPBs.

Introduction

3.1 The CCPB program represents a major capital equipment acquisition for Customs. The program involves a significant level of effort and complexity in working with the contractor, through the contract, to successfully deliver a fleet of CCPBs to the required schedule, cost and capability. The ANAO examined the following aspects of the acquisition contractual arrangements:

- the contractual approach and structure;
- key details of the acquisition contract, including deliverables by the contractor; and
- the CCPB design, testing and evaluation processes used to provide assurance in regard to compliance with operational and regulatory requirements.

Contractual approach and structure

3.2 Customs' approach to the CCPB contract involved one prime contractor under a single contract for vessel acquisition on a firm price basis⁴² and ISS services on a fixed price basis.⁴³ This approach was designed to address a number of contractual issues, including: establishing a single point of responsibility and accountability, particularly in relation to the management of warranty claims and any latent defects that may arise with the vessels; and reduce Customs' administrative overheads and contract management expenditure. Appropriate commercial and contracting provisions dealing with the risk of failure of the prime contractor (in the form of performance and financial guarantees) were also identified as a matter for such a major

42 Under the contract, a firm price is defined as a price that shall not be escalated for changes in labour rates, material or any other factor other than foreign exchange movements.

43 Under the contract, fixed price is defined as a price that is base date dollars variable only in accordance with agreed indices incorporated into the contract.

contract.⁴⁴ In order that the contractor balance its focus on both acquisition and ISS, an initial contract term of eight years was implemented⁴⁵ to extend sufficiently past the vessel delivery period so that, for some time, ISS services were the only services being delivered by the contractor. The contract term was also designed to end approximately half way through the expected life of the CCPB fleet, providing Customs with the flexibility to approach the market for ISS services at a later date.⁴⁶ Further detail on the ISS phase of the contract is provided in Chapter 5.

3.3 To help mitigate potential contracting risks for both Customs and the contractor, Customs utilised the Australian Standard for Defence Contracting (ASDEFCON) suite of contracting templates.⁴⁷ These templates were developed by the Defence Materiel Organisation and are familiar to Defence contractors involved in procurements of this size and complexity.

Acquisition contract

3.4 As outlined earlier, the acquisition contract was signed on 12 August 2011 by the Commonwealth (represented by Customs) and Austal Ships Pty Ltd involving \$277.7 million for the delivery of eight CCPBs. The majority of the contract value is payable in Australian dollars, with around ten per cent payable in a mix of foreign currencies. Customs has also included an allowance for foreign currency exposure over the life of the acquisition contract.

3.5 The most significant contract payments are related to the following major milestones under the contract: contract signature; design reviews in the early phase of the contract; and Customs' acceptance of each CCPB.

44 The AGS provided a range of advice to Customs in the contract development and negotiation phases, including advice on a single contract approach covering both vessel acquisition and ISS.

45 The ISS contract term of eight years can be extended by up to 12 years by invoking one or more options.

46 In regard to the ISS contract term, the ISS sub-contractor advised the ANAO in September 2014 that although the contract term is eight years, there is only an average of four and a half years per vessel of ISS, which is a relatively short portion of the vessels' expected 20 year service life. The sub-contractor advised that a contract term closer to the life of the capability would have enabled the better amortisation of support system costs and acted as an incentive on the ISS provider to invest more up-front.

47 The ASDEFCON template contract terms and conditions provide: fitness for purpose warranties, testing and acceptance criteria, latent defect provisions, performance guarantees, insurance and financial securities; statement of work – detailing actions to be undertaken by the contractor during acquisition and in-service support to cover *inter alia* project management, systems engineering, design, test, logistics, support, configuration management and training; and the functional performance specification and operational concept document that detail the capability requirements of the project.

A relatively large payment (around 15 per cent of the contract value) is associated with the contractor achieving the Final Acceptance milestone. Broadly, the spread of milestone payments is not unreasonable in relation to the completion of major activities and the contractor's business requirements. The major acquisition milestones and payments at contract signature (August 2011) and following approaches from the contractor, changes to some of the major milestones as a result of an early construction deed (December 2012) are outlined in Table 3.1 (on the following page).

3.6 Importantly, the construction deed enabled the contractor to commence work earlier than planned on the second, third and fourth CCPBs—at the contractors' own risk—since the CCPB design baseline had not been finally established. The benefit for the contractor was a reduction in the six month build pause period after completion of the first CCPB, and access to earlier milestone payments within the 2012–13 and 2013–14 financial years to enable the contractor to retain a skilled workforce throughout the construction period. Customs, while recognising some design risks with earlier than planned construction after the first CCPB—was also mindful that contractor workforce retention was an issue during the build pause, which could then impact on the production schedule for the remaining CCPBs.⁴⁸

3.7 In general, a key outcome from the early construction arrangements has been additional mitigation to manage the risks to CCPB delivery schedule, particularly against a background where the construction period on the first CCPB had taken longer than originally planned.⁴⁹

48 From Customs' perspective, changes in the CCPB delivery schedule can have significant logistical impacts on planning for crew training and transitional arrangements in moving from Bay Class patrol boats to CCPBs.

49 The construction period for the first CCPB was planned to take seven months. The actual construction period was almost 12 months.

Table 3.1: CCPB acquisition major milestone and payment schedule

Contract Signature Major Milestones (August 2011)	Additional Contract Milestones Under Early Construction Deed (December 2012)	Date Achieved / Planned <i>[italicised]</i>	Contract Signature (August 2011) ⁽¹⁾ \$m	Current Contract (September 2014) ⁽¹⁾ \$m
Contract signature	-	August 2011	12.6	12.6
Preliminary design review	-	November 2011	12.7	12.7
Critical design review	-	May 2012	25.9	25.9
-	CCPB#1 – delivery of major equipment	December 2012	-	8.6
-	CCPB#1 – launch	January 2013	-	11.1
CCPB#1 – Acceptance	-	April 2013	53.3	33.6
-	CCPB#2 – preserved state ⁽²⁾	September 2013	-	28.8
CCPB#2 – Acceptance	-	May 2014	41.7	12.9
-	CCPB#3 – preserved state	July 2014 ⁽³⁾	-	21.2
CCPB#3 – Acceptance	-	September 2014	28.6	7.3
-	CCPB#4 – preserved state	July 2014 ⁽³⁾	-	8.2
CCPB#4 – Acceptance	-	December 2014	11.2	3.0
CCPB#5 – Acceptance	-	March 2015	11.5	11.5
CCPB#6 – Acceptance	-	May 2015	11.8	11.8
CCPB#7 – Acceptance	-	July 2015	11.9	11.9
CCPB#8 – Acceptance	-	August 2015	11.9	11.9

Contract Signature Major Milestones (August 2011)	Additional Contract Milestones Under Early Construction Deed (December 2012)	Date Achieved / Planned <i>[italicised]</i>	Contract Signature (August 2011) ⁽¹⁾ \$m	Current Contract (September 2014) ⁽¹⁾ \$m
Final Acceptance	-	September 2015	44.6	44.6
Total (Australian dollars at 12 August 2011 exchange rate)⁽⁴⁾			277.7	277.7⁽⁵⁾

Source: CCPB acquisition contract and Customs records.

Note 1: Foreign currency exchange rates at 12 August 2011 (contract signature) have been used to calculate the Australian dollar equivalent. In addition, the cost of contract change proposals is not included in the payment schedule (see paragraph 3.15 for further examination of contract change proposals).

Note 2: Under contract amendments (December 2012), preserved state involved a CCPB reaching a point of completion as if it were ready for launch. Subsequently, the contractor could be required to enter a preserved CCPB into storage, and then 'regenerated' in readiness for Customs' acceptance.

Note 3: Under contract amendments (December 2012), the milestone date for the preservation of the third and fourth CCPBs were both 1 July 2014. This arrangement under the amended contract ensured that the planned contract milestone payments to the contractor in 2014–15 for the vessels were not brought forward to 2013–14 as a result of the preservation program.

Note 4: Figures have been rounded.

Note 5: Under contract amendments (December 2012), additional milestone payments were included that enabled some earlier payments to the contractor than originally scheduled. In this context, Customs obtained an early payment discount of \$1 million that has been taken as work in-kind to be conducted by the contractor. Where this amount is not consumed prior to the Final Acceptance milestone, payment for this milestone will be reduced by the unused value of work in-kind by the contractor.

Contract management arrangements

3.8 A sound contract management framework helps to support the parties in meeting their obligations under the contract, without the need for the enforcement of rights.⁵⁰ A formal engagement structure involving quarterly progress meetings between the contractor and Customs has been in operation, with discussions including the acquisition performance and risks/issues. In addition, monthly project status reports are provided by the contractor. Under the contract's ISS arrangements, quarterly and annual performance review meetings are held and annual, quarterly and monthly performance review reports are provided by the contractor.

3.9 Two further mechanisms with particular importance in contract management arrangements involve the contract master schedule (CMS) and the configuration change management process for the CCPB program.

Contract master schedule

3.10 An important element in managing the contract and the future operation of the CCPBs is the contract data requirements list (CDRL) that lists over 40 plans, drawings, schedules, reports and other data items to be provided by the contractor for approval by Customs. In this regard, the CDRL includes the contractor's development and maintenance of an approved CMS. The CMS is the primary schedule for the contract and is intended to provide visibility to Customs concerning the tasks required to achieve key milestones and events. A CMS is used to compare planned progress against actual progress achieved. Against this background, and despite the contractor putting forward an initial CMS for Customs approval in August 2011 and submitting a revised CMS in October 2011, December 2011, and again in April 2012, an approved CMS has not been established.⁵¹ Customs advised the contractor that, among other things, the CMS submitted: lacked critical path information⁵²; did not identify resources and constraints; listed milestones and activities in isolation, rather than linking the achievement of milestones to the completion of required tasks; and did not include links to the subordinate

50 Customs maintains a contract management plan that includes: key features of the contract; Customs and contractor roles and responsibilities; communications; ISS arrangements; contractor payment processes; and the management of contract changes.

51 An approved CMS is not linked to a contract milestone payment.

52 Critical path information links dependencies and relationships to provide a clear understanding of the tasks that need to be completed before another task can be undertaken, and supports the early identification of problems to allow appropriate corrective action to be planned.

schedules. The contractor advised that additional details and linkages between critical activities and milestones were being added to the CMS.

3.11 After more than 12 months of negotiation between the contractor and Customs over a suitable CMS, an alternative approach was agreed in November 2012 whereby the contractor would provide a regular series of snapshots from the CMS as progress reports. Further, Customs engaged a scheduler to track acquisition schedule performance and tasked the RPT at the shipyard with providing independent monitoring and reporting to the project office on the contractor's scheduled progress.

3.12 While this 'workaround' has been largely successful, with the RPT providing timely progress updates and enabling the project office to maintain visibility of risks to the scheduled delivery dates of the CCPBs, the absence of an approved CMS under the contract—which is generally the primary mechanism to compare planned and actual progress—is of concern.⁵³

Configuration change management

3.13 Configuration change management is an important process for establishing and maintaining consistency across the performance, functional and physical attributes of capital acquisitions. In this regard, a configuration management process is common in major Defence capital acquisitions.

3.14 Prior to contract signature, Customs established a configuration control board whereby changes (in the form of contract change proposals—CCPs, or engineering changes proposals—ECPs) to the CCPB and its support systems were brought forward for review and either approved or rejected by Customs. Changes can be initiated by either Customs or the contractor. Where changes are agreed, they may be incorporated into engineering drawings, build specifications and contractual documents.

3.15 Given the complexity of the CCPB contract, Customs anticipated that a number of design, engineering and contract changes involving more detailed development post contract signature would be required. In this context, the CCPB program's capital acquisition budget provided an allowance for design/equipment changes and rectification of matters arising during the course of the CCPB testing and acceptance phase of the program.

53 The CMS is a key mechanism to assist Customs to schedule the various FIC elements required in the successful transition of the CCPBs to operational readiness. This includes the alignment of crew numbers and training to meet vessel delivery dates established in the CMS.

As at October 2014, approximately 100 CCPs had been approved with a net cost impact totalling \$14.3 million.⁵⁴

CCPB design, testing and evaluation

3.16 As outlined earlier, the RFT documentation prepared by Customs required that the CCPB was to be based upon a proven design. The design of the CCPB submitted by the successful tenderer was a derivative of the Armidale Class patrol boat that is in use by Defence. However, since the Armidale Class patrol boats first entered service in mid-2005, a number of design deficiencies have emerged, including: structural fatigue in the form of hull cracking; stern tube problems; toxic gas hazards; hydraulic system leaks; fuel quality problems; and excessive noise and vibration levels experienced in areas of the vessel. In this regard, Defence assisted Customs early in the program with lessons learned from the design, operation and support of the Armidale Class patrol boats, for consideration in the CCPB context.

3.17 More generally, as vessels subject to the *Navigation Act 2012*, the CCPBs were required to be designed, constructed and certified in accordance with statutory maritime regulations. The CCPBs were also required to be designed, produced and maintained in accordance with the rules and regulations from a maritime classification society approved by the Australian Maritime Safety Authority (AMSA).

CCPB design

3.18 As with other aspects of the procurement process, Customs utilised a similar model to that used by Defence, to progress the design of the CCPBs to the production phase of the program. The design approach adopted was based on systems engineering principles and required that a number of system design reviews be completed prior to the approval of the final design. The system design reviews conducted jointly by Customs and the contractor are outlined in Table 3.2 (on the following page).

54 A number of approved CCPs will also have an impact on ISS costs. As at early August 2014, the estimated net cost impact on ISS costs over the contract period was just under \$1 million.

Table 3.2: CCPB design review process

Review	Objective	Date Planned	Date Completed
System Definition Review	Set requirements baseline. ⁽¹⁾	August 2011	August 2011
Preliminary Design Review	Establish functional baseline design for the first CCPB and each individual sub-system. ⁽²⁾	November 2011	November 2011
Detailed Design Review	Establish baseline in preparation for the production of two units/ship sections. ⁽³⁾	March 2012	March 2012
Critical Design Review	Finalise allocated baseline design.	May 2012	May 2012

Source: Customs documentation.

Note 1: During the course of the design process, a number of baselines are reached that reflect progressive maturity in the vessel's design. Key baselines involve: requirements baseline (validation of operational concept documentation); functional baseline (design of each system/sub-system); allocated baseline (integration of system/sub-systems and inform the build of the first vessel); and product baseline (after testing the first vessel, inform the build of the remaining vessels).

Note 2: For design purposes, the CCPBs comprised eight major sub-systems: mission; structural; fit-out; heating, ventilation and air-conditioning (HVAC); propulsion; auxiliary; electrical; and safety.

Note 3: The production of the CCPBs uses an approach whereby units (or ship sections) are fabricated and then assembled. Once assembly is completed, the fit-out of the vessel commences.

3.19 The reviews were undertaken to ensure that the CCPB's design was accurately captured in a suite of detailed design documentation and then translated into build specifications. The system definition review (SDR): addresses the ship system and support system specifications; requires the delivery of a range of contractual documentation, including the systems engineering management plan and support system specifications for the CCPB; places the requirements baseline for the vessels and the support system under configuration control; identifies the verification methods to be used to validate the baseline design; and addresses any inconsistencies between the operational concept document and ship system and support system specifications. As part of the SDR, the contractor established a file sharing application accessible by Customs project staff where contractual documents could be submitted for review and approval.

3.20 The preliminary design review (PDR) addressed the support system and eight sub-systems of the vessel, including the: mission; structural; fit-out; heating, ventilation and air-conditioning (HVAC); propulsion; auxiliary; electrical; and safety systems. The PDR did not identify major design issues with the CCPB, although a number of minor issues at the integrated vessel and

sub-system level were identified.⁵⁵ Plans were then developed to address and rectify each of these issues. Against this background, the design of the vessels was deemed to be sufficiently mature to establish the functional baseline and progress to the next design review.

3.21 The detailed design review (DDR) identified two minor design issues for rectification. These involved third party reviews of high risk items⁵⁶ and redesign of the plant room to enable sufficient access for crew to carry out regular maintenance. A report on this review provided sufficient confidence for Customs to progress to the next review stage.

3.22 The critical design review (CDR) phase identified 15 minor issues spanning the structure, auxiliary and propulsion sub-systems and the integration of those sub-systems into the overall vessel design. These issues included the lack of progress on the independent third party analyses required for the five high risk items identified. Other outstanding design issues were identified for the plant rooms, engine room and medical treatment room. Nevertheless, Customs noted that: plans were in place to address these issues; it had a good understanding of the design and risks going forward; and the risks associated with proceeding to the next phase were deemed acceptable. At the completion of CDR, Customs assessed that the exit criteria for the achievement of CDR had been met, and a baseline design of sufficient maturity was available from which the contractor could commence production of the first CCPB.

3.23 The overarching systems design review process utilised by Customs provided a sound framework to: support a collaborative design process; foster a common understanding of the requirements; facilitate the identification and

55 Minor design issues as a result of the PDR included: information and communications equipment systems; growth margins (that is, the impact on vessel weight and stability as a result of possible upgrades to major systems and equipment); the ORION marine situational awareness system; accommodation; ships boats; and third party reviews of areas of CCPB design considered high risk.

56 The contract identified five high risk design items for detailed analysis, as a result of design deficiencies encountered on the Armidale Class patrol boats operated by Defence. These involved: stern tube corrosion; hydraulic system leaks; fuel quality; toxic gas hazards; HVAC limitations; and excessive noise on the working deck. In addition to these high risk items, CCPB certification arrangements required an independent review to be conducted to assess structural fatigue. Following Customs' consideration of these analyses, only a single high risk item remained that related to the risk of stern tube corrosion occurring on the CCPBs. Since this time, one of the high risk items that was retired has been realised, involving the HVAC system not meeting requirements. The strategies that Customs has employed to manage these risks/issues are examined in Chapter 4.

inclusion of design changes early in the process; identify and address design deficiencies; and establish and agree functional and allocated baseline designs.⁵⁷

3.24 The review process also has an important role as a risk mitigation mechanism for aligning design with capability requirements. This was a structured process requiring the submission of key engineering documents and drawings in addition to contractual documentation for approval by Customs, prior to commencing construction of the vessels. The process was utilised to provide assurance to Customs that the design of the CCPB would result in the production of a fleet of vessels capable of meeting the requirements outlined in the FPS and OCD.

3.25 In addition to the review process, a significant element in the design process relates to the maritime regulatory requirements, whereby the CCPBs are required to be designed, built and maintained to AMSA approved maritime classification society standards. These standards meet the International Maritime Organisation's Safety of Life at Sea (SOLAS) and Maritime Pollution (MARPOL) requirements. In this regard, a key capability requirement that had significant design implications was the planned number of transportees and their accommodation needs on the vessels. Operational planning provided for up to 50 transportees, which had implications for the vessels' overall size. This in turn resulted in the need for a larger crew complement, when compared to the Bay Class patrol boats, with increased qualifications/training requirements to crew a vessel of 58.1 metres in length, with greater tonnage and engine power.

Testing and evaluation

3.26 A structured test and evaluation regime has been used to accept the CCPBs into service and achieve operational release.⁵⁸ Customs has established a test and evaluation regime comprised of three discrete phases:

- developmental test and evaluation (DT&E);
- production test and evaluation (PT&E); and
- operational test and evaluation (OT&E).

57 Table 3.2 and Note 1 provides an explanation of different baselines established through the design development stages.

58 Operational release is when a vessel is deemed capable of undertaking taskings received from Customs' Border Protection Command.

Developmental test and evaluation

3.27 The DT&E phase was applied to the design of the first CCPB. The objective of this phase was to use the systems design process to verify contractual design requirements and enable an allocated baseline to be established. The DT&E phase was successfully completed in May 2012, with delivery of an acceptable allocated baseline design to Customs, from which to commence construction of the first CCPB. Achievement of the CDR milestone marked the boundary between cessation of the DT&E phase, and commencement of the PT&E phase.

Production test and evaluation

3.28 The PT&E phase occurs throughout the production of the first vessel. The objective of this process is to establish the product baseline, achieve vessel acceptance and transition from the acquisition phase to the ISS phase. The program utilises a range of surveys, inspections, tests and trials to verify that the vessels have been produced in accordance with the established product baseline design.

3.29 The PT&E phase commenced in May 2012 and concluded in April 2013 with conditional acceptance of the first CCPB (*ACV Cape St George*) being achieved. The major PT&E activities and completion dates are provided in Table 3.3.

Table 3.3: Production test and evaluation milestones

Activity	Date Planned	Date Completed
Test Readiness Review	January 2013	December 2012
Training Readiness Review	October 2012	January 2013
Commissioning/Harbour Acceptance Tests	January 2013	March 2013
Sea Trials	January 2013	April 2013
CCPB#1 (<i>ACV Cape St George</i>) ⁽¹⁾	February 2013	April 2013

Source: CCPB End Stage Report – Design and Vessel 1 acceptance.

Note 1: *ACV Cape St George* was conditionally accepted with 42 exceptions (that is, items requiring further work by the contractor). At the time of audit fieldwork, five exceptions remained outstanding. The five remaining exceptions relate to contractual documentation and are of a minor administrative nature.

3.30 The PT&E phase addresses the critical technical parameters (CTPs), outlined in the OCD. The CTPs are high level requirements that prior to the vessels being accepted, are applied to both the CCPB and the ships boats. Customs utilised a robust verification and validation process involving a

verification cross reference matrix (VCRM) to determine that the CCPB met the CTPs.⁵⁹

3.31 The VCRM identifies the verification method to be applied, and identifies whether this method is to be applied to the first CCPB only, or across the entire fleet. The majority of verification and validation activities focussed on the first CCPB, which was used to establish a baseline design that was then to be used to construct the remaining CCPBs.

3.32 Customs utilised a robust PT&E process, and employed sound strategies to manage the contract to support the timely delivery of vessels for acceptance. Where appropriate, funds have been withheld where the contractor has failed to satisfy in full the contractual requirements to achieve unconditional acceptance of the vessel. The withheld funds are linked to specific exceptions, with the amount withheld based on an estimate to rectify the deficiency. Funds have been released as each exception is resolved to the satisfaction of Customs.

3.33 Of the three conditions of exceptions in place at the time of conditional acceptance of the first CCPB (17 April 2013), only the support system rectification⁶⁰ remains outstanding. The support system rectification required is related to the delivery of contractual documentation requirements, specifically those that are required to transition the CCPBs from the acquisition to the ISS arrangements.

Operational test and evaluation

3.34 The CCPB program's OT&E phase was designed to:

- assess the operational effectiveness of the CCPB and its support system in order to determine whether it meets the required capability;
- review rectification of existing deficiencies and identify any new or emerging deficiencies;
- determine that the CCPB is safe, effective and suitable for its intended role; and

59 The areas covered by the VCRM include: general mission capabilities; vessel structure; outfit and finishing; HVAC; main equipment; machinery systems; electrical; safety and lifesaving; and commissions and trials.

60 The exception covers contractual documentation required to verify that all necessary elements of the support system are in place to support successful operation and maintenance of the first CCPB and subsequent vessels.

- prepare the vessel and crew, and recommend the CCPB for operational release.

3.35 Importantly, the OT&E phase was to be conducted with the first CCPB, before construction commenced on the second CCPB. This build pause was designed to allow the completion of a robust operational test and evaluation program, inclusive of extensive sea trials conducted across a number of patrols, for the first CCPB.⁶¹

3.36 The OT&E period commenced after acceptance of the first CCPB in mid-April 2013 and concluded in early September 2013. Due to a delay in the first CCPB's delivery and subsequent acceptance, the OT&E period spanned four and a half months, rather than the six months as planned. Despite the delay in acceptance, six patrols were performed in which the ability of the CCPB to meet critical operational issues was assessed by the crew.⁶² Within the OT&E period, functional and physical configuration audits on the first CCPB were conducted in May and July 2013 respectively. The audits are used to inform the product baseline, from which to construct the remainder of the fleet.⁶³

3.37 At the conclusion of the OT&E period, the first CCPB was deemed suitable for operational release, with three initial operational limitations⁶⁴ and a number of lower level capability limitations. Approximately 205 design changes were also identified. Customs' assessment was that this number of design changes was not unexpected for a first of class build.

61 In ANAO Audit Report No.9 2008–09, *Defence Materiel Organisation Major Projects Report 2007–08*, Canberra, 27 November 2008, the Defence Materiel Organisation (DMO) provided lessons learned in relation to the Armidale Class patrol boats. This included that for a new or significantly modified design there will be a number of design changes emanating from initial sea trials. The aggressive delivery schedule for the Armidale Class patrol boats did not allow time for changes from initial sea trials to be built into the following boats prior to their construction. This resulted in an evolving design baseline throughout the production phase that was not stabilised until after delivery of the last boat. Consequently the redesign, build, test and acceptance aspects of boats built after the first of class became unnecessarily complicated, expensive and inefficient. DMO highlighted that time should be allowed after the first (or second depending on the size of the class) boat build to conduct sea trials and modify and stabilise the design as appropriate prior to the main production run.

62 The Critical Operational Issues (COI) identified in the OT&E Plan were: COI 1 – Is the CCPB logistic support system suitable? COI 2 – Is the CCPB capable of performing its primary civil law enforcement tasks? COI 3 – Is the CCPB capable of performing its secondary civil law enforcement tasks? COI 4 – Are the ships boats able to perform boarding and enforcement operations? COI 5 – Are the surveillance, communication and navigation systems effective?

63 Where construction of subsequent vessels had commenced in accordance with the deed of early construction approved in December 2012, the second, third and fourth CCPBs were to be retrofitted with the changes at the earliest available opportunity.

64 The OT&E operational limitations for the first CCPB were: ships boats operations were limited to Sea State 3 (slight seas with wave heights up to 1.25 metres); restrictions on the towing requirement up to 380 tonnes; and endurance limited due to insufficient kitchen freezer space.

The contractor agreed to incorporate the changes into the remainder of the fleet and the product baseline configuration. However, significant Customs and contractor resources to process the design/equipment changes for inclusion in a product baseline have been required.⁶⁵ The majority of the product baseline was established in September 2013 after the OT&E period. As at October 2014, Customs advised that the majority of the changes have been incorporated into the product baseline and installed on the vessels.

3.38 The first CCPB (ACV *Cape St George*) achieved operational release on 12 October 2013. Overall, the results from the OT&E period for a first of class vessel demonstrated generally close alignment between the delivered capability and planned capability. In September 2014, Customs advised that the majority of the capability limitations identified with the first CCPB during the OT&E period had been rectified.⁶⁶

3.39 The test and evaluation program for the remainder of the CCPB fleet is less extensive than that conducted for the first CCPB, and is focused on production test and evaluation. However, harbour and sea trials of sub-systems and the testing of the integration of agreed design changes are also undertaken.

Conclusion

3.40 Customs has drawn upon contracting and engineering processes similar to those employed by Defence to manage a large and complex capital acquisition program. Importantly, Customs utilised Defence's experience with the acquisition of the Armidale Class patrol boats to mitigate a number of areas of risk to the program's delivery. The key lessons learned included the provision of a build pause after the first CCPB to enable sufficient stabilisation in design, before commencing construction on the second CCPB. A number of high risk design issues associated with the RAN's Armidale Class patrol boats were also identified early to enable considered mitigation strategies. Overall, the lessons learned from Defence were effectively incorporated by Customs into the program.

65 The product configuration activities covered 54 areas across the CCPBs, including: the fuel system; gas extinguishing system; power generation and distribution; main engine and mounting; shafting and bearings.

66 The remaining capability limitations involve: the provision and uploading of various technical data into the computerised maintenance management system (CMMS); and the validation of the CCPB's information and communications technology capability against requirements.

3.41 Customs established sound acquisition contract terms, with most of the \$277.7 million contract amount set on a firm price basis. An adequate allowance has been included in the program budget to manage the price that is subject to movements in foreign exchange rates. Further, contract payments are linked to the achievement of major milestones, including at the point of Customs' acceptance of each CCPB from the contractor.

3.42 The contract management arrangements have proven generally effective in managing issues between the contractor and Customs. However, a significant outstanding issue concerns the absence of an approved CMS. While Customs has established an alternative arrangement, this is a less satisfactory outcome.

3.43 The early phase of the contract has involved the design, testing and evaluation of the CCPBs as a class of vessel. A systems engineering process commensurate with the complexity of the capability requirement has been adopted and used to manage design risks. While a number of design risks and issues remain, the outcomes from the OT&E confirmed that the first CCPB was capable of meeting critical operational requirements.

4. Program Management

This chapter examines key elements of the CCPB program that are designed to ensure sound acquisition management and the delivery of a fully capable CCPB fleet.

Introduction

4.1 A sound management framework, incorporating effective governance and assurance arrangements, provides a strong basis for the overall success of a program. The ANAO examined the program management framework established by Customs for the acquisition of the CCPBs including:

- program governance and assurance arrangements;
- risk and issue management; and
- probity arrangements and investigations.

Governance and assurance

4.2 Governance refers to the practices, policies and procedures, exercised by an agency's executive, to provide strategic direction, ensure objectives are achieved, risks are managed and resources used responsibly and with accountability. Key elements supporting sound governance arrangements include: program oversight arrangements; program plans; budget management; and information management.

Oversight arrangements

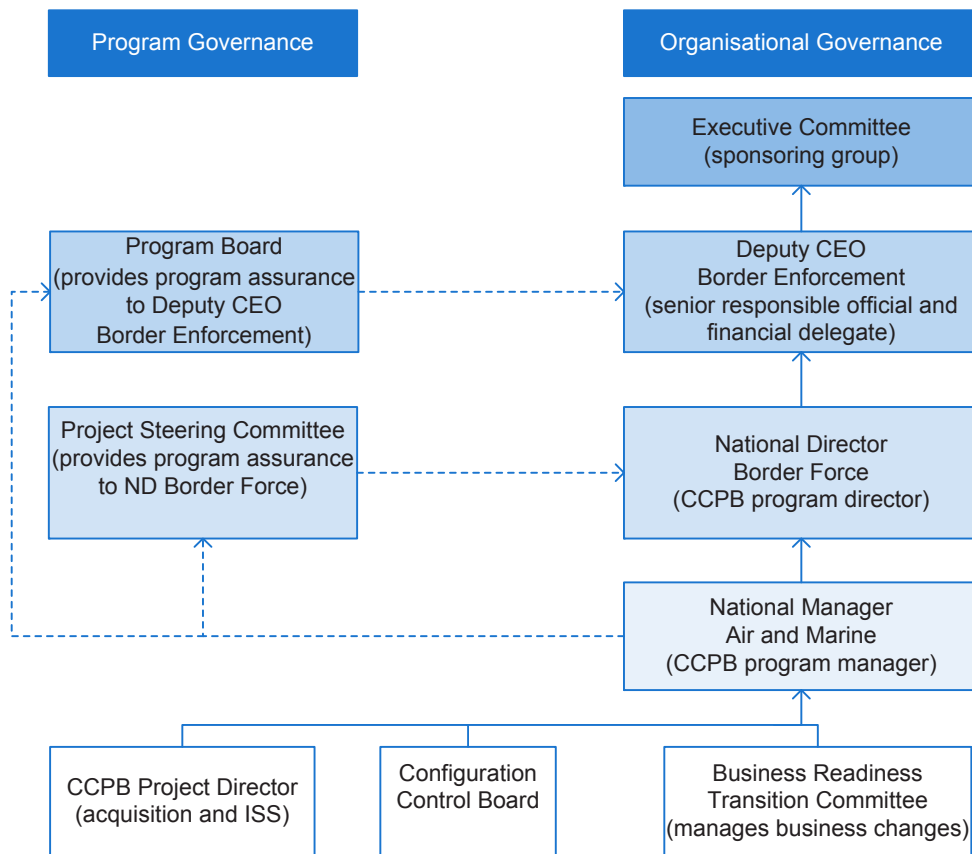
4.3 Customs' acquisition of the CCPBs represented an important program for civil maritime security capability, involving a significant level of capital investment and risk over a considerable time period. In accordance with Customs' program management framework, the CCPB acquisition program has been classified as a 'Tier 1' project for management and reporting purposes.⁶⁷ The scope of Custom's program oversight arrangements includes both acquisition (the delivery and acceptance of the CCPB fleet, as well as the initial ISS arrangements) and business readiness transition (including resource management, workforce planning, collective training, facilities and support arrangements) activities.

67 Customs has designated seven projects as Tier 1 initiatives, with the CCPB program over ten times larger in budget than the second largest project.

The status of key support elements in the transition from Bay Class patrol boats to the CCPBs is examined in Chapter 5.

4.4 The roles and responsibilities of committees and key individuals are clearly articulated in a governance plan. The CCPB’s program and organisational governance arrangements are illustrated at Figure 4.1.

Figure 4.1: Governance and assurance arrangements (as at September 2014)



Source: Customs program documentation.

4.5 Customs has assigned the Deputy CEO–Border Enforcement as the program’s senior responsible official and the financial delegate. This officer chairs the six member Cape Class Program Board, which includes an industry advisor and the senior operational user of the CCPB capability (Commander–Border Protection Command). The board is responsible for providing the senior responsible official with assurance and advice over major

milestones and decision points. The board has met nine times between October 2010 and March 2014 (generally two to three times each year), with the frequency of meetings generally related to major milestones for the program.⁶⁸

4.6 The Project Steering Committee (PSC) provides more detailed and technically orientated assurance over the CCPB program (acquisition and business readiness transition). The PSC is chaired by the National Director–Border Force, who reports to the program’s senior responsible official. The eight members of the PSC include two subject matter experts from outside Customs. The PSC’s terms of reference provide for quarterly meetings as a minimum, although meetings have generally been aligned to milestone/key events. There were five meetings of the committee convened in 2011⁶⁹, two meetings were convened in 2012, three meetings were convened in 2013 and one meeting has been convened up until September 2014. Meeting papers and supporting documents are designed to assist discussions, and members are generally requested to either note developments or approve particular actions.

4.7 The board and PSC have provided a generally sound basis to deliver project assurance to Custom’s senior management, and engage senior suppliers and users of the CCPB capability.

4.8 As outlined in Figure 4.1, a number of management/coordination committees also operate to support the transition to the CCPB fleet. The detailed management of the planning and monitoring of the transition to the CCPBs is provided through weekly meetings of the Business Readiness Transition Committee (BRTC). Members are responsible for organising the major inputs to operate the CCPB fleet and are required to report against schedules and the status of risks/issues within their area of functional responsibility. The BRTC also maintains a detailed schedule to oversight activities in the transition from Bay Class patrol boats to the CCPBs (for example, transitional training for crews), as well as activities necessary to support the operation of Customs’ broader maritime fleet.

68 The board has also received two ‘out-of-session briefs’ from the CCPB program office: in October 2013 (when the results of the operational test and evaluation period on the first CCPB vessel were available); and August 2014 (to meet governance requirements).

69 In addition, one ‘out-of-session brief’ for the PSC was provided immediately prior to contract signature on 12 August 2011.

Assurance arrangements

External reviews

4.9 The CCPB program has also been subject to a number of external reviews. The most significant review arrangement is the Department of Finance's Gateway Review Process, which uses a project assurance methodology designed to examine the delivery of major projects.⁷⁰ The process, which commences with Gate 0 (business need), involves short and confidential reviews conducted by external reviewers at six key stages of a project's lifecycle. The last CCPB review was conducted at Gate 4 (readiness for service) in September 2013.⁷¹ Each review has provided recommendations for action, which Customs has either: agreed; noted; or identified a specific response action. Each of the gate reviews (with the exception of the Gate 1 review in January 2010) has assessed the project's overall status as 'green' at the time of the review.⁷²

4.10 Customs' internal audit function has undertaken two reviews on aspects of the program, focussing on processes and procedures.⁷³ The first concerned a 'health check' of the CCPB acquisition program, which was considered by Customs' audit committee in March 2013. The health check made two key observations—that the PSC was not meeting as frequently as set out in its terms of reference, and it questioned the appropriateness of some risk ratings and thereby their non-reporting to senior management. A second internal audit concerned Maritime Division's workforce strategy and planning, and was presented at the June 2013 Customs audit committee meeting. While identifying a number of positive initiatives underway, a number of areas for improvement were also identified, including the need to develop an overarching strategic position and plan to drive marine workforce reform (this issue is examined in more detail in Chapter 5). The program area agreed to address the eight recommendations from the internal audit report during the course of 2013–14, and periodically reports on progress, mainly to the program's BRTC.

70 The ANAO has previously conducted an audit on this process—see ANAO Audit Report No.22 2011–12, *Administration of the Gateway Review Process*, Canberra, 7 February 2012.

71 The next review (Gate 5 – benefits realisation) is planned for March/April 2015.

72 A green project status is defined as 'the project is on target to succeed, but may benefit from implementing the recommendations in respect to the issues raised in this review'. The Gate 1 review assigned an amber status to the project, defined as immediate and significant risk that is manageable if addressed promptly.

73 Both internal audits were conducted by the same private sector contractor.

Program plans

4.11 An essential element in the success of any large program is the development and use of a range of fit-for-purpose planning documentation that sets out the key actions to be undertaken to achieve established objectives. The CCPB program office has completed around 30 specific plans during the course of the CCPB's acquisition, many of which are updated prior to, or following key events relevant to the particular plan.⁷⁴ Plans were generally approved by the National Director–Border Force, with many of the program wide plans endorsed by the PSC.⁷⁵ Less well developed is management documentation relating to the business readiness transition activities of the program. For example, while a deal of work has been undertaken on workforce planning, this has not been brought together and articulated in an overall strategic planning document.⁷⁶ The absence of clearly articulated and integrated management plans heightens the risk that program objectives will not be achieved.

Operational budget management

4.12 As outlined in Chapter 2, the Government's approval of the overall CCPB program was subject to Customs offsetting CCPB operating costs above that provided for the Bay Class patrol boats. The additional costs were required to be managed from within existing Customs internal allocations. As mentioned earlier at paragraph 2.50, the CCPB program office expects a net shortfall in funding to meet anticipated additional costs to operate the CCPBs.

4.13 The estimated shortfall in the operational budget is due to increased crewing, fuel and ISS costs associated with the CCPBs⁷⁷, and is expected to occur from 2015–16. Customs has been aware of the requirement to offset the

74 In relation to the contract management plan, this was not formally approved until more than two years after the contract was signed. To support the contract start up and effective contract management, most of the work required for developing a contract management plan can and should be finalised before the contract is signed—see ANAO Better Practice, *Guide Developing and Managing Contracts*, Canberra, February 2012, p. 36. Further, documents such as the probity plan could also usefully be updated to reflect probity issues relevant to the project's current phase (this issue is discussed in more detail at footnote 85).

75 Under the CCPB contract arrangements, the prime contractor is also required to develop a suite of management plans that provide direction and guidance for the contractor. Customs also uses the plans to gain visibility into the contractor's planning and management, and Custom's particular role in the area.

76 As at September 2014, Custom's 2013 submission to the Australian Institute of Project Management's Project Management Achievement Awards represents the clearest articulation of its marine workforce modernisation project. However, this does not serve as a program management plan.

77 Patrol boat crewing accounts for most of the increased operating costs, with the remaining costs attributable to ISS and fuel.

expected additional operating costs of the CCPBs since the program was approved by government. However, Customs is yet to develop a clear strategy to identify funding sources from within existing internal allocations that will manage this issue.

Recommendation No.1

4.14 The ANAO recommends that, given the CCPB program's estimate that CCPB operational costs are likely to exceed its available operational budget, the Australian Customs and Border Protection Service develops a clear strategy to address the estimated operational funding shortfalls, including contingency arrangements.

Customs' response:

4.15 *ACBPS accepts Recommendation No. 1 without qualification. This issue has been recognised for some time and ACBPS is now engaged in a Reform Comeback financial process with Department of Finance to secure appropriate funding. Nevertheless, contingency planning has commenced should any funding shortfalls remain after this process.*

Information management

4.16 A key element of sound administration and accountability is the effective management of records. The CCPB program operates a number of recordkeeping arrangements, including hard copy files, a complicated electronic folder structure that has developed incrementally, and a key documents holding on Custom's intranet site.⁷⁸ Customs has not, however, maintained work instructions covering the management of program records. In this regard, Custom's corporate practice statement for the control of records requires all records to be held on paper files. In contrast with this requirement, many CCPB program records are only retained electronically. There is significant scope to improve record keeping arrangements for the CCPB program; and more broadly, systemic changes in recordkeeping systems and practice would also be beneficial at a whole-of-agency level.⁷⁹

78 The prime contractor also maintains a restricted access web-based CCPB program portal that contains an extensive range of CCPB program documentation.

79 Records management within Customs was examined as part of ANAO Audit Report No.53 2011–12, *Records Management in the Australian Public Service*, Canberra, 27 June 2012. The report made three recommendations relating to improving records management within Customs at a whole-of-agency level. Customs agreed to all recommendations and advised that programs had been implemented to improve records management across Customs.

Risk and issue management

4.17 Risk management is an integral part of an organisation's management and control structures. In this regard, the CPGs provided that risk management should be built into an agency's procurement processes to enable the systematic identification, analysis, treatment and allocation of risks.⁸⁰

4.18 As significant risks can arise during complex procurements, a documented risk management plan is frequently required. A risk management plan has been approved for the CCPB acquisition program, although the approved version is over three years old.⁸¹ The other inputs to enable the CCPB capability (for example personnel and training, and facilities) are not covered by a documented risk management plan.⁸²

4.19 As part of any risk management plan, a key mechanism for identifying, documenting and managing risks is a risk register. The CCPB program's risk registers are contained in excel spreadsheets, with general access to the sheets in the program's shared folder arrangement. In some areas, the structure of the risk register does not accord with the risk plan. For example, under the risk plan, the PSC is the designated risk owner of high and extreme risks and ensuring the effective management of those risks. However, the register identifies the project director as the risk owner. Under the risk management plan, the project director is responsible for medium and low risks. In general, a more clearly structured arrangement for managing the risk register, consistent with the risk plan, would provide greater assurance in relation to the program's risk management practices.

4.20 Senior management oversight of program risks and issues is provided at board and PSC meetings, as well as through normal Border Force Division governance and reporting arrangements. However, the arrangements for documenting risks and issues do not provide a clear whole-of-program perspective to aid oversight. In particular, two risk/issue registers operate that are relevant to the CCPB program—a risk register which is largely focused on the CCPB materiel system and early in-service; and a business readiness and

80 As outlined in footnote 26, the CPGs have been replaced by CPRs. The CPRs provide that entities must establish processes for the identification, analysis, allocation and treatment of risk when conducting a procurement.

81 Sound program governance arrangements ensure regular reviews/updates to project plans and procedures documentation. The CCPB risk management plan was approved in April 2011.

82 A risk management plan covering Cape Class patrol boat business readiness transition activities was drafted in April 2011, although this has not been finalised and approved.

transition risk register that focuses on Customs' marine workforce/support matters. In this regard, the Gateway 3 review in May 2011 had recommended that the risk registers be combined. Customs' response was that separate registers would be maintained at the working level as the two elements of the program (acquisition and business readiness transition) were mostly separate. Nevertheless, in the context of Customs adopting a FIC model to manage the whole CCPB capability, the integration of both registers into a single risk/issues register would provide greater assurance in relation to risk identification, reporting and management.⁸³

CCPB project risks

4.21 The CCPB program risk registers contain a number of risks that have been assessed as high, following treatment measures. As at September 2014, these high risks broadly involved:

- sufficient funding available to support the operation of the CCPB fleet in future years;
- high risk design items achieving their planned operational life;
- availability of appropriate support facilities when required; and
- an adequate number of appropriately skilled crew members for the fleet.

CCPB project issues

4.22 Project issues arise as a result of risks becoming realised or unexpected events occurring ('unknown unknowns'). The CCPB program's risk management plan provides that project issues will be managed in accordance with work instructions under a branch quality management system. The mechanism through which program issues are identified and managed is by various levels of reporting/briefing, including to the PSC and program board. A monthly CCPB project report details key project issues, as well as overall program status. The September 2014 report listed a number of key issues, with two of these issues relating to the operation of the ISS element of the contract.

83 The briefing papers for the March 2014 program board meeting stated that 'workforce availability is the single biggest risk to the ACBPS Marine capability upgrade program'. However, the business readiness and transition risk register was not provided to members. By comparison, the CCPB risk register was provided to the board, and details on the three risks rated high were provided.

Risk and issue management – case study on stern tube corrosion

4.23 The ANAO has prepared the following case study on the management of a significant vessel performance matter by Customs—the issue of stern tube corrosion. To a significant degree, this risk/issue is inherent in a vessel constructed of aluminium. Aluminium is more susceptible to corrosion than steel and, therefore, requires careful monitoring through the life of the vessels.

Table 4.1: Case Study – Stern tube corrosion

The stern tube is a hollow tube passing at the lower stern of the vessel containing: a tail shaft connected to the propeller; bearings for the tail shaft; and arrangements for lubrication and sealing.

Early in the program, the risk of the stern tube's design failing to last the life of the vessel was identified as a high risk. Experience with aluminium stern tube corrosion on Customs' Bay Class patrol boats and the RAN's Armidale Class patrol boats suggested corrosion could result in expensive and time consuming repairs and impact vessels' operational availability. In this context, stern tube corrosion was included under the CCPB contract as a high risk item, requiring particular attention by the prime contractor, including an independent assessment of the proposed design solution. The independent assessment concluded 'the design as presented by [the prime contractor] is an improvement on previous proposals. Nevertheless, it is not possible to advocate a 20-year service life.' The general conclusion was that each stern tube might need to be replaced once in the 20-year life of the CCPBs. A number of risk mitigation measures were also put in place to monitor corrosion, with the objective of reducing the risk to as low as reasonably practical.⁽¹⁾

On 17 April 2013, the first CCPB was accepted by Customs, and underwent a four and a half month period of operational test and evaluation, including patrol activity. On 28 November 2013, the vessel suffered a mechanical failure of the port stern tube at the start of a patrol, and returned to Darwin Harbour. The mechanical failure involved two main elements: the flow of cooling water in both stern tubes housing the propeller shafts had been significantly reduced; and significant corrosion had been found in both stern tubes, which had damaged the stern shaft bearings. Some of the repairs that were required needed to be conducted out-of-water. The vessel was also due to commence a month long depot level maintenance (DLM) period from mid-February 2014 until mid-March 2014. In order to minimise lost operational days due to the combined consequences of the mechanical failure and the DLM, together with operational test and evaluation rectifications/modifications, the vessel sailed to Henderson south of Perth on one shaft to undertake repairs and the DLM/rectifications/modifications.

In January 2014, the prime contractor reviewed its design of the stern tube system. As a result of this review, the prime contractor developed over 30 recommendations covering redesign, production changes and a monitoring program, which Customs has accepted.

Continued on next page

Nevertheless, the revised stern tube design may still not achieve the required 20-year life, thereby significantly adding to maintenance requirements and increasing unavailability and cost. The CCPB program's risk register details that the failure of the stern tubes remains a high risk even after the latest treatment regime.

Note 1: Mitigation measures included docking the first vessel after 12 months in-service to assess the performance of the stern tube design.

4.24 Customs has had the benefit of insights into many of the known design risks with aluminium patrol boats. In addition to stern tube corrosion, this has included the risk of structural fatigue occurring in known stress points, resulting in cracking of the hull. Customs has instituted generally sound arrangements to mitigate some of these known risks, through an extensive design process involving independent third party assessments of high risk areas to reduce known design risks to as low as reasonably practical. In this regard, Customs has advised that the stern tube corrosion that occurred was found to be predominately related to errors in the assembly and production of some components. Nevertheless, the issue of stern tube corrosion arising early in the first vessel's life highlights that risks can materialise despite considerable planning and focus beforehand to address the risk.

4.25 In the early stages of the CCPB program, Customs engaged a number of organisations, such as the Defence Materiel Organisation's Patrol Boat Systems Project Office (with experience in relation to the Armidale Class patrol boats) and the Defence Science and Technology Organisation (stern tube design), to help understand and address a number of high risk design issues with the CCPBs. This engagement has, however, been ad hoc. In an environment where both Customs and the RAN are confronting similar risks/issues, regular structured engagement with key stakeholders across the aluminium shipbuilding industry is likely to be of longer-term benefit to maintaining the operational life of Australia's patrol boat fleet. This engagement, which could be initiated by Customs, would facilitate research, the exchange of learnings and the identification of maintenance strategies.

Probity arrangements and investigations

4.26 The CPGs required that officials undertaking procurement act ethically throughout the procurement. Ethical behaviour includes: recognising and dealing with actual, potential and perceived conflicts of interest; and dealing with potential suppliers and tenderers equitably, including seeking appropriate internal or external advice when probity issues arise.

4.27 Probity arrangements were established early in the CCPB program to manage industry engagement in the lead up to the RFP/RFT phases, during these phases and at the time of contract negotiations. Broadly, the probity model adopted by Customs was appropriate given the size and complexity of the procurement process. Key probity controls included: the appointment of an independent probity advisor⁸⁴; the endorsement and implementation of a probity plan to identify and manage probity issues⁸⁵; probity briefings to staff⁸⁶ at various stages of the procurement process; tender evaluations that were conducted in accordance with the approved tender evaluation plan; and physical and electronic security arrangements for the RFP/RFT phase documentation and information.

4.28 While all staff involved in the procurement process needed to inform themselves of the probity requirements and were accountable for their actions, the role of the probity advisor was central. The responsibilities of the probity advisor were set out in detail in the probity plan. Consistent with the role description in the probity plan, the probity advisor was involved in: reviewing a range of documentation related to the procurement process; attending industry briefings and governance committee meetings⁸⁷; providing ad hoc probity advice, including to tender evaluation teams; and providing formal probity endorsement at various stages of the procurement process against relevant probity requirements.

4.29 Staff engaged in the procurement phase of the program were required to complete a confidentiality declaration and conflict of interest disclosure statement. In addition, under the tender evaluation plan, officers were required to complete a declaration and contractors were required to complete a deed of confidentiality and conflict of interest undertaking. However, arrangements for managing conflicts of interest were not addressed in the probity plan (for example, how particular conflicts of interest were to be handled/treated) and a conflict of interest register was not maintained.

84 Three individuals from the private sector have performed the role of probity advisor to the program, covering the periods March 2007 to April 2009; May 2009 to June 2010; and July 2010 to the present.

85 There were four revisions to the probity plan approved between March 2007 and October 2010, which were necessary to incorporate updates as the procurement process progressed. Three of the plans were formally endorsed by the relevant probity advisor. As the acquisition process is now at an advanced stage, there would be merit in updating the probity plan to ensure its continued relevance.

86 For the purposes of the audit, the term staff is used to include professional service providers engaged by Customs as part of the CCPB acquisition team, and external subject matter experts engaged as members of RFP/RFT evaluation working groups.

87 The probity advisor attended the five meetings of the PSC between 19 October 2010 (three days before the RFT closed) and 18 April 2011. The advisor also attended one additional meeting on 9 December 2011.

4.30 Formal probity endorsement was provided by the probity advisor to confirm that: the RFP process was conducted appropriately; the RFT process was undertaken in accordance with relevant probity requirements; there were no probity issues associated with accepting the RFT evaluation report; and the final negotiations with the preferred tenderer were conducted in accordance with relevant probity requirements. However, Customs records do not show that the probity advisor signed the report on the second stage of the final negotiations.

4.31 The probity plan also required the probity advisor to provide a final report, including a final endorsement. Importantly, this report was intended to confirm that, in the advisor's opinion, the procurement process was consistent with the CPGs. Customs informed the ANAO in July 2014 that this final probity report had not been completed.

4.32 While Customs engaged an independent probity advisor for the project, it did not consider the appointment of a probity auditor. Probity auditors review a procurement process after it has been completed. Having regard to the evidence available, the probity auditor independently reviews the conduct of the process and comments on the probity of those processes. A probity auditor is normally responsible for producing a full report advising whether or not the process has been conducted in accordance with the probity principles. In this regard, while noting there would have been costs to engage a probity auditor, the size of the procurement process and the situation where a final probity report was not completed, the engagement of a probity auditor to complement the activities of the probity advisor would have been beneficial in providing additional assurance.⁸⁸

Procurement process investigations

4.33 Early in the CCPB program, allegations were made by a Customs officer regarding the procurement process. Broadly, these allegations concerned suggestions of bias towards a particular ship builder. Following two separate investigations undertaken in 2009–10⁸⁹, the allegations were found not to be supported by the evidence.

88 The benefits of engaging a probity auditor were addressed in ANAO Audit Report No.32 2005–06, *Management of the Tender Process for the Detention Services Contract*, 2 March 2006, Canberra, pp. 60–67.

89 The investigations involved: a criminal investigation undertaken by Customs' Integrity and Professional Standards Unit; and an Australian Public Service Code of Conduct investigation undertaken by a consultant for Customs.

4.34 Subsequently, in March 2013, Customs issued a statement⁹⁰ in response to a media article relating to the CCPB procurement process and the investigations.⁹¹ In the statement, Customs reported that an independent, external investigation was conducted into the allegations, which concluded that there was no evidence to substantiate the claims.

4.35 The ANAO examined the records relating to the criminal investigation, including the final investigation report, and found that the available records supported the position outlined in Customs' media statement. The investigation report noted that:

the original statements appear to show that rumour and misunderstandings were the basis of allegations initially raised

4.36 During the course of the criminal investigation, it was found that a senior officer may have made an unauthorised release of official information and, as outlined in Customs' media statement, an Australian Public Service Code of Conduct action was taken against the individual.

4.37 In relation to the criminal investigation, the ANAO noted that there were aspects of the process that could have been better documented, including the retention of key correspondence and some records of interview. In response to these matters, Customs advised the ANAO in August 2014 that the systems and processes currently in place for the investigation of criminal allegations, including the creation and retention of relevant records, are significantly different from those in place at the time that the earlier investigation was undertaken.

Conclusion

4.38 Customs established a generally sound governance framework for the CCPB program involving a high level board that provides strategic program assurance to Customs' senior management, and a more technically oriented project steering committee that provides assurance to the program's national director. Areas of the program have also been subject to a number of external reviews, including the Department of Finance's Gateway Review Process and reviews on the acquisition process and workforce planning by Customs internal audit. In this regard, while the CCPB acquisition element of the program has

90 Australian Customs and Border Protection Service, Media Statement, *Bay Class Replacement Vessel process – 19 March 2013*.

91 Sydney Morning Herald, *\$350m boat deal leak revealed*, 18 March 2013.

well-developed planning documentation, the business readiness transition elements, including important areas such as strategic workforce planning, has not been well articulated.

4.39 The progressive introduction of the CCPB fleet also has significant additional resource demands upon the CCPB program's operational budget. In this regard, a clear strategy to address the expected shortfall in the CCPB program's operational budget after 2014–15 is yet to be developed at this late stage by Customs.

4.40 Customs has adopted an active approach to risk management for the CCPB program, although the operation of two risk registers separately covering CCPB acquisition and business readiness transition activities reduces the clarity in whole-of-program risk management and reporting. In this context, there would be merit in the CCPB program adopting a single risks and issues register to provide greater assurance in relation to risk identification, reporting and management.

4.41 Despite considerable planning to mitigate a number of known high risks with the CCPB design, the first vessel suffered a mechanical failure three months after operational release due to aggressive stern tube corrosion. While a detailed monitoring program has been established, this remains a key program risk in the immediate term for vessel performance. In this regard, many design risks and issues with the CCPBs are not unique to Customs' fleet of aluminium patrol boats. There would be benefit in Customs exploring options for more structured and ongoing engagement with other key stakeholders, to help support the planned operational life of the CCPBs.

4.42 The CCPB program was established as a major competitive procurement with a detailed assessment process by the entity. Customs implemented a number of sound probity controls, including engaging an independent probity advisor and requiring probity declarations from staff and contractors. Overall, procurement governance and probity oversight was appropriate for a project of this size and complexity. However, arrangements for managing conflicts of interest were not clearly documented and a conflict of interest register was not maintained. Probity planning also provided that at the end of the procurement assessment phase a final probity report would be provided, however, this was not completed. In the context of the overall probity of the procurement process, allegations were raised by a Customs officer regarding bias towards a particular ship builder early in the process. Customs conducted two separate investigations that found that the allegations were not supported by the evidence.

5. In-Service Support and Transition

This chapter examines the support arrangements that are designed to ensure the CCPBs remain operational once they have been placed into service. It also examines workforce arrangements as part of the transition from Bay Class patrol boats to CCPBs, as well as infrastructure requirements.

Introduction

5.1 The Customs' patrol boat fleet is in a period of significant transition, with the progressive decommissioning of the eight Bay Class patrol boats by late June 2015, and the phased acceptance into service of the eight CCPBs planned for completion by late August 2015. As the first CCPB was accepted by Customs on 17 April 2013, the ISS element of the contract commenced from this date and a range of systems have been developed to support the CCPBs' operations. These ISS arrangements are, however, still to be fully developed and tested, with only half the CCPB fleet scheduled to enter into the ISS phase by December 2014. In this context, the ANAO examined:

- in-service support arrangements;
- the changes to the sea-going workforce required to support the operation of the CCPBs; and
- the availability of appropriate infrastructure requirements.

In-service support

5.2 The key function of ISS arrangements is the through-life support of the vessels, including engineering, maintenance and supply to ensure that the vessels are able to meet operational requirements over their planned 20-year life. This includes achieving the availability and performance requirements established by Customs.

5.3 The CCPB procurement strategy was designed to closely link the ISS arrangements with the vessel delivery program through a single contract. Customs concluded that a prime contractor with responsibility for building the vessels and providing the ISS would act as an incentive for the prime contractor to expend effort to stabilise the vessel design and establish a

baseline configuration, such that a mature platform with a minimal number of defects requiring rectification would be in place once the ISS arrangements commenced.⁹²

5.4 The prime contractor is responsible for the construction of the CCPB fleet and the first six and a half years of ISS (until 1 August 2019).⁹³ The prime contractor has contracted the ISS services to a sub-contractor, however, it retains the responsibility of ensuring the vessels meet the contracted performance and availability targets. The relationship between the two organisations is designed to integrate the relevant expertise of the ship builder with that of the ship management and maintenance provider across the life of the project, minimising the risks associated with a transfer of responsibility and knowledge. As outlined earlier, this approach is also designed to simplify contract administration and provide Customs with a single entity responsible for performance under the contract.

5.5 The ISS element of the contract sets out the requirements and standards of work to be carried out⁹⁴, in addition to key performance indicators and an associated performance management framework to be applied to the ISS. The ISS includes the engineering, maintenance, technical and supply support requirements to operate the fleet of CCPBs.

5.6 The ISS preventive maintenance regime for the CCPBs involves three tiers: organisational level maintenance (OLM)—which is carried out by the patrol boat crew (primarily marine unit engineers) at sea or berth; intermediate level maintenance (ILM)—which is primarily carried out by the ISS sub-contractor during the four day crew change overs and the annual 28 day maintenance program; and depot level maintenance (DLM)—which is principally major overhaul-type maintenance largely performed by original equipment manufacturers and suitably qualified sub-contractors. DLM is planned to be primarily conducted in Cairns during the annual 28 day maintenance program. Each vessel's fifth annual maintenance activity includes

92 Defence advised Customs in February 2011 that this was one of a number of lessons learned in relation to the acquisition and ISS arrangements for the RAN Armidale Class patrol boats.

93 Under the contract, the Commonwealth has discretion to extend the term of the contract for a further period of up to 12 years.

94 The CCPBs are required to be maintained to standards that meet AMSA and/or ship classification society regulatory standards. In this context, Customs has in place a Marine Technical Regulatory System (MTRS) that addresses engineering support supplies. The MTRS is a means of providing assurance within Customs that regulatory obligations are being met.

an out-of-water docking requirement.⁹⁵ However, as a treatment strategy for design risks with aluminium vessels, the first three CCPBs accepted by Customs are planned to be docked 12 months after acceptance to assess the condition of known engineering high risks and issues.⁹⁶

5.7 Where a maintenance requirement is outside the planned preventive maintenance regime, or it is identified that corrective maintenance is required (for example, a Customs initiated modification or an engineering investigation as a result of a fault encountered), Customs can request the contractor to conduct a survey of the identified task and provide a quote to undertake the work (survey and quote). Under the contract, Customs also has the option of obtaining survey and quote services from an organisation/person other than the contractor.

5.8 All maintenance activities are required to be entered in a computerised maintenance management system (CMMS) database, which is the primary maintenance management tool. The CMMS is used for the scheduling and analysis of OLM, ILM, DLM and corrective maintenance, but also contains the support documentation⁹⁷, maintenance control records and certification evidence where required.

ISS costs

5.9 The ISS contract outlines a discrete payment regime⁹⁸ for each of the three tiers of preventative maintenance—OLM, ILM and DLM, in addition to a monthly service fee (MSF). The MSF covers a variety of service activities detailed in the contract, and includes the cost of ongoing management of the ISS to the contractor.

95 Under the regulatory arrangements applicable to the CCPBs, the vessels are subject to periodic surveys, including a five yearly survey docking. A survey is a systematic and independent examination of a vessel, materials, components or systems in order to verify compliance with applicable maritime rules or statutory requirements.

96 As outlined earlier in Chapter 4, the first CCPB accepted by Customs (ACV *Cape St George*) undertook its 12 month docking cycle earlier than planned, due to the mechanical failure in a stern tube.

97 The timely provision of technical data to support ISS activities has been an issue raised by Customs with the contractor. Customs initiated a technical data improvement initiative in mid-2014 to ensure all necessary technical data is captured and documented.

98 Under the contract, ISS payments are detailed in base date dollars, and adjustments are made for changes in the cost indices associated with labour and materials over the course of the contract.

5.10 The contracted ILM costs are payable in regular instalments at various points across a 12 month cycle. The ILM cycle commences once a vessel has been accepted into service.⁹⁹

5.11 The DLM costs are predominantly determined by an intermediate survey and service required 30 months after vessel acceptance, and a survey and service requirement 60 months after vessel acceptance. Over the course of the contract, all eight vessels are expected to undertake the intermediate survey/30 month service. One vessel is expected to undertake the five year/60 month service during the contract period.

5.12 The contract also includes the labour rates to be applied to any survey and quote services provided by the contractor. Based on its ISS experience with the Bay Class patrol boats and the RAN's ISS experience with the Armidale Class patrol boats, Customs has included an allowance to cover the cost of likely survey and quote work over the contract period.¹⁰⁰

5.13 While the ISS arrangements are in their formative stages, the survey and quote component has emerged as one of a number of areas of contention between Customs and the contractor. The contractor and Customs positions differ across a number of components of the ISS contractual arrangements, including the operation of the survey and quote mechanism. Customs advised the ANAO in October 2014 that this matter is one of a number of items subject to a dispute resolution process involving mediation and possibly arbitration.

ISS performance management

5.14 Under the contract, the contractor is required to achieve or exceed 300 operational days per rolling year for each CCPB accepted into service, and 2400 operational days in total per rolling year when all eight vessels are accepted into service. Further, the contractor is required to schedule maintenance so that a minimum of seven CCPBs are in an operational state at any one time, other than as a result of Customs action or direction.¹⁰¹ The contractor is also required to

99 The monthly ILM fee can vary considerably, depending on the ILM activities programed for the vessel for the particular month.

100 This allowance for likely costs is commercially sensitive and has not been publicly released.

101 Customs intends to program the CCPB patrols to ensure that five CCPBs will be in an operational state at all times. The remaining two CCPBs will be either in an operational state, or in an unavailable state due to crew change over. During the period August to March inclusive each year, Customs intends to program patrols to ensure that six CCPBs will be in operational state at all times.

facilitate a 'surge' in effort above the 2400 fleet operational days, of at least 200 days per financial year.

5.15 In order to support these capability objectives, the contractor is required to measure and report on higher level performance measures—critical success factors (CSFs) and more detailed performance measures—key performance indicators (KPIs).

5.16 The CSFs record whether or not services have been successfully delivered, and include:

- vessel operational days per annum;
- fleet operational days per annum;
- DLM periods completed on time; and
- rectification of deficiencies that may impact on a CCPB maintaining its certification.

5.17 The established KPIs measure the quality, timeliness and performance outcomes of the services by the contractor, and involve:

- patrols interrupted by the contractor;
- remediation of deficiencies required to maintain vessel certification;
- preventative maintenance timeliness;
- response times for corrective maintenance and restocking demands;
- supply support—on-board allowance stock held at a patrol's start; and
- material state of the vessel.

5.18 Individual CSFs and KPIs are accorded tolerance ranges to signify the level of performance: acceptable; unsatisfactory; or breach/material breach. For example, the CSF of vessel operational days per annum provides that if vessel availability performance is less than 300 operational days, but more than or equal to 290 operational days then this is rated unsatisfactory, while less than 290 operational days is rated as a material breach of the contract.¹⁰²

102 Where the contractor fails to meet a CSF and/or KPI, the contractor is required to provide a performance exception report.

5.19 Under this performance framework, adjustments to ISS payments may apply. Where CSF or KPI performance is unsatisfactory, Customs can require the contractor to adjust the MSF. Where the performance is a breach/material breach, the contractor is required to adjust the MSF. The ISS MSF payment adjustments involve:

- where CSF performance is not acceptable, the adjustment represents the cost of a single vessel crew per day; and/or
- where a KPI is breached, the adjustment varies according to the particular indicator. For example, where the preventative maintenance timeliness KPI for a vessel is breached, the contractor is required to make an adjustment to the MSF for each day this indicator is in breach by an amount equal to seven per cent of the MSF divided by 30 for the vessel.

5.20 In addition, the Commonwealth is also entitled to recover from the contractor any cost, compensation or expense sustained by the Commonwealth under the contract. For example, this situation could involve Customs seeking to recover the costs resulting from the use of a RAN platform, to address a performance shortfall by the contractor under the ISS contract.

5.21 The operation of the ISS performance framework may be subject to further refinement where agreed by the parties, with some of the outcomes arising from the application of elements of the framework yet to be established. Among other matters, multiple performance indicators can be triggered to unsatisfactory or a breach for the same event with a vessel. If adjustments are applied, the aggregate effect could result in a significant percentage of the contractor's ISS payments being withheld or a substantial debt being incurred. Against this background, the contractor has highlighted its concern that the performance framework is unreasonable and unsustainable. Customs advised that it stands by the terms and conditions of the contract, as signed, and this is now one of a number of items subject to an alternative dispute resolution process, including mediation and possible arbitration.

5.22 The first significant event to invoke potential penalties under the ISS performance framework concerned the failure of the stern tube on the first CCPB in November 2013 (examined in Chapter 4). Customs and the contractor have different estimates on the number of days the vessel was unavailable for operation under the CSF indicator and, therefore, the amount of any adjustment to the MSF. This highlights that, at this relatively early stage, a

number of areas of contention around the application of the performance arrangements are yet to be resolved between the parties. In this context, and as outlined in paragraph 5.13, this is one of a number of matters subject to a dispute resolution process.

Workforce requirements

5.23 The introduction of a fleet of enhanced patrol boats (alongside the introduction of other maritime capabilities during this period—ACV *Ocean Shield*¹⁰³ and ACV *Thiayak*), coupled with changes in the marine regulatory environment has driven the requirement for significant changes to be made to the marine unit workforce. These changes are at a number of levels, including: patrol boat crewing arrangements; the workforce regulatory environment; and additional training effort and qualifications necessary to operate the CCPBs. Customs has sought to manage major elements of this workforce change through a workforce modernisation project, while also seeking to maintain business as usual and patrol effort during the transition.

Patrol boat crewing

5.24 The introduction of the CCPBs has had a considerable impact on Customs' patrol boat crewing arrangements. Compared to the Bay Class patrol boats, the CCPBs are a larger vessel designed to undertake longer patrol cycles with an increased crew size. However, both types of patrol boats use a 'fly in/fly out' crewing model, where crew members are flown to a port suitable for patrol change overs. Under these arrangements, a four day change over period occurs between one crew and the next crew. For workforce planning purposes, Customs operates with 2.3 patrol boat crews for each patrol boat.

5.25 The operation of the Bay Class patrol boats normally involved 10 crew members¹⁰⁴ on a 21 day patrol.¹⁰⁵ In total, some 210 crew members were required to directly operate the fleet in order to achieve the operational

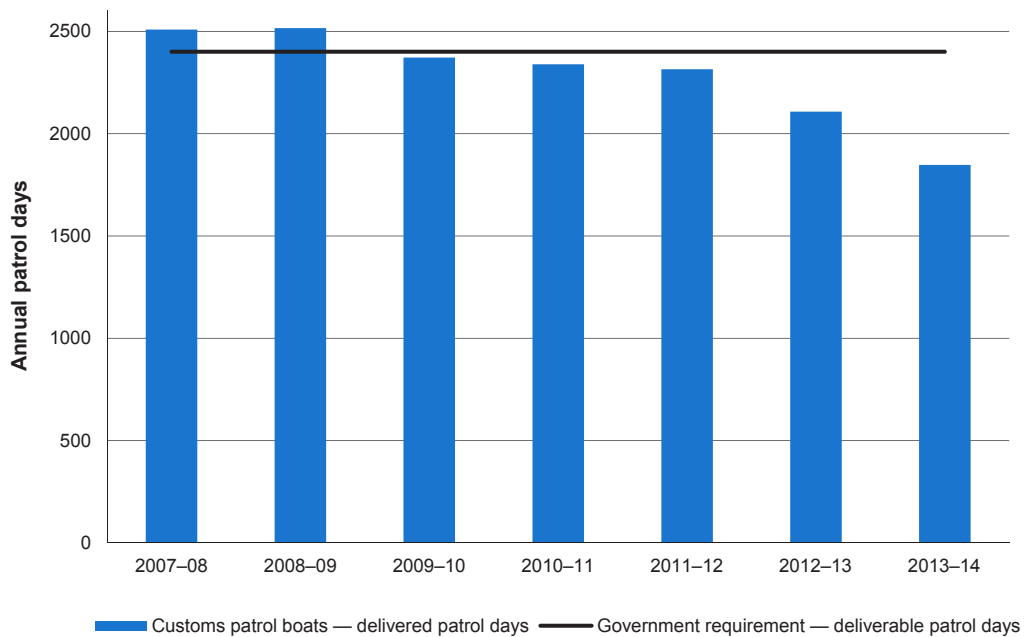
103 In July 2014, the 6500 tonne off-shore support vessel ACV *Ocean Shield* was designated a Customs vessel, and will replace the ACV *Ocean Protector*.

104 Bay Class patrol boats have undertaken patrols with a minimum of between eight and nine crew, although this has limited the operational capability of these patrols.

105 Under Customs' 2011–2014 Enterprise Agreement, Bay Class patrol boat crew are rostered on for 22 days, and then rostered off for 20 days. Sea-going marine employees are required to be available for rostered duty for 191 days each financial year. More broadly, Customs advised the ANAO that the Australian Public Service employment framework and conditions is not well suited to the complexities of maritime security operational arrangements. Customs is seeking to improve flexibility across a range of employment conditions in the next enterprise agreement.

target of 2400 patrol boat sea days per annum. However, as a result of logistical issues and funding shortfalls¹⁰⁶, total Bay Class patrol boat crewing has averaged 191 crew members. The operational impact of this outcome, in tandem with higher priority crewing demands from larger Customs vessels, has seen a progressive decline since 2008–09 in the annual level of patrol boat sea days achieved against the government agreed target, as illustrated in Figure 5.1.

Figure 5.1: Customs marine unit annual patrol boat days (2007–08 to 2013–14)



Source: Customs annual reports.

5.26 A fully operational CCPB comprises 18 crew members on a 28 day patrol cycle. On this basis, and allowing sufficient reserves to cover crew sickness/leave, Customs estimated that a pool of approximately 360 crew members will be required. Initial operational and budget planning was undertaken by Customs on this basis.¹⁰⁷ Subsequently, further workforce

¹⁰⁶ Customs records attributed the shortfall to the combined impact of salary and performance pay increases, the cumulative effect of the efficiency dividends and fuel price increases, resulting in a funding shortfall of \$4.5 million by 2012. In this context, since late 2013, one Bay Class patrol boat has been assigned as a ‘hot spare’, rather than specifically included for the patrol program.

¹⁰⁷ The costings involved in Customs new policy proposal for the CCPB project were calculated on the basis that 360 crew were required to provide 2400 sea days per annum.

modelling by Customs determined that a minimum of 342 crewing positions could deliver the requirement for 2400 patrol boat sea days per annum. However, Customs advised the ANAO in August 2014 that under current budgetary arrangements, operational funding will only support 332 crew members for the CCPB fleet by 2015–16. After this period, Customs forecasts that the crewing budget and anticipated costs are expected to lead to a lower total number of patrol boat crew. Overall, resourcing constraints on patrol boat crew numbers involves a significant degree of risk to achieving the operational sea days required by government when approving the CCPB program.

Recruitment

5.27 The transition from Bay Class patrol boats to the CCPBs requires more than 100 additional crew members to meet the crewing requirements of the CCPBs, as well as addressing normal workforce attrition.¹⁰⁸ In a draft marine unit recruitment strategy, dated June 2013, Customs had planned to conduct two annual recruitment rounds that were aligned to the acceptance of each CCPB and its subsequent entry into service. The commencement of planned recruitment was delayed by the Australian Public Service recruitment arrangements, established in late 2013, that subjected agencies to greater scrutiny, and more stringent approval requirements for planned recruitment activity. It was not until April 2014 that Customs gained approval to advertise 76 positions to ensure sufficient crew for seven of the eight CCPBs during the course of 2014–15. These positions were in addition to the direct transfers of crew from the Bay Class patrol boats. Once the final level of CCPB operational funding is established by Customs for 2015–16, it should then be in a position to seek approval to recruit an expected 36 positions associated with the last CCPB. Customs has advised the ANAO that the lead time for recruitment, training and security clearance requirements is a challenging process to complete within 12 months.

5.28 Customs has also sought to improve workforce entry arrangements to attract marine engineers to the marine unit through developments, such as an engineering cadet program, with six cadet positions established across the

108 Marine crew attrition rates average between eight and ten per cent per annum.

fleet.¹⁰⁹ A further workforce initiative includes the establishment of a small marine unit reservist program.¹¹⁰ The program is designed to address short-term staffing shortages across the marine fleet caused by unscheduled or unexpected events. The program is also intended to allow current officers time to complete training, skills upgrading and re-certification while ensuring operational capability is maintained. Customs advised in October 2014 that the reservist program has yet to commence.

Workforce regulatory environment

5.29 The regulatory environment for the patrol boats' workforce has also been subject to change, at the same time as the CCPBs have been introduced. These changes have added further complexity for Customs in the transition to the new vessels.

5.30 Since 1 July 2013, the *Navigation Act 2012*¹¹¹ (Navigation Act) has been Australia's primary legislative instrument used to regulate: international ship and seafarer safety; employment conditions for Australian seafarers; and shipboard operations to support the protection of the marine environment. The Navigation Act is primarily concerned with commercial shipping regulation, whose operations differ considerably from the civil law enforcement tasks required of Customs vessels.¹¹²

5.31 In circumstances where Customs vessels or their operations were unable to comply with provisions of the Act, Customs was required to seek exemptions from AMSA. The requirement to regularly apply to AMSA for exemptions has been resource intensive and has created a degree of operational uncertainty. Under the Navigation Act, exemptions applying to Customs vessels are to be managed under a structured Customs Vessel Management Plan (CVMP). The plan has been developed by Customs in

109 Under marine regulatory arrangements, a Customs patrol boat is required to be crewed with a suitably qualified engineer and deputy engineer. The engineers are responsible for all on-board technical and engineering matters to ensure the correct, safe, efficient operation and maintenance of machinery and systems. A world-wide shortage of marine engineers is being experienced, increasing the difficulty to attract and retain qualified engineers. The cadet program is an initiative to address this high risk to achieving operational requirements.

110 Planning for the marine unit reservist program has involved around 18 positions across a number of classifications.

111 Prior to this date, Customs vessels operated under the *Navigation Act 1912*.

112 For example, the operational role of Customs vessels can involve close contact with other vessels, which is in contrast to the Navigation Act which aims to keep vessels safely apart and avoid collisions at sea. Similarly, regulatory arrangements for the carrying of transportees have not been addressed by the Navigation Act.

consultation with the designated shipping classification society Det Norske Veritas – Germanischer Lloyd (DNV-GL)¹¹³, and approved by AMSA in its application to the CCPB fleet.¹¹⁴ While the CVMP has been subject to extensive consultation with stakeholders, the plan has yet to receive AMSA approval.

5.32 The CVMP details the CCPB's areas of operation and the minimum crewing levels and crew qualifications (as well as applicable sea service and fitness levels) related to these areas of operation.¹¹⁵ The plan also outlines regulatory requirements related to crew accommodation arrangements and the carriage of transportees. More generally, the marine orders under the Navigation Act provide the detail on seagoing crew qualification requirements.¹¹⁶ As the size and capability of the CCPBs is greater than the Bay Class patrol boats, regulatory arrangements have invoked a higher level of crew qualification.¹¹⁷ With the progressive introduction into service of the CCPBs, AMSA has provided Customs with an exemption until March 2015 during which CCPB crews for the first four vessels are to be trained to the necessary regulatory requirements.

5.33 The establishment of a CVMP is a sound approach to managing the operations of the Customs fleet of vessels, including the CCPBs, noting that the civilian shipping regulatory framework as governed by AMSA is designed for commercial and civilian shipping operations, and does not directly address the range of civil maritime enforcement activities undertaken by Customs. This approach is intended to address areas of uncertainty and risk that are currently experienced in relation to the operations of Customs vessels, providing a clear basis from which to conduct operations into the future.

113 It is an Australian maritime regulatory requirement that vessels such as the CCPB are designed, constructed and maintained in compliance with the requirements of a classification society recognised by the regulator (AMSA). In the case of the CCPBs, this is DNV-GL. The classification society has a role in ensuring technical integrity and certifying that the vessel complies with regulatory requirements (for example, safety, reliability and environmental requirements).

114 Bay Class patrol boats operate under the pre 1 July 2013 exemptions, and are not covered by the CVMP.

115 A training needs analysis was completed by a contractor for Customs, with this analysis informing the qualification and manning requirements in the CVMP.

116 Since 1 April 2014, Marine Orders 70 to 73 have detailed the qualification requirements for seafarers under the Navigation Act. These Orders replaced Marine Order 3 and, among other matters, provided more flexibility for the marine unit's workforce to progress along the marine engineering pathway and reduced the risk of workforce constraints.

117 The introduction of the CCPB capability has also had significant workforce impacts in other respects. For example, the commanding officer on a CCPB is a Customs Level 4 grade. A commanding officer on a Bay Class patrol boat is a Customs Level 3 grade. Similarly, CCPB officers require higher security clearances compared to the Bay Class patrol boats, as CCPBs are classified as secure platforms.

Training effort

5.34 In addition to the attainment of required professional qualifications¹¹⁸, Customs officers operating patrol boats undergo extensive training including:

- safety at sea;
- operational safety training, including the use of side-arms and deck mounted machine guns;
- medical training;
- Customs and fisheries legislative provisions;
- tactical boarding operations; and
- ship search techniques.

5.35 The successful introduction of the CCPBs requires a significantly expanded training program during the transition period, which includes qualification upgrades, the training of new seagoing crew members and vessel familiarisation training. In order to facilitate operational training, Customs has established a Cape Class training team from existing crewing resources to provide training to each new CCPB crew.

5.36 CCPB specific training includes operation, familiarisation and maintenance (OFM) training that is designed to familiarise crew with the operation and maintenance requirements (including the computerised maintenance management system) of the platform and its systems. The objectives of the training are to ensure tasks are conducted competently and safely. OFM is conducted over a fortnight, followed by four days of working the vessel at sea. Original equipment manufacturer (OEM) training for CCPB engineers covers areas such as the maintenance of vessel engines and involves eight days of training. The training activity has been managed as part of the detailed CCPB acceptance schedule. OFM/OEM training has generally aligned with the vessel acceptance process and schedules, although some crew training delays were experienced for the first vessel delivered.

5.37 As the size and capability of the CCPBs impacts on crew qualifications, a program of qualification upgrading for key personnel has been established. In accordance with this program, Customs has identified that approximately

118 Crew qualifications need to be completed under an AMSA approved course of study from an approved seafarer training organisation.

90 crew members are required to complete qualification upgrades over the course of 2013 to 2016 to enable the CCPBs to undertake patrols within certain areas of operation.

5.38 Overall, while a significant expansion in workforce training effort is required to support the transition of the Bay Class patrol boats to CCPBs, Customs' workforce planning system is not sufficiently advanced to guide and report progress against targets and provide assurance and oversight of the training/skills upgrading process throughout the transition period.

Workforce modernisation project

5.39 In a maritime operating environment involving significant change and complexity, the implementation of a sound approach to workforce planning and management is key to mitigating an identified high risk to the achievement of operational targets.

5.40 In this context, a workforce modernisation project was established by Customs, which commenced in September 2010. The aim of the project is to ensure that the marine workforce is appropriately resourced, skilled and qualified for future operational needs associated with new capability, such as the CCPBs. Operationally, the project has reported weekly to the CCPB program's Business Readiness and Transition Committee (see Figure 4.1 in Chapter 4).

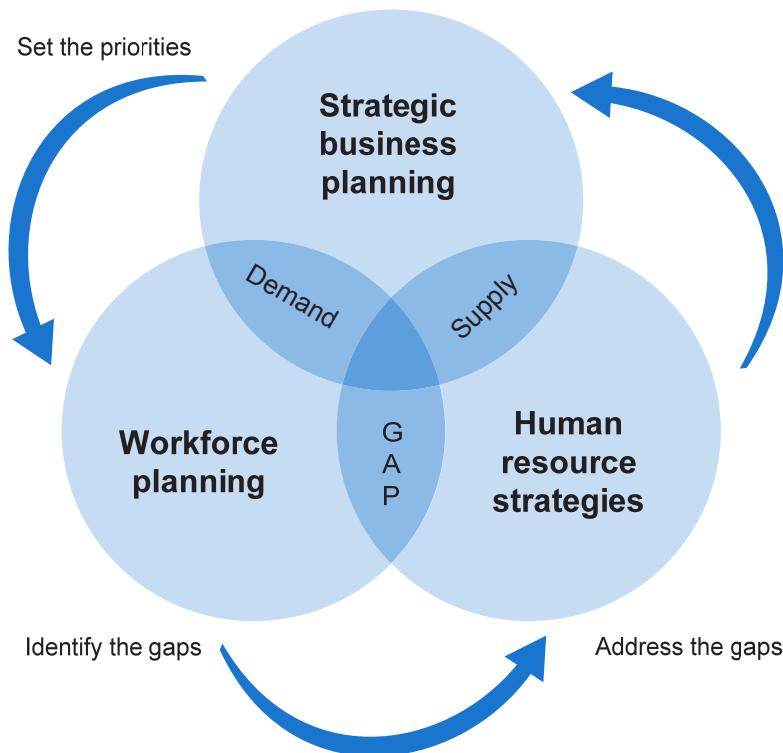
5.41 The project has been involved in developing or contributing to a range of discrete initiatives, including:

- marine unit conditions and rostering arrangements for the next enterprise agreement;
- workforce communication, stakeholder engagement and change management strategies;
- workplace values model to support agency wide values/code of conduct;
- a recruitment strategy;
- career stream/pathway modelling and job capability descriptions;
- engineering cadet and marine unit reservist programs;
- review of marine unit fitness standards; and
- a family support network.

Workforce Planning

5.42 Workforce planning is a critical business planning tool across all types and sizes of organisations. This planning involves an organisation developing a sound knowledge of its business and using this knowledge to position its workforce to effectively deliver its business outcomes and manage workforce-related risks. In this regard, the relationship between strategic business planning, workforce planning and human resources strategies is detailed in Figure 5.2.

Figure 5.2: Relationship between strategic business planning, workforce planning and human resources strategies



Source: Australian Public Service Commission, *Workforce planning explained*, December 2011.

5.43 For organisations with complex workforce requirements, sound planning generally involves three levels of focus:

- strategic workforce planning—covering a three to five year forecast period concerning current workforce capability, what it needs to be and how it will be achieved;
- operational planning—covering the next 12 to 18 months concerning actionable strategies to address specific workforce gaps in the short to medium term; and
- management planning—covering immediate workforce issues such as pending organisational restructuring or new activities, and actions to manage these issues.

5.44 In this regard, Customs is yet to establish a strategic workforce plan for the marine unit. The development of a *Marine Unit Workforce Plan 2014–2018* commenced in 2013, but is yet to be completed. To date, workforce planning has been included in draft discussion documents and various operational strategies, such as change management. While the documents cover various aspects of workforce management in the short to medium term, longer-term planning considerations such as marine workforce trends and the likely future operating environment have not been clearly articulated. The absence of an overarching strategic plan makes it difficult for Customs to effectively manage longer-term risks to the achievement of CCPB program objectives, including annual patrol boat sea day requirements.

5.45 Robust planning also draws upon good workforce data, and sound demand and supply analysis. To inform workforce planning, the marine unit undertakes a number of activities to help inform likely future workforce requirements¹¹⁹, including undertaking future workforce modelling. The modelling tool (which includes a large spreadsheet with complex business and modelling rules) currently provides future crewing and training requirements for the period to July 2015. However, the model does not incorporate present workforce skills/capabilities, and the shortfall against future requirements. Overall, the current tool does not deliver an efficient and robust mechanism for

119 Marine unit workforce operational planning relies upon a number of databases and spreadsheets to manage rosters, qualifications and personal details. Much of this data requires manual entry and updating.

forecasting future workforce needs.¹²⁰ While Customs is examining options for improving the tools and data used to inform workforce planning, as at June 2014 it was yet to develop its business requirements specification for a workforce planning capability.

5.46 Overall, marine workforce planning has predominately focused on immediate operational needs in the 12–24 month period. Customs’ marine unit operational funding levels, which are set every 12 months, contribute to this short term focus. In addition, rapid operational changes within Customs’ maritime surveillance and response program have reinforced this approach. Nevertheless, a clearly articulated strategic, longer-term workforce plan would provide greater assurance that future marine workforce challenges have been identified and are being addressed.

Recommendation No.2

5.47 The ANAO recommends that, to improve marine unit workforce planning, the Australian Customs and Border Protection Service develops an appropriate strategic workforce plan to address future workforce requirements.

Customs’ response:

5.48 *ACBPS accepts Recommendation No. 2 without qualification. A strategic workforce plan is being developed at the Departmental level as part of the “Blueprint for Integration”. This is a continuation of the planning that started with the ACBPS Reform Programme, and now incorporates workforce arrangements for the new Australian Border Force.*

Infrastructure requirements

5.49 The Bay Class patrol boats and CCPBs operate from existing commercial and/or Defence marine facilities, rather than a dedicated base or facility. The vessels’ main operating location is the port of Darwin, with annual maintenance conducted in Cairns.¹²¹

120 In relation to the workforce modelling tool, it has not been externally reviewed or well documented in relation to the assumptions and calculations used in the model. Improvements in these areas would increase confidence in the information generated by the tool.

121 There are 29 ports around Australia at which CCPBs can dock, conduct crew change overs, restock and resupply and perform other required activities.

Darwin port facilities

5.50 In Darwin, the preferred berthing location for the CCPBs has been Defence/RAN's Darwin Naval Base (DNB). The wharf can accommodate six vessels, berthed three abreast, with services such as fuel, electrical power and sewerage available at the berthing points. The base's lift facility further enables patrol boats to be mechanically removed from the water and placed on hard stands for maintenance.

5.51 DNB is also the home port for the majority of the 13 RAN Armidale Class patrol boats. Ongoing CCPB access is limited by the priority accorded to RAN vessels, including the Armidale Class patrol boats that have been operating at high tempo for some time. Further, DNB facilities, such as the lifting platform, are not well suited to the size of the CCPBs.¹²²

5.52 Access to berthing and port services for all Customs vessels at Defence facilities is subject to a Memorandum of Understanding (MOU) between Defence and Customs, including a specific annex on DNB facilities.¹²³ In May 2014, a draft annex had been provided to Defence for consideration, with further discussions planned to continue to progress the annex. The draft annex states that access to berthing space for Customs vessels at DNB is subject to Defence/RAN operational and resource availability. The Defence/RAN reserves the right to request Customs to remove its vessels from the facility at any time.¹²⁴

5.53 Nevertheless, Defence and Customs both contribute to civil maritime operational taskings for Border Protection Command (BPC), most notably in relation to patrol boat resources. In this context, greater flexibility in accessing Defence wharfing facilities (particularly in Darwin) so that the availability of assets is maximised for BPC—regardless of asset ownership/control, could usefully be included in any MOU arrangements between agencies. Should CCPB berthing solutions outside DNB remain unresolved by Customs, an approach to provide greater flexibility in access to DNB, according to key on-water operational demands, will be important.

122 The lift platform is suitable for the Armidale Class patrol boats, however, the CCPBs are longer and heavier. As a result, there is significant vessel 'overhang' on the lift platform and associated logistical issues related to the ability to manoeuvre the vessels when on the lift.

123 *Memorandum of Understanding on the collaborative working relationships between the Australian Customs and Border Protection Service and the Department of Defence (as at 16 May 2014).*

124 In normal circumstances, the RAN has undertaken to provide Customs with no less than four hours' notice during normal working hours of a requirement to remove one or all Customs vessels from the Defence/RAN facility. Customs advised the ANAO in July 2014 that there had been no instances of Customs vessels being asked to leave DNB in the last 12 months.

5.54 Similarly, assured and ongoing access to commercial wharfs (which are open to the public and operate with minimal security) has been operationally difficult for Customs. Darwin's commercial wharfs are heavily used by tugs, large pearling vessels, cruise boats and visiting naval ships, largely on a 'first come first serve' basis.¹²⁵ Further, wharf access is expected to remain problematic over the medium term as offshore oil and gas projects use Darwin as an important logistics hub.

5.55 Overall, infrastructure limitations at Darwin harbour, particularly access to secure berthing arrangements in an emergency, add to the logistical complexity for Customs in managing its fleet, including the CCPBs. This has been an ongoing issue for some time, predating planning for the CCPBs.

5.56 In 2013, Customs commenced discussions with the Darwin Ports Corporation regarding long-term exclusive use berthing solutions for Customs vessels outside DNB. Customs also engaged a consultant to provide engineering and environmental analysis, including berthing options in the Fort Hill area of the port. Options have included a floating pontoon arrangement or a fixed structure. Following consideration of the estimated costs of these options, Customs decided in September 2014 to investigate alternative arrangements. In this regard, access to appropriate berthing facilities, particularly in an emergency, has been identified by Customs, and continues to be a high risk to CCPB operations.

Cairns port facilities

5.57 In relation to port facilities at Cairns, greater access is available for CCPBs to wharfs and dry-docks, when compared to Darwin. The CCPB in-service support sub-contractor has arrangements with a Cairns-based private vessel maintenance operator to access its dry-dock facilities. In this regard, Customs has advised that annual maintenance of the CCPBs is planned to occur in Cairns due to the greater availability of appropriate port facilities. Customs has also advised that suitably qualified tradespeople to undertake maintenance activities are more readily available in Cairns than Darwin.

¹²⁵ For example, the number of cruise vessels visiting Darwin Harbour has progressively increased from 45 vessels in 2007–08 to 61 vessels in 2012–13.

Conclusion

5.58 The broad nature and complexity of transitioning from the Bay Class patrol boat capability to the enhanced CCPB capability represents a significant program management and logistical challenge for Customs. In particular, Customs has identified the availability of qualified personnel to crew vessels as the single largest risk to its capability upgrade program. In this regard, a significantly expanded and more qualified workforce is required to deliver the operational capabilities of the CCPBs. Since 2009–10, Customs has encountered challenges in fully crewing the Bay Class patrol boat fleet and delivering 2400 sea days per annum due to a number of workforce operational and resourcing issues.

5.59 A sound ISS framework to manage the maintenance of the vessels has been established, including performance benchmarks to be met by the contractor. At this relatively formative stage, operational aspects of the ISS are yet to develop sufficient maturity, with the initial application of the ISS arrangements resulting in a number of areas of contention between Customs and the contractor that require resolution.

5.60 Further, while an extensive array of workforce preparation initiatives has been undertaken, including some operational level planning, these initiatives have not been informed by an appropriate strategic workforce plan covering the medium to longer-term. The integration of such plans with fit-for-purpose operational plans would provide greater assurance that future marine workforce challenges have been identified and clear approaches are in place to address this area of high risk.



Ian McPhee
Auditor-General

Canberra ACT
16 December 2014

Appendices

Appendix 1: Response from the Australian Customs and Border Protection Service

CEO
25 NOV 2014
9.30



Australian Government
**Australian Customs and
Border Protection Service**

5 Constitution Ave
Canberra ACT 2600
Australia

2014/ 1844 CEO

Ms Barbara Cass *Barbara Cass*
Group Executive Director
Performance Audit Services Group
Australian National Audit Office
GPO Box 707
CANBERRA ACT 2601

Dear Ms Cass *BARBARA,*

ANAO Performance Audit: Management of the Cape Class Patrol Boat Program

I am writing in response to your letter of 7 November 2014. Under cover of this letter you provided the draft S19(1) report (the Report) for consideration. This letter provides the formal response from Australian Customs and Border Protection Service (ACBPS) that is to be attached to the Final Report. The Summary Section response is provided at Attachment 1 and the response to the Recommendations is at Attachment 2.

The findings, conclusions and recommendations are welcomed. ACBPS has been confident that its procurement processes were robust, that the marine and systems engineering knowledge, skills and experience of the Program Team were of the highest order, and that the extensive project and contract management skills and experience of the Program Team would ensure delivery success for this complex body of work. ACBPS has also been aware of its exposure with respect to the long term operational budget and has been working in the context of our organisational reform programme to address challenges associated with long-term workforce planning and management.

The Cape Class program has been an ambitious undertaking by ACBPS and is the largest capital acquisition project in ACBPS history. It is being conducted during a time of major organisational change, as well as significant shifts in operational focus and tempo. A rigorous, capability-driven acquisition approach, using the ACBPS Fundamental Inputs to Capability (FIC) Model, has provided a firm foundation for success in this time of flux. Based on the results of the test and evaluation program, together with initial operational feedback, ACBPS is confident that the Cape Class fleet will meet all capability and operational expectations.

ACBPS faces a considerable challenge with multi-year, capital acquisitions of this type, where funding is provided and constrained by the New Policy Proposal (NPP) process. Unlike the Department of Defence, where funding is provided on a programmatic basis, ACBPS has no flexibility to move allocated funding across financial years if

circumstances prevent anticipated expenditure from occurring during the financial year in question. That this situation has not arisen is a tribute to the performance of the Program Team.

Recognition in the report of the challenge for ongoing operational funding for the Cape Class fleet is welcomed. Due to the requirement to absorb cost increases above the Bay Class base within existing allocations, funding was always going to be problematic from this financial year forward as more ships enter service. ACBPS has endeavoured to identify savings to offset these higher costs. Furthermore, as part of the integration of ACBPS and the Department of Immigration and Border Protection (DIBP), ACBPS is working with Department of Finance on a series of measures to redress previous funding shortfalls and re-baseline in preparation for the establishment of the Australian Border Force and new Departmental funding requirements. If sufficient additional funds cannot be allocated, ACBPS will adjust its operational activities commensurately.

As noted in the Report, the Cape Class vessel, being a larger vessel with greater capability than the existing Bay Class vessel, requires additional and more highly-skilled crew to realise the capability. Changes to the Navigation Act, operational priorities and Government recruiting policy have also added to the complexity of the workforce transition. Notwithstanding these challenges and assuming no ongoing funding issues, ACBPS is confident that the transition will be successful.

The Report identifies a decline in annual patrol days co-incident with the introduction into service of the first of the Cape Class vessels, this decline was always expected given the need to train and transfer crews from the Bay Class to the Cape Class. In addition, in Financial Year 2013-14, the number of patrol days was significantly affected by the allocation of crew to the gifting programme of two Bay Class patrol boats to Sri Lanka. Provisional upon sufficient funding, ACBPS expects that the Cape Class fleet of eight vessels will achieve the required 2400 days.

Recommendations

ACBPS accepts the two recommendations without qualification.

With respect to Recommendation No. 1 and as noted above, ACBPS is engaged in a financial process with Department of Finance to secure appropriate funding. Nevertheless, contingency planning has commenced should any funding shortfalls remain after this process.

With respect to Recommendation No. 2, a strategic workforce plan is being developed at the Departmental level as part of the "Blueprint for Integration". This is a continuation of the planning that started with the ACBPS Reform Programme. The outline plan contained in the "Blueprint for Integration" includes changes to workforce career management and vocational streaming – including the establishment of a Border Force employment stream, which will incorporate the current Marine Unit workforce. When this work is finalised (ready for the establishment of new Departmental arrangement on 1 July 2015) the Marine Unit operational level workforce plan will be updated.

Other Key Findings

ACBPS accepts the merit of a combined business readiness and project risk register and this will be implemented with the introduction of a Program Management Function in the Air and Marine Branch.

ACBPS agrees with the proposal to form a joint community of interest with other Government aluminium vessel operators. ACBPS has held informal discussions on this possibility in the past and will actively pursue this opportunity.

ACBPS recognises the limits of its current records management policies and systems. Accordingly, ACBPS is adopting the electronic records and documents management policies and systems used within the Department of Immigration and Border Protection as the integration process matures.

Conclusion

ACBPS recognises and appreciates the efforts of ANAO staff that conducted the field work and assessment of this large and complex program. ACBPS accepts the recommendations and findings and will work to further strengthen the Cape Class capability as an important national security asset.

Yours sincerely



Roman Quaadvleig APM
Chief Executive Officer

21 November 2014

Appendix 2: Response from Austal to Audit Extract



GED
5 DEC 2014
9.30

27 November 2014

Ref: 361-1033-190C R2

Ms Barbara Cass
Group Executive Director
Performance Audit Services Group

A handwritten signature in black ink, followed by the initials "S/12" written in a similar style.

References:

- A. ANAO 2013/1697, dated 7 November 2014, Letter containing extracts from the ANAO audit report on the Management of the Cape Class Patrol Boat Program.

Dear Ms Cass,

RE: AUSTAL RESPONSE TO ANAO AUDIT REPORT ON THE MANAGEMENT OF THE CAPE CLASS PATROL BOAT PROGRAM

Reference A requested Austal review of selected excerpts from the ANAO audit report on the management of the Cape Class Patrol Boat Program.

Summary - Key Findings by Chapter – Design and Build Contract (Chapter 3)

Austal has now delivered three of the eight contracted vessels on or ahead of schedule and on budget. The remaining vessels are also all on schedule and budget for delivery every 3 months or so through to Aug 2015.

A range of project management tools are utilised in the design and build process, with the effectiveness measured by the quality and timeliness of the contract deliverables. The Cape Class Patrol Boats are state of the art capability, of an exceptional build standard to complement the aforementioned schedule and budget achievement. There are few programs, if any, in shipbuilding, especially the scale and complexity of Cape Class that are on schedule and on budget. Cape Class is. In doing so, Austal has achieved productivity efficiencies of >20% across the current Cape Class production run of eight vessels.

Austal utilises Integrated Planning using Primavera as the tool for scheduling and planning. A Contract Master Schedule (CMS) was produced from the tools Austal typically uses, however due to difficulties in complying with all the elements from the contract CMS DID alternative methods to report and communicate planning and status were provided and agreed with Customs. In hindsight more effort could have been put into modifying the CMS DID to allow Austal processes, tools and systems to comply.

Summary - Key Findings by Chapter – In Service Support and Transition (Chapter 5)

In Service Support (ISS) is being provided to the three delivered Cape Class Patrol Boats and has been underway for approximately 18 months. A lot of work has been put into plans and implementation of ISS. ISS is maturing as more effort is spent in this phase. It is becoming

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evident that there are ways to amend the ISS contract to improve it. For example, it is evident that the Performance Framework requires refinement to ensure it promotes best for program behaviours. As noted in the ANAO report there are several items of dispute relating to the delivery of ISS services. The contract construct should support the key principles of operational availability and potential opportunity to sustain the vessels to their maximum service life.

The current arrangements imply the Customer applies principles of operational availability without delegating authority and funding to industry to assume that responsibility. Austal do not have the delegated responsibility to make decisions on trialling solutions to problems or efficient or alternative means of vessel, system and parts maintenance. Risk and responsibility remains with Customs, via a quote and approval process, which is time consuming and doesn't encourage Industry to be proactive.

Recommendations for future ISS contracts

Based on industry best practice Austal provides the following recommendations for consideration on future Australian Government Programs:

- Incorporation of a formal transition period into ISS provision (c 18 months) for bedding in of ISS provisions. This would allow FOC issues to be addressed, data collection on MBTF etc. and maturing of proactive adhoc maintenance to mitigate against operational unavailability.
- A gradual increase (from zero to contracted baseline) of performance management penalties during the transition period to enable bedding all parties to optimise best for programs behaviours and outcomes, thus set the long term ISS framework up for success.
- Development of key stakeholder relationships – ie crew and ISS Point of contact for Austal and with Customs – optimal performance and operational availability can be achieved through best for programme and collaborative working. This would include an Executive forum to provide steering and direction to the government/contractor teams.
- Incentives for good performance (not just big stick when things go wrong – this has been formally developed in UK defence arrangements for TLCM contracts)
- Provision for Engineering led Sustainment within the base load of the contract.
- Responsibilities to be aligned with control ie the entity responsible for an action needs to also have control of that action.

Kind Regards,

A handwritten signature in cursive script that reads "Ben Wardle".

Ben Wardle
Programs Manager

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Management of the Cape Class Patrol Boat Program

Australian Customs and Border Protection Service

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