

# **Defence's Procurement of Offshore Patrol Vessels — SEA 1180 Phase 1**

Department of Defence

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Canberra ACT  
12 October 2020

Dear Mr President  
Dear Mr Speaker

In accordance with the authority contained in the *Auditor-General Act 1997*, I have undertaken an independent performance audit in the Department of Defence. The report is titled *Defence's Procurement of Offshore Patrol Vessels — SEA 1180 Phase 1*. 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



Grant Hehir  
Auditor-General

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

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For further information contact:  
**Australian National Audit Office**  
**GPO Box 707**  
**Canberra ACT 2601**

**Phone: (02) 6203 7300**  
**Email: [ag1@anao.gov.au](mailto:ag1@anao.gov.au)**

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### Audit team

Esther Barnes  
Leo Simoens  
Alex Wilkinson  
Sally Ramsey

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# Audit snapshot

## Auditor-General Report No.12 2020–21

### Defence's Procurement of Offshore Patrol Vessels — SEA 1180 Phase 1



#### Why did we do this audit?

- ▶ Defence's SEA 1180 Phase 1 Offshore Patrol Vessel (OPV) program is intended to enhance the Australian Defence Force's maritime capability and is one of three interrelated elements of the Australian Government's 2017 *Naval Shipbuilding Plan*.
- ▶ The Government's requirements to split OPV construction between two shipyards, and a compressed build schedule, pose challenges to Defence in managing program risks.
- ▶ The OPV program was last examined in Auditor-General Report No.39 2017–18 *Naval Construction Programs—Mobilisation*, which found that Defence carried several risks into the OPV acquisition as a consequence of the compressed schedule.



#### Key facts

- ▶ Defence is acquiring 12 new OPVs and associated support systems for the Royal Australian Navy through SEA 1180 Phase 1, at an approved cost of \$3.58 billion.
- ▶ On 31 January 2018, Defence signed a \$1.988 billion (GST-exclusive) contract for the design and build of the OPVs with Luerssen Australia Pty Ltd.



#### What did we find?

- ▶ To date, Defence's procurement and contract management of the OPV program have been largely effective and have supported the achievement of a value for money outcome.
- ▶ Defence conducted a largely effective platform selection process which supported the achievement of a value for money outcome.
- ▶ Defence has largely established fit-for-purpose contracting and program governance arrangements for the OPV program.
- ▶ Defence's OPV program has been largely effective to date in making progress against its milestones and has contributed to delivery of the wider *Naval Shipbuilding Plan*.



#### What did we recommend?

- ▶ The Auditor-General made two recommendations aimed at: improving Defence's processes for the effective sequencing of Independent Assurance Reviews; and retaining evidence and advice regarding decision-making in procurement.
- ▶ Defence agreed to both recommendations.

\$3.58 billion

is the approved acquisition cost of the OPVs.

3

OPVs were under construction as at September 2020, in two shipyards.

59%

Australian Industry Content commitment, reported to have risen to 62.8% and a value of \$1.248 billion.

# Summary and recommendations

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## Background

1. The SEA 1180 Phase 1 Offshore Patrol Vessel (OPV) program, at an approved cost of \$3.58 billion, is acquiring 12 new patrol vessels and associated support systems to replace and improve upon the capability delivered by the Royal Australian Navy's (Navy) existing fleet of 13 Armidale class patrol boats.
2. The acquisition of 12 OPVs was included in the Australian Government's *2016 Defence White Paper* as a contributor to the Australian Defence Force's (ADF) maritime capability. The primary role of the OPVs will be to undertake patrol and response duties, security operations and border protection activities. The construction of the OPVs is also a key element of the Government's continuous naval shipbuilding program under the *Naval Shipbuilding Plan* (May 2017).
3. The Government selected German shipbuilder, Fr. Lürssen Werft GmbH & Co. KG (Lürssen), through a competitive evaluation process<sup>1</sup> to be the designer and prime contractor for the OPVs. The first two OPVs will be built at the Osborne South shipyard (Osborne) in South Australia by ASC OPV Shipbuilder Pty Ltd. The remaining 10 OPVs will be built at the Henderson maritime precinct (Henderson) in Western Australia by Cvmec Construction & Engineering Pty Ltd (Cvmec). As of July 2020, construction of the first three OPVs was underway — two at Osborne and one at Henderson.
4. The OPVs will be named the Arafura class. The first-of-class vessel, HMAS *Arafura*, is planned to enter Navy service in 2022.<sup>2</sup> The last OPV is expected to enter service in 2030.

## Rationale for undertaking the audit

5. The OPV program is intended to enhance ADF maritime capability and is one of three interrelated components of the Australian Government's continuous naval shipbuilding program under the *Naval Shipbuilding Plan*.<sup>3</sup> The Government has identified the OPV program as having an important role in mitigating identified risks to workforce continuity at the Osborne shipyard between the end of the Hobart class air warfare destroyer build and the commencement of the Hunter class frigate build. The Government's requirements to split OPV construction between two shipyards under an accelerated build schedule pose a challenge to Defence in managing program risks. The audit will provide assurance to the Parliament on the effectiveness of Defence's procurement and management of the OPV program, its ability to deliver the required capability on schedule and within budget, the workforce outcomes achieved, and the program's contribution to delivery of the *Naval Shipbuilding Plan* in establishing a sovereign naval shipbuilding enterprise.

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1 In effect a limited tender by invitation process.

2 Minister for Defence, 'Arafura Class Offshore Patrol Vessels', media release, 15 November 2018, available from <https://www.minister.defence.gov.au/minister/cpyne/media-releases/arafura-class-offshore-patrol-vessels> [accessed 22 September 2020].

3 Department of Defence, *Naval Shipbuilding Plan*, May 2017. The Australian Government's *2016 Defence White Paper* committed \$89 billion for new Navy ships and submarines and to develop a permanent naval shipbuilding industry in Australia. The *2020 Force Structure Plan* released in July 2020 indicates that there will be an update to the *Naval Shipbuilding Plan* in late 2020.

6. The OPV program was last examined by the ANAO in the context of Auditor-General Report No.39 2017–18 *Naval Construction Programs—Mobilisation*. The audit concluded that at the time of tabling (May 2018) Defence was meeting scheduled milestones to deliver the OPV program, although the program was still at an early stage. A key finding of the audit was that the design and build milestones for the OPV program were brought forward to help maintain the shipbuilding workforce from the end of the Hobart class destroyer build to commencement of the Future Frigate build. As a consequence of the compressed schedule, Defence carried several risks into the OPV acquisition. In particular, reliable sustainment cost estimates were not provided to the Government at second pass approval, and commercial arrangements between the selected shipbuilder and Australian shipbuilding firms had not been settled when the tender outcome was announced.

### **Audit objective and criteria**

7. The audit objective was to assess the effectiveness to date of Defence's procurement and contract management of the OPV program.

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

- Did Defence conduct an effective competitive evaluation process for the procurement of the OPVs that supported the achievement of value for money?
- Has Defence established fit-for-purpose contracting and program governance arrangements?
- Is the OPV program meeting program milestones and supporting the delivery of the *Naval Shipbuilding Plan*?

### **Conclusion**

9. To date, Defence's procurement and contract management of the Offshore Patrol Vessel (OPV) program have been largely effective and have supported the achievement of a value for money outcome.

10. Defence conducted a largely effective platform selection process which supported the achievement of a value for money outcome. Defence surveyed the market for an appropriate OPV design and implemented a well-documented process to select three designs for detailed evaluation. The competitive evaluation process was supported by appropriate governance, assurance and probity arrangements and a Tender Evaluation Plan that was applied consistently across the three invited tenders, to provide a basis for assessing value for money. The tender evaluation process addressed the essential criteria and requirements that the Government had set for the program. The effectiveness of Defence's processes was impacted by the poor timing of and information access restrictions placed on a key assurance review activity, shortcomings in Defence record-keeping for the introduction of an additional condition late in the platform selection process, and Defence's approach to advising its ministers.

11. Defence has largely established fit-for-purpose contracting and program governance arrangements for the OPV program. Contractual arrangements reflect the key preferred Commonwealth negotiation outcomes and the program governance and oversight structure includes an issues escalation process. To establish the contract and commence construction in



the expected timeframes, a number of issues were not finalised at contract signature in January 2018 and remained incomplete in July 2020. Processes for monitoring progress against the contract schedule and activities to verify the accuracy of Australian Industry Capability (AIC) reported by the prime contractor are yet to be fully established. As of July 2020 the program was constructing the first three vessels without an Earned Value Management System or approved shipbuilder specific Contract Master Schedules to measure progress against an agreed baseline, as required under the contract.

12. Defence's OPV program has been largely effective to date in making progress against its milestones and has contributed to delivery of the wider *Naval Shipbuilding Plan*. As at July 2020 all but three program milestones were met on time, with Defence withholding payments for these three missed review milestones. Through its reviews, Defence has identified early signs of design and integration risks emerging, particularly with regards to Government Furnished Equipment. Delivery of the required capability will depend on Defence actively managing the identified risks, a number of which are related to the accelerated build schedule. As the foundation program for the Government's continuous naval shipbuilding program, there is evidence that the OPV program is contributing to the delivery of the wider naval shipbuilding enterprise, including through the transfer of shipbuilding expertise to Australia.

## Supporting findings

### Platform selection

13. While Defence established appropriate governance, assurance and probity arrangements for the platform selection process, the implementation of one aspect of the assurance arrangements was not fully effective. Defence established fit-for-purpose arrangements to conduct and oversight the competitive evaluation process, which included a series of steering groups and internal reviews to provide assurance to senior leaders. The reviews usefully identified issues requiring attention but in one case, the poor sequencing of the activity and the restrictions on the reviewers' access to information compromised the effectiveness of the assurance review activity. Defence made appropriate arrangements for obtaining third-party legal and probity advice during the competitive evaluation process.

14. Defence conducted an effective process to select three ship designers — Lürssen, Fassmer and Damen — to participate in the competitive evaluation process. Advice to the Government on the viability of available ship designs was informed by a market study and screening process which helped Defence survey the market for an appropriate OPV design, followed by a formal assessment against three risks — capability, cost and risk to commencing construction in 2018.

15. Defence conducted an effective tender evaluation process that supported the achievement of value for money outcomes. The tender process was preceded by a design risk reduction process which required the three invited tenderers to refine their offers and establish the baseline ship design to be proposed in their responses to the request for tender. The tender evaluation process documented in the Tender Evaluation Plan was applied consistently across the three tenders and reporting to the delegate in the Source Evaluation Report aligned with the findings in the Tender Evaluation Criteria Reports and outlined the results of the value for money assessment. The tender evaluation process addressed the essential criteria and requirements that the Government had set for the program.

16. Defence's approach to advising its ministers, to inform their submission to government for second pass approval, was not appropriate as it did not include a clear recommendation on the preferred design and did not offer its ministers an opinion on its assessment of value for money — a core departmental function in procurement. There were shortcomings in Defence's documentation of the basis of its advice to its ministers to also include Austal as a potential shipbuilder for the Lürssen design.

### **Contracting and program governance**

17. Defence's contract with Luerksen for the acquisition of 12 new OPVs and associated support system components is fit-for-purpose, reflecting preferred Commonwealth negotiation outcomes. Defence's contract negotiation approach was informed by a Contract Negotiation Directive and an Acquisition Contract Negotiation Plan which provided guidance on core negotiation issues. While all key identified negotiation issues were addressed during the contract negotiation process, some matters had not been finalised when the contract was signed in January 2018 and remained incomplete in July 2020. These were the establishment of the performance management framework and implementation of the Naval Shipbuilding Principals' Council.

18. Defence has largely established a fit-for-purpose governance and oversight structure for the OPV program. However, assurance arrangements are yet to be fully established, including processes for monitoring progress against the contract schedule and activities to verify the accuracy of the value of AIC reported by the prime contractor. As of July 2020 the program was constructing the first three vessels without an Earned Value Management System or approved shipbuilder specific Contract Master Schedules to measure progress against an agreed baseline, as required under the contract.

### **Progress against milestones**

19. The OPV program milestones have been developed to achieve the Government's requirements for an accelerated build schedule to manage shipbuilding workforce risks. As at July 2020, the program had achieved 29 contractual review and construction milestones on time or ahead of schedule. Three reviews were delayed, with payments withheld by Defence for these three missed milestones. Defence has identified system integration risks and emerging design risks, particularly relating to Government Furnished Equipment, that could impact program schedule and cost at later stages of program delivery. There has been some rework in the course of construction that was driven by design work occurring in parallel with OPV construction, with design changes subject to a monitoring and approval process. Program cost is within the allocated budget and the program has not accessed contingency funding. Delivery of the required capability on time and within budget will be dependent on the active management of identified design and integration risks.

20. To date, the OPV program remains largely aligned with the Government's wider continuous naval shipbuilding plan and enterprise. The OPV program is supporting the delivery of the key *Naval Shipbuilding Plan* outcomes of naval capability enhancement, shipbuilding infrastructure improvement, Australian industry involvement and the transfer to Australia of shipbuilding expertise, and job creation. Two Defence reviews have identified uncertainties as to

whether the OPV program has ‘de-risked’ production of the Hunter class frigate as intended, by trained OPV workers transitioning to the frigate program.

## Recommendations

**Recommendation no.1** That Defence plan the sequencing of Independent Assurance Reviews undertaken during a platform selection process, to avoid conflicts with other processes and ensure access to all relevant information.  
**Paragraph 2.21**

**Department of Defence response:** *Agreed.*

**Recommendation no.2** That Defence, consistent with requirements to maintain Commonwealth records, document and retain all evidence and advice regarding its decision-making in procurement.  
**Paragraph 2.97**

**Department of Defence response:** *Agreed.*

## Summary of entity response

21. The proposed audit report was provided to the Department of Defence. Defence’s summary response is provided below and its full response is at Appendix 1.

Defence welcomes the ANAO’s conclusion that the procurement and contract management of the Offshore Patrol Vessels (OPV) has been assessed as largely effective and achieving a value for money outcome.

To address the recommendations made by the audit, Defence will improve planning and timing of Independent Assurance Reviews during selection processes to ensure that these reviews are conducted effectively, and that reviewers can access the required information. Defence will also ensure that procurement records are maintained in line with requirements.

The OPV project has been developed and executed ahead of the Naval Shipbuilding Plan and was accelerated by the Government in 2015 to ensure commencement of the build in late 2018. The strategy to achieve construction in 2018 was ‘minimum change’ to an established design. To date, all major construction milestones have been achieved despite the growing impact of the COVID 19 pandemic. Defence has also chosen a highly experienced designer and shipbuilding prime contractor in Luerksen to affect a knowledge transfer to Defence and Industry, and establish an efficient shipbuilding industry.

The production of Arafura Class Offshore Patrol Vessels is currently occurring in both South Australia and Western Australia. The Arafura Class Offshore Patrol Vessel will provide Navy with a highly capable vessel when it comes into service in 2022. Defence is also actively planning the Sustainment arrangements for the Offshore Patrol Vessels with an emphasis on implementing region based maintenance arrangements.

## Key messages from this audit for all Australian Government entities

22. Below is a summary of key messages, including instances of good practice, which have been identified in this audit and may be relevant for the operations of other Australian Government entities.

### Procurement

- When planning a procurement process that involves the solicitation of tenders from a shortlist of potential suppliers, it is sound practice to undertake, as Defence did, a market study and risk-based analysis to identify suitable participants for the solicitation process.
- The establishment of an evaluation plan that sets out the framework and criteria for tender evaluation provides a strong foundation for the conduct of a competitive procurement process to support the achievement of a value for money outcome.
- The development and implementation of probity arrangements in a procurement helps ensure that decisions are made with integrity, fairness and accountability.
- Evidence and advice should be retained and documented at all stages of a procurement and related advisory processes. This is particularly important when stepping outside a planned and approved procurement process or considering the introduction of additional conditions following tender evaluation.

## **Audit findings**

# 1. Background

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## Introduction

1.1 The Department of Defence (Defence) is acquiring 12 new Offshore Patrol Vessels (OPVs) and associated support systems for the Royal Australian Navy (Navy) through the SEA 1180 Phase 1 program, at an approved cost of \$3.58 billion. The OPVs are expected to:

... provide greater range and endurance than the existing Armidale Class patrol boat fleet. The new vessels will be capable of undertaking several different roles, including enhanced border protection and patrol missions, over greater distances than is currently possible with the existing patrol boat fleet.<sup>4</sup>

1.2 SEA 1180 Phase 1 has two key objectives:

- to construct 12 OPVs between 2018 and 2030 to replace and improve upon the Australian Defence Force (ADF) capability delivered by the Armidale class patrol boats; and
- to contribute to the Government's continuous naval shipbuilding program (see Box 1) in accordance with analysis undertaken for Defence in 2015 (the 2015 shipbuilding analysis).<sup>5</sup>

The 13 Armidale class patrol boats currently in use are due to be withdrawn from Navy service between 2020 and 2022.<sup>6</sup> As of July 2020, construction of the first three OPVs was underway at shipyards in South Australia (two vessels) and Western Australia (one vessel). The Government announced in November 2018 that the OPVs will be named the Arafura class, with the first-of-class expected to enter Navy service in 2022.<sup>7</sup>

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4 Department of Defence, *Naval Shipbuilding Plan*, May 2017, p. 36.

5 See *Australia's Naval Shipbuilding Enterprise: Preparing for the 21st Century* [Internet], RAND Corporation, 2015, available from [https://www.rand.org/pubs/research\\_reports/RR1093.html](https://www.rand.org/pubs/research_reports/RR1093.html) [accessed 20 January 2020]. RAND was engaged to undertake a series of materiel studies and analysis activities to inform the development of an enterprise-level plan for naval shipbuilding for consideration by the Government. That review recommended that Defence bring forward the build of the OPVs to 2017 to provide a transition of the naval shipbuilding workforce between the end of the Hobart class air warfare destroyer build and commencement of the Hunter class frigate build in 2020. The analysis forecast that if Defence were to start the OPV build by the end of 2017, around 400 to 500 shipbuilding workers could be retained throughout the gap years.

6 Navy also has two Cape class patrol boats — *Cape Fourcroy* and *Cape Inscription* — built by Austal Limited and leased through the National Australia Bank. In August 2019, Navy announced it had extended the lease for *Cape Fourcroy* to April 2022 and for *Cape Inscription* to May 2022.

7 The build time for each OPV is approximately 24 months, with a production rate of one vessel delivery every nine to 12 months. Construction of: OPV 1 commenced November 2018; OPV 2 commenced June 2019; and OPV 3 commenced late March 2020. See media release, Minister for Defence, 'Arafura Class Offshore Patrol Vessels', 15 November 2018, available from <https://www.minister.defence.gov.au/minister/cpyne/media-releases/arafura-class-offshore-patrol-vessels> [accessed 22 September 2020].

### Box 1: Continuous naval shipbuilding program

In August 2015, the Government announced that the OPV program would become part of the continuous naval shipbuilding program.<sup>a</sup> In its announcement, the Government stated that it was:

Bringing forward construction of Offshore Patrol Vessels (SEA 1180) to replace the Armidale class patrol boats by two years, with a continuous onshore build commencing in 2018 following a Competitive Evaluation Process. This decision will maintain around 400 skilled jobs that would otherwise have been lost. It will also reduce the number of man-hours that would be wasted on the Future Frigate programme if the existing workforce was disbanded and reconstituted, setting it on a stronger path for earlier completion.

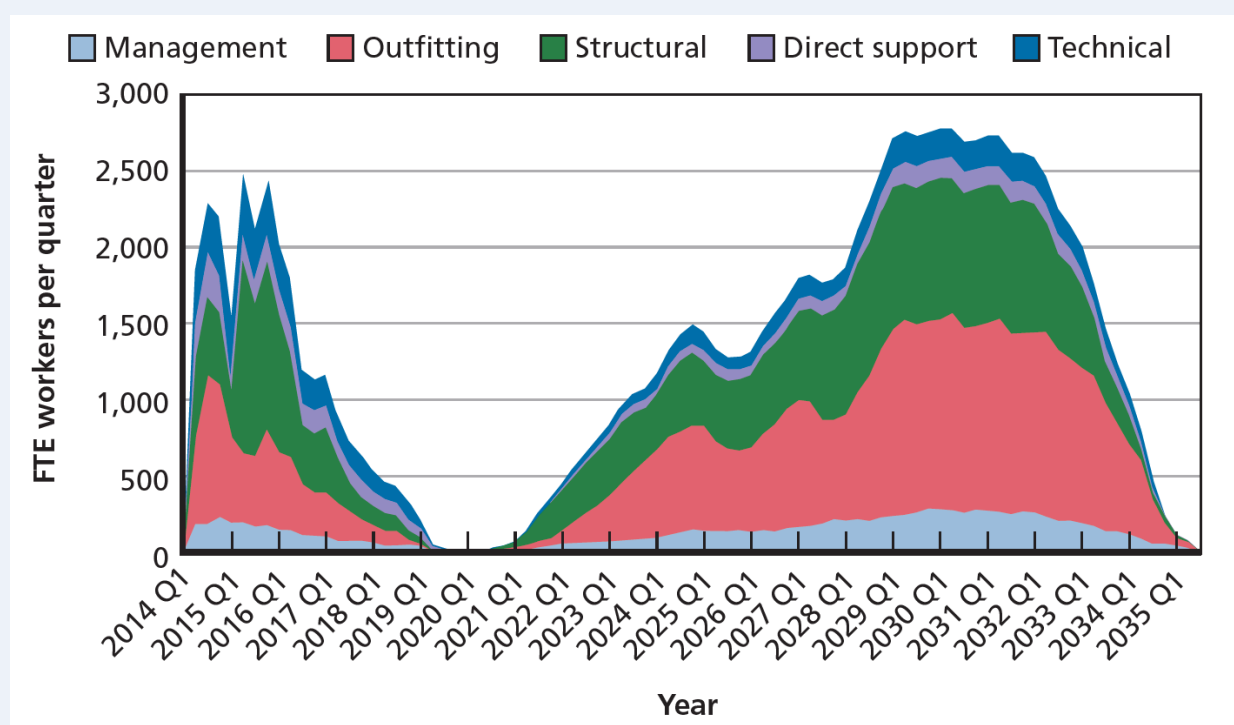
The *2016 Defence White Paper* stated that:

The Government's shipbuilding plans are based on long-term continuous builds of surface warships, commencing with construction in Australia of offshore patrol vessels from 2018 and future frigates from 2020. These plans will transform Australia's naval shipbuilding industry, generate significant economic growth, sustain Australian jobs over the coming decades and assure the long-term future of this key Australian defence industry.<sup>b</sup>

The accompanying *2016 Defence Integrated Investment Program* outlined the Government's investment of over \$90 billion in the continuous naval shipbuilding program and allocated up to \$4 billion for design and construction of the OPVs.<sup>c</sup>

The Government's May 2017 *Naval Shipbuilding Plan*<sup>d</sup> involves the rolling acquisition of new submarines and the continuous build of major ships such as future frigates, as well as minor naval vessels such as the OPV.<sup>e</sup> The continuous naval shipbuilding program, commencing in 2018, was intended to address a gap in workforce demand and maintain the shipbuilding workforce in South Australia. Defence's 2015 shipbuilding analysis (see footnote 5 above) identified a gap in demand for workers, measured by full-time-equivalent (FTE) workers, between the completion of the Hobart class destroyer (AWD) build in 2019 and the expected start of Hunter class frigate construction in 2020. The gap (referred to as the 'valley of death') is illustrated in Figure 1.1.

**Figure 1.1: 2015 shipbuilding analysis of the workforce profile for building the Hobart Class air warfare destroyers and Hunter class frigates**



Source: RAND Corporation, Australian Naval Shipbuilding Enterprise: Preparing for the 21st Century, 2015.

- Note a: Prime Minister and Minister for Defence, media release, 'The Government's plan for a strong and sustainable naval shipbuilding industry', media release, 4 August 2015, available from <https://www.minister.defence.gov.au/minister/kevin-andrews/media-releases/joint-media-release-prime-minister-and-minister-defence-1> [accessed 22 September 2020].
- Note b: Department of Defence, *2016 Defence White Paper*, p. 21.
- Note c: Department of Defence, *2016 Defence Integrated Investment Program*, pp. 89–90.
- Note d: The *Naval Shipbuilding Plan* was released by the Minister for Defence on 16 May 2017. See media release, 'Securing Australia's naval shipbuilding and sustainment industry', available from <https://www.minister.defence.gov.au/minister/marise-payne/media-releases/securing-australia-naval-shipbuilding-and-sustainment-industry> [accessed 22 September 2020].
- Note e: On 1 July 2020, Defence released the *2020 Defence Strategic Update* and *2020 Force Structure Plan* to outline a new Defence strategy and the capability investments to deliver it (available from <https://www.defence.gov.au/strategicupdate-2020/>). The *2020 Force Structure Plan* builds on the Government's continuous naval shipbuilding program as set out in the *2016 Defence White Paper*. According to Defence, an update to the *Naval Shipbuilding Plan* in late 2020 will provide further detail on opportunities for Australia's shipbuilding industry that result from the new plan.

## SEA 1180 Phase 1 Offshore Patrol Vessel program

1.4 In November 2015, the SEA 1180 Phase 1 OPV program received funding approval of \$11.53 million for the commencement of a competitive evaluation process<sup>8</sup> to select a ship designer and builder for the OPV program.

<sup>8</sup> In effect a limited tender by invitation process.



## Competitive evaluation process to select a ship designer and builder

1.5 The competitive evaluation process informed the advice provided by Defence to support the Government's approvals at first and second pass.<sup>9</sup> The agreed competitive evaluation process comprised five activities set out in Table 1.1. The timing of competitive evaluation process activities and Government approvals is summarised in Appendix 2 of this audit report (Figure A.1).

**Table 1.1: Competitive evaluation process — Offshore Patrol Vessel program**

| Activity                                    | Purpose  |
|---|--|
| Analysis of Alternatives                    | A market survey and analysis to down-select existing off-the-shelf ship designs that potentially met the requirements sought by Defence and the Government.  |
| Risk Reduction Design Studies               | To enable Defence to better understand the cost and schedule risks associated with making changes to the reference ship designs (base designs) of the down-selected ship designers.  |
| Request for Tender                          | To request down-selected designers to submit tenders for the design and construction of the OPVs and associated support systems.   |
| Offer Definition and Improvement Activities | To clarify and better define particular aspects of the tenders. This process sought to reduce risks and maximise value for money in order to facilitate the selection of a preferred tenderer for contract negotiations.   |
| Schedule Protection Activities              | To bring forward design work from the acquisition contract statement of work, where possible, to reduce the time required to achieve a production ready design. This was done so that the System Requirement Review, System Definition Review and Preliminary Design Review could be conducted in a timely manner after contract signature. The aim of this process was to preserve schedule and ensure construction could commence on time in 2018. |

Note: The Government endorsed, as part of the first pass approval, Defence's strategy to undertake Risk Reduction Design Studies, Request for Tender, Offer Definition and Improvement Activities and Schedule Protection Activities concurrently during the competitive evaluation process.

Source: ANAO analysis of Defence documents.

1.6 In November 2015, the Government agreed to the essential criteria that the competitive evaluation process would use to progressively narrow the ship designer options (through a limited tender process) to be presented for second pass. The Government required that the successful ship design should:

- be buildable in Australia within program budget and starting in 2018;
- be an off-the-shelf option<sup>10</sup> that is proven in service (defined as previously built and used in service by another navy, coast guard or in commercial shipping);

9 The Defence *Capability Life Cycle Manual* (version 1.0, January 2020) states that:

First Pass is the process that gives Government the opportunity to narrow the alternatives being examined by Defence to meet an agreed capability gap. First Pass approval allocates funds from the Integrated Investment Program to enable options endorsed by Government to be investigated in further detail, with an emphasis on detailed cost and risk analysis.

Second Pass is the final milestone in the Requirements Phase, at which point Government endorses a specific capability solution and approves funding for the Acquisition Phase. The project cannot proceed to the Acquisition Phase until this approval is obtained from Government.

10 An off-the-shelf option is one that already exists or is confirmed in service and requires no, or minimal, design change. It is sometimes expressed as commercial off-the-shelf or military off-the-shelf. See Auditor-General Report No.19 2019–20 *2018–19 Major Projects Report*, p. 16.

- meet Navy's capability requirements;
- be able to accommodate communications and combat management systems compatible with Navy's surface fleet, and comply with applicable Australian legislative and regulatory requirements;
- be based on a steel hull;
- have a maximum displacement of approximately 1,800 tonnes and a maximum length of approximately 80 metres; and
- be supportable in Australia for operation and sustainment.

1.7 The Government also required the successful ship designer and shipbuilder to:

- maximise Australian shipbuilding jobs;
- de-risk the Hunter class frigate program by maintaining jobs and the skills base at the Osborne shipyard in South Australia;
- maximise opportunities for Australian industry; and
- support implementation of the principles in the 2015 shipbuilding analysis (discussed in paragraph 1.2). The principles from that analysis to be applied were:
  - rationalising the number of Australian naval shipyards to no more than two;
  - selecting a mature design that is buildable in Australian shipyards;
  - limiting changes to those necessary for meeting unique Australian requirements;
  - sourcing designs from countries with similar naval architecture standards;
  - making significant improvements in workplace productivity; and
  - having a well-integrated designer, builder and supplier team.

### *First pass approval*

1.8 On 18 April 2016, the Prime Minister and Minister for Defence announced:

- First pass approval for the Offshore Patrol Vessels, with construction to begin in Adelaide from 2018, following the completion of the Air Warfare Destroyers and transfer to Western Australia when the Future Frigate construction begins in Adelaide in 2020. This approach ensures that jobs and skills are retained in Adelaide.
- As part of the Competitive Evaluation Process three designers have been shortlisted; *Damen* of the Netherlands, *Fassmer* of Germany, and *Lurssen* of Germany to refine their designs.
- This program is estimated to be worth more than \$3 billion and will create over 400 direct jobs.<sup>11</sup>

### *Second pass approval*

1.9 On 24 November 2017, the Prime Minister announced the final outcome of the competitive evaluation process in a press conference:

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11 Prime Minister and Minister for Defence, 'Continuous naval shipbuilding', media release, 18 April 2016, available from <https://www.minister.defence.gov.au/minister/marise-payne/media-releases/prime-minister-and-minister-defence-continuous-naval> [accessed 22 September 2020].

We are building 54 naval vessels, that's our commitment and today, we're announcing that we have selected Lürssen as the designer and prime contractor for 12 Offshore Patrol Vessels.<sup>12</sup>

1.10 The Minister for Defence Industry further announced that the OPV program would create '1000 jobs across Adelaide and then 1000 jobs across Henderson.'<sup>13</sup>

1.11 On 25 November 2017, Ministers issued a joint media release announcing that:

The Navy's OPVs will be the Lürssen design utilising ASC Shipbuilding in Adelaide for the construction of the first two ships.

The project will then transfer to the Henderson Maritime Precinct in WA where Lürssen will use the capabilities of Austal and Cvmec to build ten OPVs, subject to the conclusion of commercial negotiations.<sup>14</sup>

1.12 In line with the essential criteria and requirements for the competitive evaluation process (refer paragraphs 1.6-1.7 above), Defence stated in November 2017 that the selected Lürssen OPV design:

- is based on a military off-the-shelf design<sup>15</sup> — the Darussalam class — in service with the Royal Brunei Navy; and
- has had minimal changes made. Changes were limited to those necessary to meet Australian legislative and regulatory requirements, and specific Defence communications and situational awareness needs.<sup>16</sup>

1.13 The \$3.58 billion approved acquisition cost did not include sustainment funding for the OPVs. In seeking second pass approval, Defence provided rough-order-of-magnitude sustainment cost estimates to the Government.<sup>17</sup> Defence records indicate that the OPV sustainment strategy has been incorporated into a broader continuous sustainment model for Navy vessels and that Defence planned to return to Government to present its revised OPV sustainment strategy. Defence advised the ANAO in July 2020 that the revised strategy is expected to be provided to Government for consideration in June 2021.

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12 Prime Minister, Minister for Defence and Minister for Defence Industry, 'Offshore Patrol Vessels project', press conference, 24 November 2017, available from <https://www.minister.defence.gov.au/minister/marise-payne/transcripts/press-conference-prime-minister-minister-defence-and-minister> [accessed 22 September 2020].

13 *ibid.* The job numbers announced by the Government anticipated that: Osborne (South Australia) would employ up to 400 direct workers and 600 indirect workers in the supply chain; and Henderson (Western Australia) would create 400 direct jobs and 600 indirect jobs.

14 Prime Minister, Minister for Defence and Minister for Defence Industry, 'Hundreds of Australian jobs created in Offshore Patrol Vessel project', media release, 25 November 2017, available from <https://www.minister.defence.gov.au/minister/christopher-pyne/media-releases/joint-media-release-prime-minister-minister-defence-and> [accessed 22 September 2020].

15 A military off-the-shelf design is one that is in use by a foreign military, can be readily acquired and requires no, or minimal, design change.

16 Changes were made to include a bow thruster and an additional reverse osmosis plant.

17 This issue was discussed in Auditor-General Report No.39 2017–18 *Naval Construction Programs—Mobilisation*, pp. 42–43. This approach did not address the requirement, set out in Defence's *2016 Interim Capability Life Cycle Manual*, that second pass business cases 'will include a detailed and final performance, schedule, whole-of-life costing and approval limit, within which the Project team will be authorised to negotiate a contract post Gate 2 [second pass]'.

1.14 The Government's second pass approval included:

- an indicative capability transition plan involving the life-of-type extension of up to six Armidale class patrol boats and lease extension of up to two Cape class patrol boats<sup>18</sup>, at an estimated cost of \$103.7 million; and
- upgrades of OPV wharves and port facilities, at a cost of \$918.5 million, funded from a separate Integrated Investment Program facilities provision.

### *Establishment of the contract*

1.15 On 31 January 2018, Defence signed a \$1.988 billion (GST-exclusive) contract for the design and build of the OPVs with Luerssen Australia Pty Ltd (Luerssen), a subsidiary of Fr. Lürssen Werft GmbH & Co. KG (Lürssen).<sup>19</sup>

1.16 Luerssen subcontracted ASC OPV Shipbuilder Pty Ltd for the build of the initial two OPVs at the Osborne South shipyard (Osborne) in South Australia, and Cvmec Construction & Engineering Pty Ltd (Cvmec) for the build of 10 OPVs at the Henderson maritime precinct (Henderson) in Western Australia.

1.17 At the Australian Government's request, Luerssen also entered into commercial negotiations with Austal Limited (Austal) but did not reach agreement on a role for Austal in the OPV build.

1.18 On 1 May 2020, the Minister for Defence and Minister for Defence Industry announced that Austal would build six new Cape class patrol boats for Navy under a separate \$350 million build program:

The six new Cape Class Patrol Boats will grow the patrol boat force to 16 vessels<sup>20</sup>, while the new larger Arafura Class Offshore Patrol Vessels are introduced into service.

Minister for Defence, Senator the Hon Linda Reynolds CSC said the new vessels will play an important role in keeping Australia's borders safe, while Navy's new capability is brought online.

"These vessels will not only enhance national security, but will provide important economic stimulus and employment continuity during the COVID-19 pandemic," Minister Reynolds said.<sup>21</sup>

### **Approved design of the Offshore Patrol Vessel**

1.19 The OPV design is based on the existing Darussalam class ship design (see Figure 1.2).

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18 As discussed in footnote 6, the Navy has extended its lease of two Cape class patrol boats to April 2022 and May 2022 respectively.

19 Lürssen established Luerssen Australia Pty Ltd in May 2017. During the tender process, Lürssen advised Defence of its intention to set up an Australian subsidiary in Western Australia to oversee regional activities and provide Australian shipbuilders with export opportunities for its vessels. Differences in spelling of the two entities reflects anglicisation.

20 ANAO comment: the Minister for Defence and Minister for Defence Industry also stated that the Australian Border Force currently operates eight Cape class patrol boats. These eight vessels, together with the Navy's two leased and six new Cape class patrol boats, will increase the Cape class patrol boat fleet size to 16.

21 Minister for Defence and Minister for Defence Industry, 'New patrol boats to boost Navy capability', media release, 1 May 2020, available from <https://www.minister.defence.gov.au/minister/lreynolds/media-releases/new-patrol-boats-boost-navy-capability> [accessed 22 September 2020].

**Figure 1.2: Image of the Lürssen-designed Offshore Patrol Vessel**



Source: Artist impression of an OPV provided by Defence.

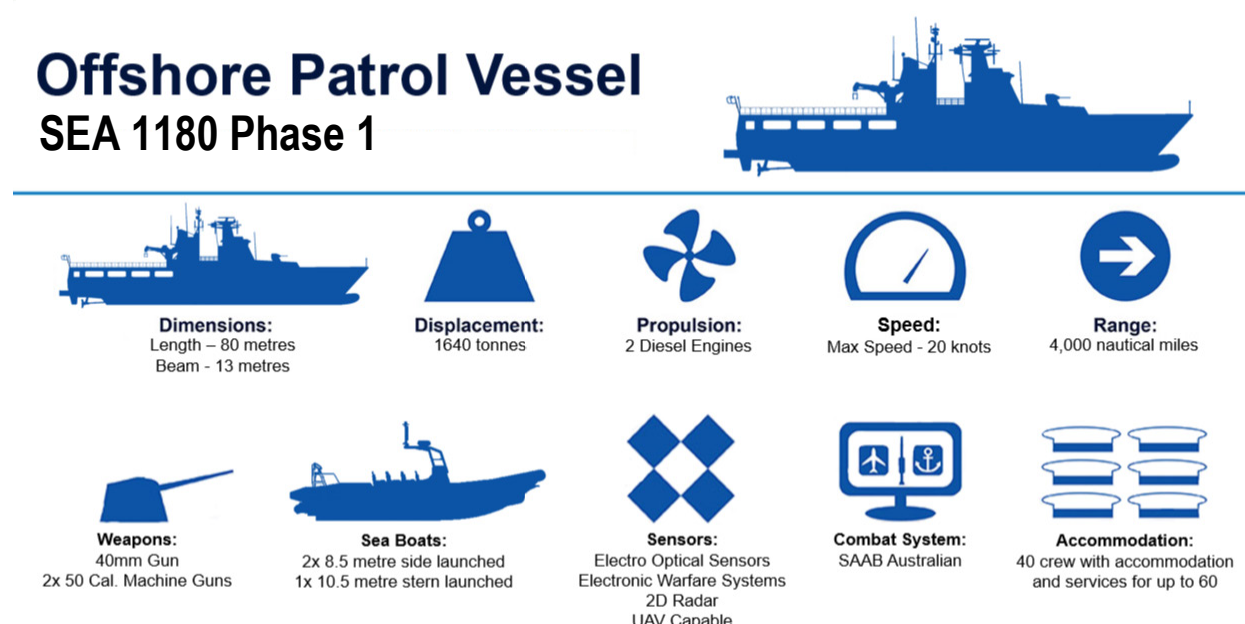
1.20 Figure 1.3 outlines the platform characteristics and primary systems of the approved OPV. By way of comparison, Armidale class patrol boats have a length of 56.8 metres, a beam of 9.7 metres, a displacement of 300 tonnes, a standard range of 3,452 nautical miles and a crew of 21.<sup>22</sup>

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22 The Armidale class is described at: <https://www.navy.gov.au/hmas-armidale-ii> [accessed 21 June 2020].



**Figure 1.3: Platform characteristics and primary systems of the Offshore Patrol Vessel**



Source: Department of Defence infographic.

1.21 In addition to its arrangements with two Australian shipbuilders (see paragraph 1.16), Luerksen's *Public Australian Industry Capability Plan* (dated October 2018) sets out a number of other contracting arrangements with Australian industry. Table 1.2 lists the Australian companies that supply the major systems for the OPVs to Luerksen.

**Table 1.2: Subcontractors supplying the Offshore Patrol Vessel's primary systems**

| System components   | Subcontractor                         |
|---|---------------------------------------|
| Propulsion engines  | Penske Power Systems Pty Ltd          |
| Main gun weapons system   | Leonardo Australia Pty Ltd            |
| Integrated platform management system, navigation and communications systems                                | L3 Communications Australia Pty Ltd   |
| 9LV combat management system <sup>a</sup>   | SAAB Australia Pty Ltd                |
| Accommodation   | Taylor Bros Marine Pty Ltd            |
| HVAC (heating, ventilating and air conditioning), CO2 firefighting, refrigeration and chilled water systems | Noske-Kaeser Marine Australia Pty Ltd |
| Electrical installation   | Marine Technicians Australia Pty Ltd  |

Note a: The Government has mandated the SAAB Australia 9LV combat management system. See: Prime Minister, Minister for Defence and Minister for Defence Industry, 'New approach to naval combat systems', media release, 3 October 2017, available from <https://www.minister.defence.gov.au/minister/marise-payne/media-releases/joint-media-release-new-approach-naval-combat-systems> [accessed 22 September 2020].

Source: ANAO analysis of Defence documents.

## Administrative arrangements and expenditure

1.22 Defence's Capability Acquisition and Sustainment Group (CASG) is responsible for managing the acquisition of the OPVs on behalf of Navy, which is the capability owner. Navy and CASG have

agreed the terms and key dates for delivery of the OPVs in a Materiel Acquisition Agreement (MAA)<sup>23</sup> summarised in Table 1.3.

**Table 1.3: Key dates for Offshore Patrol Vessel delivery under the Materiel Acquisition Agreement**

| Project event   | Delivery date <sup>a</sup> |
|---|----------------------------|
| Initial Materiel Release for OPV 1 to Navy <ul style="list-style-type: none"> <li>IMR is a milestone that marks the completion and initial release of Acquisition Project supplies required to support the achievement of Initial Operational Capability.</li> </ul>  | December 2021              |
| Initial Operational Capability for OPV 1 <ul style="list-style-type: none"> <li>IOC is the capability state relating to the in-service realisation of the first subset of a capability system that can be employed operationally. Declaration of initial operating capability is made by the Capability Manager, supported by the results of operational test and evaluation and declaration by the Delivery Group(s) that the fundamental inputs to capability have been delivered.</li> </ul> | December 2022              |
| Final Materiel Release (all 12 OPVs to be delivered) <ul style="list-style-type: none"> <li>FMR is a milestone that marks the completion and final release of Acquisition Project supplies required to support the achievement of Final Operational Capability.</li> </ul>  | December 2029              |
| Final Operational Capability <ul style="list-style-type: none"> <li>FOC is the capability state relating to the in-service realisation of the final subset of a capability system that can be employed operationally. Declaration of final operating capability is made by the Capability Manager, supported by the results of operational test and evaluation and declaration by the Delivery Group(s) that the fundamental inputs to capability have been delivered.</li> </ul>               | June 2030                  |

Note a: See Table 4.1 in Chapter 4 for a more detailed timeline on the delivery schedule of the OPVs.

Source: ANAO analysis of the Materiel Acquisition Agreement. For definitions see Auditor-General Report No.19 2019–20, 2018–19 *Major Projects Report*, p.viii.

1.23 As discussed, the approved acquisition cost for 12 OPVs under SEA 1180 Phase 1 is \$3.58 billion, which does not include sustainment funding. As at 30 June 2020, Defence had spent \$580.30 million on the OPV program.<sup>24</sup>

## Rationale for undertaking the audit

1.24 The OPV program is intended to enhance ADF maritime capability and is one of three interrelated components of the Australian Government's continuous naval shipbuilding program under the *Naval Shipbuilding Plan*.<sup>25</sup> The Government has identified the OPV program as having an

23 Defence describes an MAA as an agreement between Defence and CASG which states what services and products will be delivered, for how much and when. See Auditor-General Report No.19 2019–20, 2018–19 *Major Projects Report*, p. 121.

24 This expenditure amount was calculated on a cash basis.

25 Department of Defence, *Naval Shipbuilding Plan*, May 2017. The Australian Government's 2016 *Defence White Paper* committed \$89 billion for new Navy ships and submarines and to develop a permanent naval shipbuilding industry in Australia. The 2020 *Force Structure Plan* released in July 2020 indicates that there will be an update to the *Naval Shipbuilding Plan* in late 2020.

important role in mitigating identified risks to workforce continuity at the Osborne shipyard between the end of the Hobart Class air warfare destroyer build and the commencement of the Hunter class frigate build. The Government's requirements to split OPV construction between two shipyards under an accelerated build schedule pose a challenge to Defence in managing program risks. The audit will provide assurance to the Parliament on the effectiveness of Defence's procurement and management of the OPV program, its ability to deliver the required capability on schedule and within budget, the workforce outcomes achieved, and the program's contribution to delivery of the *Naval Shipbuilding Plan* in establishing a sovereign naval shipbuilding enterprise.

1.25 The OPV program was last examined by the ANAO in the context of Auditor-General Report No.39 2017–18 *Naval Construction Programs—Mobilisation*. The audit concluded that at the time of tabling (May 2018) Defence was meeting scheduled milestones to deliver the OPV program, although the program was still at an early stage. A key finding of the audit was that the design and build milestones for the OPV program were brought forward to help maintain the shipbuilding workforce from the end of the Hobart class destroyer build to commencement of the Future Frigate build. As a consequence of the compressed schedule, Defence carried several risks into the OPV acquisition. In particular, reliable sustainment cost estimates were not provided to the Government at second pass approval, and commercial arrangements between the selected shipbuilder and Australian shipbuilding firms had not been settled when the tender outcome was announced.

## Audit approach

### Audit objective, criteria and scope

1.26 The audit objective was to assess the effectiveness to date of Defence's procurement and contract management of the OPV program.

1.27 To form a conclusion against the audit objective, the following high-level criteria were adopted:

- Did Defence conduct an effective competitive evaluation process for the procurement of the OPVs that supported the achievement of value for money?
- Has Defence established fit-for-purpose contracting and program governance arrangements?
- Is the OPV program meeting program milestones and supporting the delivery of the *Naval Shipbuilding Plan*?

1.28 The ANAO did not examine:

- the sustainment strategy for the OPVs;
- the acquisition and build program for six new Cape class patrol boats announced by the Government in May 2020 (see paragraph 1.18 above); or
- contract arrangements between the prime contractor (Luerssen) and its sub-contractors.

### Audit methodology

1.29 The audit methodology involved:

- review of records and data held by Defence, particularly the Capability Acquisition and Sustainment Group and Navy;



- site visits to the Osborne shipyard in South Australia and the Henderson shipyard in Western Australia; and
- discussions with relevant Defence personnel and contractors responsible for the OPV program.

1.30 The audit was conducted in accordance with ANAO Auditing Standards at a cost to the ANAO of approximately \$510,000.

1.31 The team members were Esther Barnes, Leo Simoens, Alex Wilkinson and Sally Ramsey.

## 2. Platform selection

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### Areas examined

This chapter examines whether Defence conducted an effective platform selection process for the procurement of Offshore Patrol Vessels (OPVs), which supported the achievement of a value for money outcome.

### Conclusion

Defence conducted a largely effective platform selection process which supported the achievement of a value for money outcome. Defence surveyed the market for an appropriate OPV design and implemented a well-documented process to select three designs for detailed evaluation. The competitive evaluation process was supported by appropriate governance, assurance and probity arrangements and a Tender Evaluation Plan that was applied consistently across the three invited tenders, to provide a basis for assessing value for money. The tender evaluation process addressed the essential criteria and requirements that the Government had set for the program. The effectiveness of Defence's processes was impacted by the poor timing of and information access restrictions placed on a key assurance review activity, shortcomings in Defence record-keeping for the introduction of an additional condition late in the platform selection process, and Defence's approach to advising its ministers.

### Areas for improvement

The ANAO made two recommendations aimed at improving Defence's processes for Independent Assurance Reviews and record-keeping.

2.1 To assess whether Defence conducted an effective platform selection process that contributed to the achievement of value for money, the ANAO examined whether:

- Defence established appropriate governance arrangements to support the platform selection process;
- Defence conducted an effective process to select suitable ship designers to participate in the competitive evaluation process;
- Defence conducted an effective tender evaluation process, which included an assessment of value for money; and
- Defence provided appropriate advice to the Government on the outcome of the competitive evaluation process to inform second pass approval.

### Did Defence establish appropriate governance arrangements for the platform selection process?

While Defence established appropriate governance, assurance and probity arrangements for the platform selection process, the implementation of one aspect of the assurance arrangements was not fully effective. Defence established fit-for-purpose arrangements to conduct and oversight the competitive evaluation process, which included a series of steering groups and internal reviews to provide assurance to senior leaders. The reviews usefully identified issues requiring attention but in one case, the poor sequencing of the activity and the restrictions on the reviewers' access to information compromised the effectiveness of the

assurance review activity. Defence made appropriate arrangements for obtaining third-party legal and probity advice during the competitive evaluation process.

## **Governance and oversight of the competitive evaluation process**

2.2 Defence's Capability Acquisition and Sustainment Group (CASG) is responsible for managing the acquisition of OPVs on behalf of the Royal Australian Navy (Navy), which is the capability owner. The Assistant Secretary Ship Acquisition – Specialist Ships<sup>26</sup> within CASG's Specialist Ships Branch is the Program Manager of the SEA 1180 Phase 1 OPV program.

2.3 An initial version of the OPV Integrated Project Management Plan specified that the competitive evaluation process was managed by the Director-General Specialist Ships Acquisition, who subsequently delegated authority for this activity to the Project Director of the OPV program. The Project Director is also the chair of an Integrated Project Team, which is directly responsible for delivery of the project within the scope, cost and schedule parameters approved by government at second pass.<sup>27</sup>

2.4 In addition to the Integrated Project Team, a One-Star Program Steering Group, Two-Star Capability Manager's<sup>28</sup> Steering Group and Three-Star Capability Manager's Steering Group were established to provide advice, oversight and strategic direction on OPV program activities<sup>29</sup>, including the competitive evaluation process. The governance structure Defence adopted for the OPV competitive evaluation process is set out in Figure 2.1.

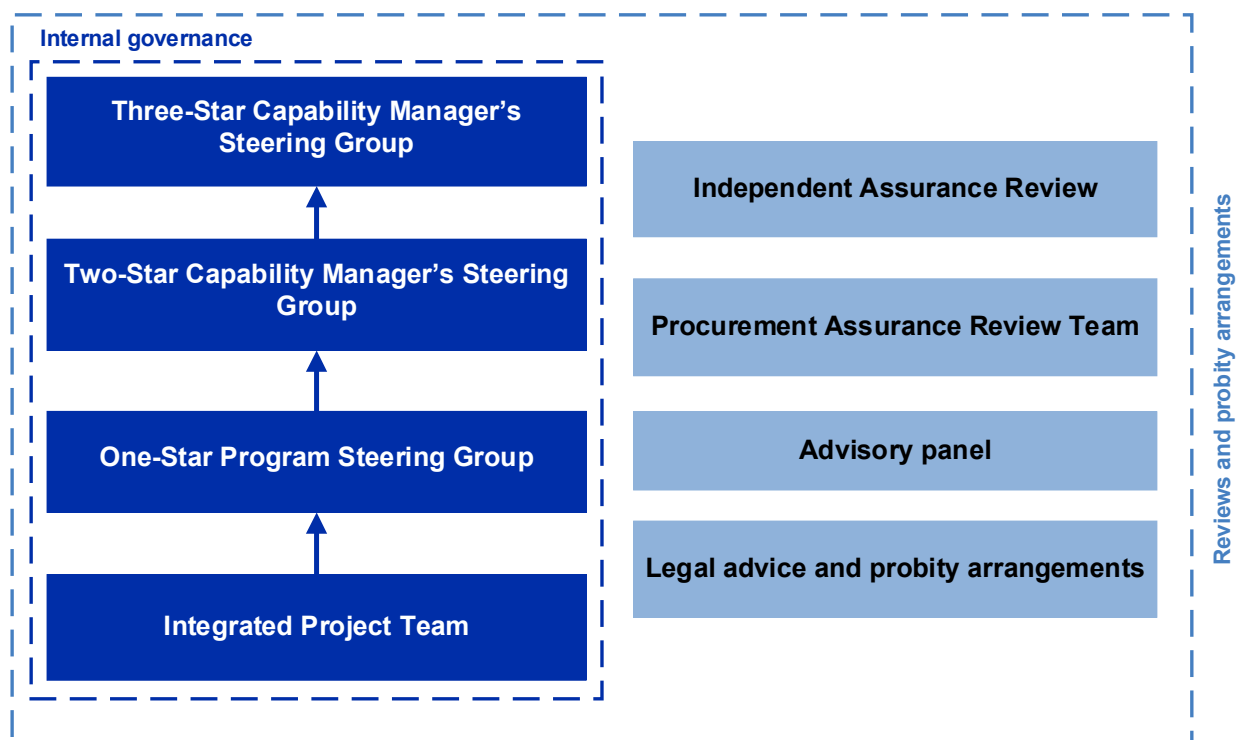
26 In September 2018, the new title of Assistant Secretary Ship Acquisition – Specialist Ships was adopted, replacing the previous title of Director-General Specialist Ships Acquisition. This audit report refers to the previous title when discussing events that occurred before September 2018.

27 The OPV Integrated Project Team has members from CASG and the: Capability Development Group; Navy; Defence Science and Technology Group; and Capability, Investment and Resources Division.

28 Chief of Navy is the Capability Manager of the Royal Australian Navy and is accountable for project execution and coordination of capability transition of the Arafura class OPVs.

29 See paragraphs 3.19–3.34 of this audit report.

**Figure 2.1: Governance structure for the OPV competitive evaluation process**



Source: ANAO analysis of Defence documents.

2.5 The terms of reference for the One-Star Program Steering Group and Two-Star Capability Manager's Steering Group stated that their roles include the review and endorsement of relevant program documentation and business cases for clearance by higher level Defence committees, and to provide advice to higher level Defence committees to support the decision-making process. The terms of reference for the Three-Star Capability Manager's Steering Group provide that the group is the governance body that oversees the capability transition of the OPV program and makes decisions on key program issues.

2.6 Examples of the advice and oversight provided by these groups included setting the capability requirements of the OPV and restricting changes to the reference ship designs (the respective ship design of the three designers that Defence had down-selected) to only those that were necessary for meeting essential requirements during the Risk Reduction Design Studies.<sup>30</sup> Defence's approach to commencing the construction of the OPVs in 2018, by seeking minimal changes to the ship design through Risk Reduction Design Studies, was endorsed by the One-Star Program Steering Group, Two-Star Capability Manager's Steering Group and Three-Star Capability Manager's Steering Group. In addition, these steering groups endorsed the Request for Tender approach, which restricted the tenderers' proposed ship designs to the modified variants of their reference ship designs from the Risk Reduction Design Studies.

30 These studies commenced in May 2016 and were part of the competitive evaluation process. They are discussed in paragraphs 2.56–2.57 of this audit report.

## Arrangements to provide assurance on project delivery

2.7 Arrangements to provide Defence senior leaders with assurance on the delivery of the SEA 1180 Phase 1 OPV project have included: Independent Assurance Reviews<sup>31</sup>; the appointment of a procurement assurance review team and an advisory panel; and legal and probity advice. These arrangements are discussed below.

### *Independent Assurance Reviews of the competitive evaluation process*

August 2015 Project Initiation / Acquisition Strategy Gate Review

2.8 In August 2015, Defence conducted a Gate Review on the project initiation and acquisition strategy of the OPV program. The review found that the Government's requirement to commence the OPV build in 2018 was the major driver of the project, and that the schedule to second pass was considered high risk. The review board provided guidance on the development of the OPV program acquisition strategy, including approaches to consider for the Analysis of Alternatives, Request for Tender and Risk Reduction Design Studies.

2.9 One of the recommendations of the review board was that governance and oversight arrangements suitable for the high risk project be agreed and established. The review board commented that:

Project governance arrangements for this project will require careful consideration, with a need for strong oversight and effective mechanisms to resolve project issues in a timely manner. The suitability of a relatively standard one star CDSG [Capability Development Steering Group] and a three star steering group for this project needs to be considered.

2.10 Defence advised the ANAO that to address the review board's recommendation, the governance arrangements for the SEA 1180 Phase 1 OPV program were amended to provide a weekly issues brief directly to the Head of Navy Capability (chair of the Two-Star Capability Manager's Steering Group) during the competitive evaluation process activities occurring between first pass and second pass. Defence further advised that 61 weekly briefs were provided to the Head of Navy Capability over the period.

2.11 The review board also recommended that the project be identified as a Project of Interest.<sup>32</sup> Defence did not consider the project to be a Project of Interest candidate and did not list it as one.

August 2016 Solicitation Independent Assurance Review

2.12 In August 2016, a Solicitation Assurance Review was conducted 'to review the project status, outlook and readiness to continue towards release of tenders for acquisition of 12 Offshore Patrol Vessels (OPV) and associated support'. The review board noted that:

After significant discussion of the intended approach to ship building, the Board noted the need for further development work within Defence to define tender requirements in the areas of Australian Industry Content (AIC), the transition of supply chain activities to Australia and obsolescence management. The Board was advised that meeting the schedule to cut steel may compromise AIC and supply chain achievements, at least for the lead vessels. The Board

31 Independent Assurance Reviews were previously known as Gate Reviews.

32 Defence identifies a project as a Project of Interest when scope, schedule or cost variances warrant heightened senior management attention. See Auditor-General Report No.31 2018–19 *Defence's Management of its Projects of Concern* and Auditor-General Report No.19 2019–20 *2018–19 Major Projects Report*, pp. 21–22.

considered that requirements addressing the evolution of these capabilities over the whole of the build period were essential to support the continuous shipbuilding expectation of Government and to enable costed tender responses to be provided. The Board noted the project's intent to address this requirement in the RFT [Request for Tender].

2.13 The review board considered that 'SEA 1180 Ph 1 is not a candidate Project of Concern' and concluded that:

The project is proceeding to plan with respect to capability requirements definition and is likely to deliver the capability specified by Defence. It was approved by Government as high risk in the cost, schedule, materiel implementation and workforce domains and remains so ...

2.14 The review board recommended that agreement be sought for the project office to be supplemented by additional staff resources to complete the Tender Evaluation Plan and Request for Tender preparation. In signing off the Independent Assurance Review outcomes, the General Manager Ships commented that:

In project terms, the 1180 Ph 1 [SEA 1180 OPV Phase 1] approach is still High Risk. There are further complexities which are being handled separately, such as the development of infrastructure ...

2.15 Defence advised the Government in a May 2017 project update that it assessed the schedule risk as 'high'.<sup>33</sup>

July 2017 Independent Assurance Review

2.16 On 17 July 2017, Defence conducted an Independent Assurance Review to 'review the project status, outlook and readiness for Gate 2 [second pass] consideration'. This review was undertaken three days after the Source Evaluation Report<sup>34</sup> was approved by the delegate (Director-General Specialist Ships Acquisition) but before the finalisation of the Offer Definition and Improvement Activities, which were part of the competitive evaluation process.<sup>35</sup> The review concluded that:

The project team and Navy sponsor are in lock step on the SEA 1180 Phase 1 project. Both are to be commended on the progress achieved to date particularly the work completed through the risk reduction activities, clarity of requirements expressed through the RFT [Request for Tender] documentation, and engagement with the Designers in what has been an extremely tight timeframe driven to meet Government's target of cutting steel in 2018.

2.17 The review found that the project had made significant progress since the August 2016 Independent Assurance Review. It also observed that information about the OPV program was restricted and inaccessible by the review team:

The restrictive approach to access to information including the Tender Evaluation Plan (TEP), Request for Tender (RFT) responses, Tender Evaluation Working Groups (TEWG) reports, Source Evaluation Reports (SER), associated cost models and schedules significantly limited the ability of the external reviewers to address these matters appropriately in the Agendum Paper. ...

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33 Defence documentation indicates that it uses five risk ratings — High, Medium-High, Medium, Medium-Low and Low — in the 'Implementation Risk Summary' section of its submissions to government.

34 The Source Evaluation Report detailed the tender evaluation undertaken and the assessment outcomes, and provided the basis for the source selection recommendation. Issues for contract negotiation were also drawn from this report.

35 The Offer Definition and Improvement Activities concluded in September 2017 (see paragraphs 2.77–2.80).

As you are aware the team were restricted in being able to provide any meaningful detail, even when there was no suggestion that they provide the outcomes for each tenderer. Consequently, I am not able to provide an informed independent assessment of the deliverability of this project, nor of the appropriateness of the schedule, cost and risk assessments. I do feel that this is a missed opportunity for the project given the breadth of experience of the Board Members. Furthermore, I am not sure of the value of conducting an Independent Assurance Review for Gate 2 projects that have such restrictive information access. ...

Given the limitation of access to information for reviewers and the restrictions imposed on the project team and the Capability Sponsor's ability to speak to the specifics of tender responses, particularly as they relate to cost, schedule and risk at the Board Meeting, I am not in a position to advise on the true status of the project, whether the cost estimates, schedule or risk assessments are a sound basis for progressing to Second Pass Approval, nor what more needs to be done to support the Approval Process or to enhance the actual delivery.

2.18 The review recommended that the OPV program be considered a Project of Interest. Defence did not list the OPV program as a Project of Interest.

2.19 Defence advised the ANAO that information access was restricted to protect the integrity of the competitive evaluation process, as that process had not reached an outcome at the time of the review.<sup>36</sup> The Independent Assurance Review process is intended to provide the Defence senior executive with assurance that projects and products will deliver approved objectives and are prepared to progress to the next stage of activity. Previous ANAO audits have identified Independent Assurance Reviews and their predecessor, Gate Reviews, as providing valuable insights to Defence senior leaders.<sup>37</sup> The timing of the review process is driven by Defence, and well-timed reviews can support the early identification of problem projects and products, facilitating their timely recovery.<sup>38</sup>

2.20 As observed in the July 2017 review report, in this case restrictions on information access represented a missed opportunity for Defence to realise the full benefits of the review activity — including in respect to the true status of the project, whether the cost estimates, schedule or risk assessments provided a sound basis for progressing to second pass approval, and what more might need to be done to support the government approval process or to enhance delivery. Commencing the review, with full knowledge that there was not the expected level of information access necessary for it to be fully effective and achieve its full benefit for the taxpayer, raises the question of whether Defence made 'proper use' of the public resources it directed to the review.<sup>39</sup> To prevent avoidable conflicts of this sort and ensure the proper use and management of the public resources

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36 This case was also discussed in Auditor-General Report No.31 2018–19 *Defence's Management of its Projects of Concern*, at pp. 34–35. The ANAO observed that the reason for the restriction in supplying information to the Independent Assurance Review was not evident in the documentation. In the context of that audit, Defence advised the ANAO that: 'This example is isolated and was particularly disappointing ... However, it should be noted that there is no identified systemic issue of information being withheld from IAR reviewers.'

37 See Auditor-General Report No.6 2018–19 *Army's Protected Mobility Vehicle – Light* and Auditor-General Report No.40 of 2018–19 *Modernising Army Command and Control – the Land 200 Program*. The Gate Review process was examined in Auditor-General Report No.52 2011–12 *Gate Reviews for Defence Capital Acquisition Projects*.

38 Auditor-General Report No.19 2019–20 *2018–19 Major Projects Report*, pp. 21–22.

39 In respect to 'proper use', section 8 of the *Public Governance, Performance and Accountability Act 2013* (PGPA Act) provides that: 'proper, when used in relation to the use or management of public resources, means efficient, effective, economical and ethical'.

in its care, Defence needs to appropriately sequence and coordinate its capability acquisition and review processes.

### Recommendation no.1

2.21 That Defence plan the sequencing of Independent Assurance Reviews undertaken during a platform selection process, to avoid conflicts with other processes and ensure access to all relevant information.

**Department of Defence response:** *Agreed.*

2.22 *Defence will improve planning and timing of Independent Assurance Reviews during a selection process to ensure the review is able to be effectively conducted with access to all information required.*

#### *Procurement assurance review team*

2.23 In August 2017, Defence engaged two contractors and an APS member as a procurement assurance review team. The team's role was to provide assurance and advice to the Deputy Secretary CASG and the Three-Star Capability Manager's Steering Group in relation to the competitive evaluation process and to provide specialist advice to the tender evaluation team on the source evaluation outcomes and conduct of the Offer Definition and Improvement Activities. The procurement assurance review team undertook a review and reported that the Offer Definition and Improvement Activities (discussed in paragraphs 2.77 to 2.80 below) properly addressed relevant risks and issues identified in the Source Evaluation Report; and that the Offer Definition and Improvement Activity Evaluation Report fairly and defensibly reflected the combined outcomes of the detailed evaluation and the Offer Definition and Improvement Activities.

#### *Advisory panel*

2.24 In August 2017, Defence also engaged an advisory panel to conduct a peer review of the competitive evaluation process.<sup>40</sup> The review scope included:

- the process that was followed to assess the consistency of the Source Evaluation Report, the Tender Evaluation Plan and the Request for Tender with the competitive evaluation process;
- delivery of the competitive evaluation process against the Government's requirements to achieve build commencement in 2018; and
- alignment of the competitive evaluation process with the *Naval Shipbuilding Plan*, government requirements and the outcomes of the 2015 (RAND) shipbuilding analysis.<sup>41</sup>

2.25 The advisory panel found that the project 'has generally followed the CEP [competitive evaluation process] defined by Government, with attention to traceability of requirements and evaluation criteria.' The panel also found that the competitive evaluation process had been aligned

40 The Director-General Specialist Ships Acquisition and the Project Director of the OPV program sponsored the advisory panel review and appointed three panel members as specialist advisers, in accordance with the SEA 1180 Phase 1 Tender Evaluation Plan. The advisory panel delivered a written report on its findings in September 2017 and an addendum to the report in October 2017.

41 The OPV program was executed prior to release of the *Naval Shipbuilding Plan* (May 2017), with the commencement of the competitive evaluation process in August 2015.



with the *Naval Shipbuilding Plan*, government requirements and the principles from the 2015 shipbuilding analysis (set out in paragraphs 1.6–1.7). The panel commented that:

The key elements of the NSP [Naval Shipbuilding Plan] and the RAND Report have been incorporated into each step of the CEP [competitive evaluation process] from the AoA [Analysis of Alternatives], to the RRDS [Risk Reduction Design Studies], to the RFT [Request for Tender], to the SER [Source Evaluation Report] and they are now being further addressed as part of ODIA [Offer Definition and Improvement Activities].

2.26 The advisory panel considered the risk of achieving construction commencement in 2018 to be ‘high’, despite the project team revising the schedule risk from ‘high’ to ‘medium’ in the Source Evaluation Report.

### *Arrangements for obtaining legal and probity advice*

2.27 Defence engaged two private law firms during the competitive evaluation process — one to provide general legal advice and the other as probity advisor. The latter reviewed documentation and provided advice on the process to ensure it was conducted in accordance with relevant probity principles.

2.28 Defence sought legal and probity advice on a range of issues, including: contracting arrangements; commercial structures for the program; and the appropriateness of tenderers lobbying or meeting with ministers and Defence executives during the process. As discussed below, Defence also sought probity advice on two identified conflicts of interest.

#### *Probity briefings and management of conflicts of interest*

2.29 The SEA 1180 Phase 1 Offshore Patrol Vessel Legal Process and Probity Plan, dated 3 May 2016, documented that the probity advisors should provide a briefing to all individuals involved in the procurement process on their responsibilities under the plan and other legal requirements as necessary. The probity plan also required all Defence personnel and contractors involved in the procurement process to sign a conflict of interest declaration before accessing any program information.

2.30 Defence documentation indicates that probity briefings were conducted during the Request for Tender period from March 2017 to November 2017. Defence recorded, in a probity register, attendance at these briefings and whether a conflict of interest declaration was obtained. The ANAO’s review of the probity register indicated that 184 personnel and contractors were recorded as attending the probity briefings during this period. Of those 184, Defence did not obtain a conflict of interest declaration form for four personnel and contractors (2.2 per cent). Defence advised the ANAO that three of those four personnel did not participate in the competitive evaluation process despite their attendance at the probity briefings. Defence also advised that the only person out of the four who had involvement in the Request for Tender process did sign a conflict of interest form but Defence was unable to locate it. Two of the people who submitted a declaration to Defence identified a conflict of interest. Defence sought advice from its probity advisors on these cases and established an appropriate treatment plan in each case to address the issues raised.

2.31 Defence’s approach of restricting access to tender evaluation information was not limited to the review team that undertook the July 2017 Independent Assurance Review (discussed at paragraphs 2.16–2.20 above). During the tender evaluation process, Defence declined a request

from the Department of Finance (Finance) to provide it with a copy of the Tender Evaluation Plan. In May 2017 Defence<sup>42</sup> advised Finance in writing that:

Defence considers that the Tender Evaluation Plan forms a significant part of the tender evaluation process and given the evaluation of the OPV RFT [Request for Tender] is ongoing we are unable to release the document to you at this stage. In the interests of maintaining the integrity of the tender process, and consistent with sound well established probity practices, distribution of the evaluation documents of the nature you have requested must remain limited to members of the Defence SEA 1180 Tender Evaluation Organisation at this critical stage of the process.

2.32 Defence also cited the need to manage real or perceived conflicts of interest, given that the Minister for Finance is the shareholder minister for ASC Pty Ltd, a Government Business Enterprise (GBE) and one of the nominated shipbuilders in the competitive evaluation process:

As you would appreciate Defence is rightly concerned about maintaining this integrity, as any breach has the potential to affect the process for all stakeholders involved. The integrity extends to the management of real or perceived conflicts of interest, and in the case of DoF [Finance] its relationship with ASC Shipbuilding Pty Ltd (ASC) and Australian Naval Infrastructure Pty Ltd (ANI).

Noting that ASC are involved in two of the OPV RFT [Request for Tender] responses and that ANI is likely to play a role in relation to the provision of facilities required to build the first two OPV at the Osborne shipyard in SA [South Australia], we request you address how you will actively manage the dual role with respect to the GBE's (ASC, ANI) and advising the Minister/Department Secretary on outcomes from the tender evaluation through to Government approval at Second Pass.

## Did Defence conduct an effective process to identify suitable ship designers to participate in the competitive evaluation process?

Defence conducted an effective process to select three ship designers — Lürssen, Fassmer and Damen — to participate in the competitive evaluation process. Advice to the Government on the viability of available ship designs was informed by a market study and screening process which helped Defence survey the market for an appropriate OPV design, followed by a formal assessment against three risks — capability, cost and risk to commencing construction in 2018.

2.33 Defence's process to identify suitable ship designers to participate in the competitive evaluation process for the OPV program (known as an Analysis of Alternatives) involved:

- a market survey to identify potential ship designs; and
- the down-selection of ship designs that would be presented to government for first pass approval. The designs approved by government would be invited to tender.

### Identifying available ship designs

2.34 In August 2015 Defence contracted an engineering consulting company<sup>43</sup> to conduct a study to identify and evaluate available vessel designs for the OPV program. The purpose of the study was to provide Defence with a comparative selection of vessels to enable it to select up to three OPV designs to progress to the competitive evaluation process.

42 The Director-General Specialist Ships Acquisition and First Assistant Secretary Commercial, Maritime and Reform.

43 BMT Design and Technology Pty Ltd (BMT).

2.35 The study was undertaken in two phases — a market survey and screening, followed by detailed analysis (see Table 2.1).

**Table 2.1: Phase 1 and Phase 2 of study to identify potential ship designs**

| Phase 1: Market survey and screening |  |
|--------------------------------------|--|
| Completed October 2015               | <p>Screening and risk-based assessment of 129 potential ship designs against the following criteria:</p> <ul style="list-style-type: none"> <li>• commencement of build in Australia in 2018;</li> <li>• the vessels must be approximately 80 metres in vessel length, less than 4 metres in draught, and up to approximately 1,800 tonnes in displacement;</li> <li>• the hull is constructed from steel; and</li> <li>• the vessels must have the ability to support an unmanned air system capability.</li> </ul> <p>Seven ship designs progressed to Phase 2 for detailed analysis.<sup>a</sup></p>  |
| Phase 2: Detailed analysis           |  |
| Completed December 2015              | <p>The seven potential ship designs identified in Phase 1 were subject to detailed analysis against the following criteria, to allow Defence to down select up to three designs:</p> <ul style="list-style-type: none"> <li>• <b>capability:</b> the extent to which the ship design meets the primary and secondary roles as intended for the OPV by Defence;</li> <li>• <b>cost:</b> a cost range for the acquisition and through-life cost estimation for each ship design<sup>b</sup>; and</li> <li>• <b>technical risks:</b> the risks in meeting the Government's priorities (relating to schedule achievement, capability and cost), assessed against the following criteria: <ul style="list-style-type: none"> <li>– minimum design change;</li> <li>– schedule risk;</li> <li>– buildability (complexity and methods of construction);</li> <li>– maturity (of design and transferability);</li> <li>– prime contractor capability;</li> <li>– parent navy relationship (with Defence and Navy);</li> <li>– infrastructure;</li> <li>– operations and workforce; and</li> <li>– training.</li> </ul> </li> </ul> |

Note a: A One-Star Capability Development Steering Group reviewed BMT's assessment results from Phase 1 and agreed on the seven ship designs to progress to detailed analysis under Phase 2.

Note b: BMT's cost analysis was based on open source information. The cost estimates provided were high level, indicative costs of each design to enable a comparative assessment of acquisition and through-life cost.

Source: ANAO analysis of BMT documents provided to Defence.

2.36 Phase 2 involved the development of a shortlist of seven ship designs with analysis against Defence's requirements and a risk assessment for each design. In its final report to Defence, the consultant concluded that the 20 De Julio class (Fassmer's ship design) and Darussalam class (Lürssen's ship design) were the most capable and lowest risk platforms. The report stated that:

Both are obvious candidates. They meet the capability requirement well, are modern designs and from well-respected sources.

2.37 The consultant also suggested possible strategies for Defence's down-selection of a third platform. The strategies were: lowest cost; next highest capability; lowest design transfer risk;

potential for a 'box set' (combined approach) with the SEA 5000 Future Frigate program; and existing Australian shipbuilding capacity.

2.38 Prior to conducting a limited tender process, it was sound practice for Defence to undertake a market survey and risk-based analysis. This information informed Defence's understanding of the market of potential ship designers and designs for the OPV program.

### **Selection of ship designs**

2.39 The purpose of the down-selection process was to identify ship designs that would proceed to the next stage of the competitive evaluation process — the Risk Reduction Design Studies. The studies were intended to enable Defence to better understand the cost and schedule risks associated with making changes to the reference ship designs (base designs) of the down-selected ship designers. To down-select the ship designs, the OPV Integrated Project Team assessed the seven potential ship designs from the consultant's study. Its assessment and recommendations were then considered by the Defence Capability Development Steering Groups (discussed above).<sup>44</sup>

#### *Integrated Project Team's assessment*

2.40 The Integrated Project Team's Summary Report for SEA 1180 Phase 1 Offshore Patrol Vessel Analysis of Alternatives (19 January 2016) advised the delegate<sup>45</sup> that the seven ship designs identified in the consultant's study had been assessed against identified risks (these were risks to schedule achievement, capability and cost). The report also outlined the three stages of assessment undertaken:

- Stage 1: Schedule achievement risk assessment.
- Stage 2: Capability risk assessment.
- Stage 3: Capability versus cost risk assessment (to determine if cost might be a discriminator).

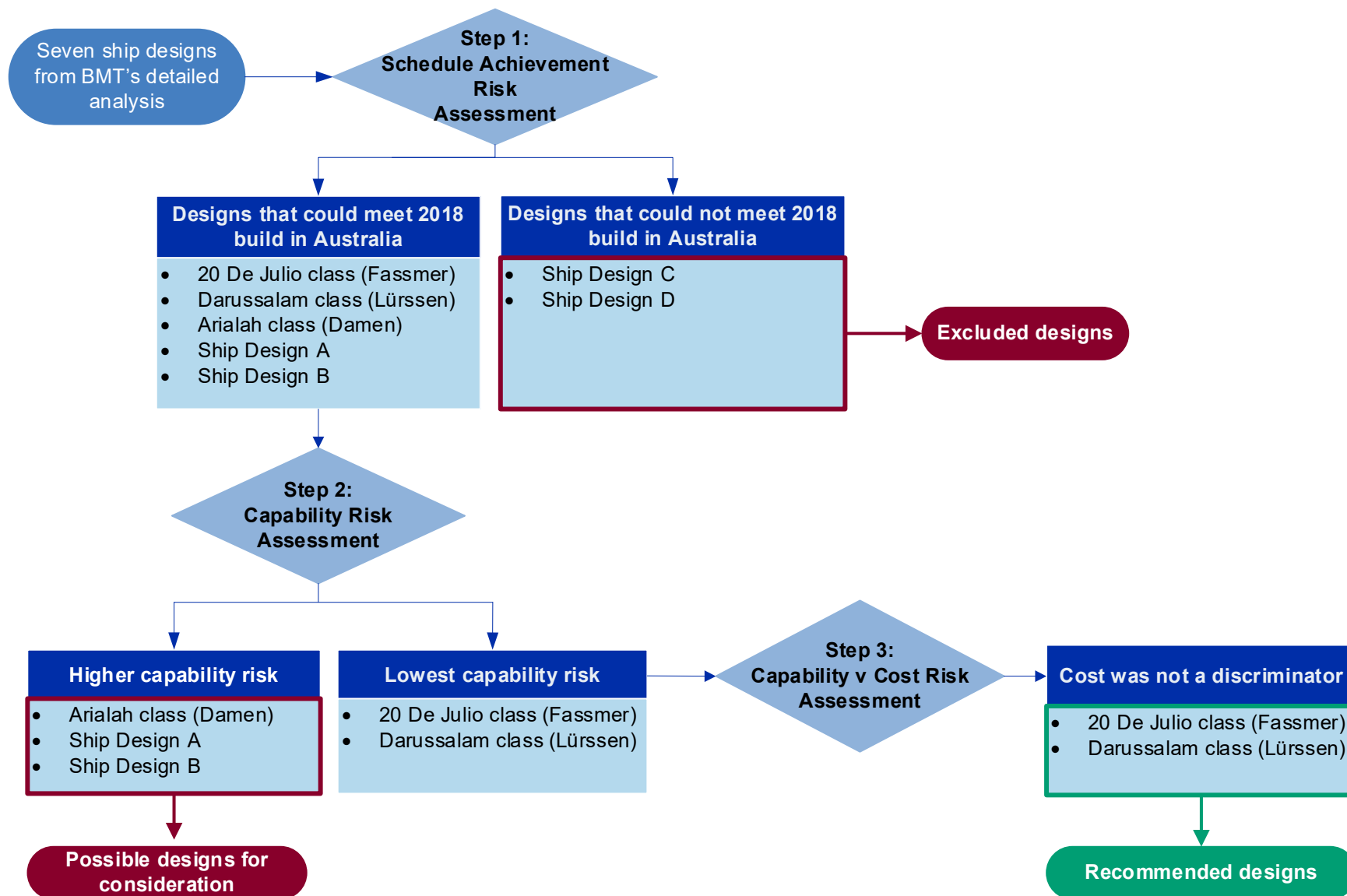
2.41 Figure 2.2 summarises the outcomes of the OPV Integrated Project Team's assessment of the seven potential ship designs.

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44 When the Analysis of Alternatives was conducted, Defence's internal organisational structure, comprising the One-Star, Two-Star and Three-Star Capability Development Steering Groups, was still operating. These groups were later replaced by the current One-Star Program Steering Group and the Two-Star and Three-Star Capability Manager's Steering Groups.

45 The Director-General Specialist Ships Acquisition.

Figure 2.2: OPV Integrated Project Team's assessment



Source: ANAO analysis of Defence documentation.

2.42 As shown in Figure 2.2, the OPV Integrated Project Team assessed that the Darussalam class (Lürssen) and the 20 De Julio class (Fassmer) were the most viable designs that offered the lowest risk to schedule achievement and capability. In terms of cost<sup>46</sup>, the OPV Integrated Project Team determined that there was little difference between the ship designs considered in the consultant's Phase 2 detailed analysis (discussed in Table 2.1). Further, it was assessed that cost was not a discriminator for the Lürssen and Fassmer vessels. The OPV Integrated Project Team stated that:

Based on Reference A [consultant's Analysis of Alternatives Report] and Project Office analysis it is clear that the Darussalam and 20 De Julio Classes are the best candidates to participate in the RRDS [Risk Reduction Design Studies], with the other designs presenting significant risks in at least one of the risk categories.

2.43 On 19 January 2016 the OPV Integrated Project Team recommended that two designs — the Darussalam class and 20 De Julio class — be progressed in the competitive evaluation process. It stated that:

Progressing only two (2) designs to the RRDS [Risk Reduction Design Studies] would provide advantages to both project cost and schedule risk, as well as present an opportunity to develop a deeper understanding of the candidate designs.

Should a third candidate be required for the RRDS then the design selected will depend upon a discriminator or criteria determined by the steering group in order to justify the design's inclusion in the RRDS. There is no clear standout candidate under the AoA [Analysis of Alternatives] assessment process as outlined here and at Reference A [consultant's Analysis of Alternatives Report].

2.44 The OPV Integrated Project Team's report to the delegate also included advice anticipating that a third option might be required. The report included the three remaining shortlisted designs that could meet Defence's required 2018 build schedule — the Arialah class, Ship Design A and Ship Design B — for consideration. The three designs assessed as potentials for consideration as a third option all met the threshold capability requirement.

2.45 On 19 January 2016, the delegate gave approval for two ship designs — the Darussalam class and 20 De Julio class — to progress to Risk Reduction Design Studies. The delegate commented that a third option 'is not justified unless a senior stakeholder supports the argument'.

### *Defence Capability and Investment Committee*

2.46 Before the Defence Capability and Investment Committee<sup>47</sup> met to consider Defence's advice to government, the options were canvassed internally by Navy (the capability sponsor, via the One-Star, Two-Star and Three-Star Capability Development Steering Groups), Defence Contestability Division and within CASG. Issues considered as part of this process included progressing three ship design options, so as to maintain competitive tension in the process and to help manage risk.

2.47 Affordability was also an area of concern. Based on the consultant's cost estimation, the two ship designs identified as most viable for progression in the Australian context — the Darussalam

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46 An OPV project cost modelling team reviewed the cost estimates provided by BMT and recommended that the acquisition cost and through-life cost were indicative costs only and should not be considered absolute.

47 The committee was chaired by the Secretary of Defence and ensured that Defence resourcing, including capital investment and operating costs, was consistent with its strategic priorities and resourcing strategy.

class (Lürssen) and the 20 De Julio class (Fassmer) — were both high cost options. Defence advised the ANAO that:

The Fassmer and Lürssen designs were within the IIP [Integrated Investment Program] provision but closer to the provision cap suggesting the need to ensure a low cost risk option was available that whilst presenting a higher capability risk provided greater certainty that the Industry Solicitation pre Gate 2 [second pass] would provide a viable and affordable option within the IIP [Integrated Investment Program] provision.

2.48 This process resulted in a proposal that the Defence Capability and Investment Committee present a broader range of options to the Government, to offer the opportunity for cost and capability trade-offs to be considered. It was proposed that the options to be provided for government consideration include the two ship designs considered most viable for Australian needs — the Darussalam class and the 20 De Julio class — and three further potential ship designs — the Aialah class, Ship Design A and Ship Design B.

2.49 On 22 February 2016, the Defence Capability and Investment Committee met to consider the proposed designs to be recommended to government at first pass. The Chief of Navy advised the committee that the two most viable designs for Australian needs, to be progressed through the competitive evaluation process, were the Darussalam class (Lürssen) and the 20 De Julio class (Fassmer), and that the three other options offered a range of cost, schedule and risk trade-offs. Chief of Navy also indicated that between first and second pass, trade-offs would need to be made between capability, cost and risk in order to meet the Government's requirement to commence construction in 2018. The committee meeting outcome was agreement that:

... the proposed Darussalam (Lurssen) and 20 De Julio class (Fassmer) and the Aialah be recommended to Government as viable options for progression through the next stage of the SEA 1180 Phase 1 Competitive Evaluation Process post First Pass scheduled for May 2016 ...

### **Advice to government at first pass**

2.50 On 17 April 2016, Defence Ministers proposed that the Government approve the progression of three ship designs to the next stage of the competitive evaluation process:

- Darussalam class (Lürssen);
- 20 De Julio class (Fassmer); and
- Aialah class (Damen).

2.51 The Government was informed that the Lürssen and Fassmer designs were the most viable to meet the 2018 build schedule and capability requirements. The Government was also informed that while the two designs had a higher cost, they were likely to be affordable within the Integrated Investment Program provisions. It was further proposed that the Damen design be included as it was lower cost, while also noting that it had lower but acceptable capability in terms of Australian requirements and was a medium risk to 2018 build schedule achievement.

### **Government first pass approval**

2.52 On 17 April 2016, the Government provided first pass approval to progress the three selected ship designers to Risk Reduction Design Studies, finalise the competitive evaluation process and develop a business case for second pass, at an approved cost of \$46.6 million.

## Did Defence conduct an effective tender evaluation process that supported the achievement of value for money outcomes?

Defence conducted an effective tender evaluation process that supported the achievement of value for money outcomes. The tender process was preceded by a design risk reduction process which required the three invited tenderers to refine their offers and establish the baseline ship design to be proposed in their responses to the request for tender. The tender evaluation process documented in the Tender Evaluation Plan was applied consistently across the three tenders and reporting to the delegate in the Source Evaluation Report aligned with the findings in the Tender Evaluation Criteria Reports and outlined the results of the value for money assessment. The tender evaluation process addressed the essential criteria and requirements that the Government had set for the program.

2.53 To select a preferred tenderer, Defence:

- conducted Risk Reduction Design Studies which commenced in May 2016 (prior to the Request for Tender being issued);
- issued a Request for Tender to the three shortlisted designers on 30 November 2016, with responses due by 30 March 2017<sup>48</sup>; and
- conducted an evaluation of tenders against the Tender Evaluation Plan from 4 April 2017 to 30 June 2017. The Tender Evaluation Plan was finalised in March 2017 and set out the framework, criteria and process for evaluating the tenders.<sup>49</sup>

2.54 The results of the tender evaluation process were documented in Defence's SEA 1180 Phase 1 Source Evaluation Report.

2.55 To assess the effectiveness of Defence's tender evaluation process and whether the process supported the achievement of a value for money outcome, the ANAO examined whether Defence:

- implemented the documented tender evaluation process; and
- addressed all the essential criteria and requirements set by the Government in its evaluation of the three shortlisted designs.

### Risk Reduction Design Studies

2.56 Following first pass approval, Risk Reduction Design Studies were conducted with the three shortlisted ship designers in May 2016. The purpose of the Risk Reduction Design Studies was to enable Defence to better understand the cost and schedule risks associated with making changes to the three reference ship designs (base designs) to meet essential capability requirements and mandated Australian legislative and regulatory requirements.

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48 While the Commonwealth Procurement Rules impose conditions on conducting limited tenders, they also give accountable authorities the discretion to determine necessary measures to exempt a procurement from the conditions. Under the Defence Procurement Policy Manual, the Secretary of Defence has exercised discretion to determine that a measure is necessary for the protection of essential security interests for the procurement of some 29 types of goods and services to be categorised as Defence Exempt Procurements, and to which the Commonwealth Procurement Rules on limited tender do not apply. In this instance, Defence pursued a limited tender on the basis that the OPV qualified as a Defence Exempt Procurement, under the category of 'Ships, Small Craft, Pontoons and Floating Docks'.

49 The nine tender evaluation criteria are provided in Appendix 3 (Table A.1) of this audit report.



2.57 The Risk Reduction Design Studies required the three ship designers to refine and change only those aspects of their reference ship design that were necessary to address the essential requirements in the Threshold Requirements List. Each designer's modified variant of their reference ship design from the Risk Reduction Design Studies became the baseline ship design to be proposed in their response to the Request for Tender.

## Evaluation of tenders

2.58 Tenders were received from each of the three ship designers, who were invited to tender for: the design and construction of the vessels; and the design, development and construction or procurement of the support system components and training.

2.59 The Request for Tender required each designer to partner with an experienced Australian shipbuilder (either under a joint venture arrangement or as an approved subcontractor) to undertake the build program. The ship designers proposed the following commercial structures:

- Damen — proposed to be the prime contractor and to subcontract shipbuilding to ASC/Forgacs JV, a joint venture between ASC Shipbuilding Pty Ltd (ASC) and Forgacs Marine and Defence Pty Ltd (Forgacs).<sup>50</sup>
- Fassmer — proposed the establishment of AustalFassmer Pty Ltd, an incorporated joint venture between Austal Limited (Austal) and Fassmer Australia Pty Ltd (a wholly owned subsidiary of Fassmer Germany). AustalFassmer Pty Ltd would be the prime contractor and would subcontract design support to Fassmer Australia, and design and build of the vessels to Austal.
- Lürssen — proposed to be the prime contractor and to subcontract shipbuilding to ASC/Forgacs JV (the same joint venture supporting Damen's bid).

2.60 The tender evaluation was conducted from April 2017 to June 2017. The process set out in the Tender Evaluation Plan included:

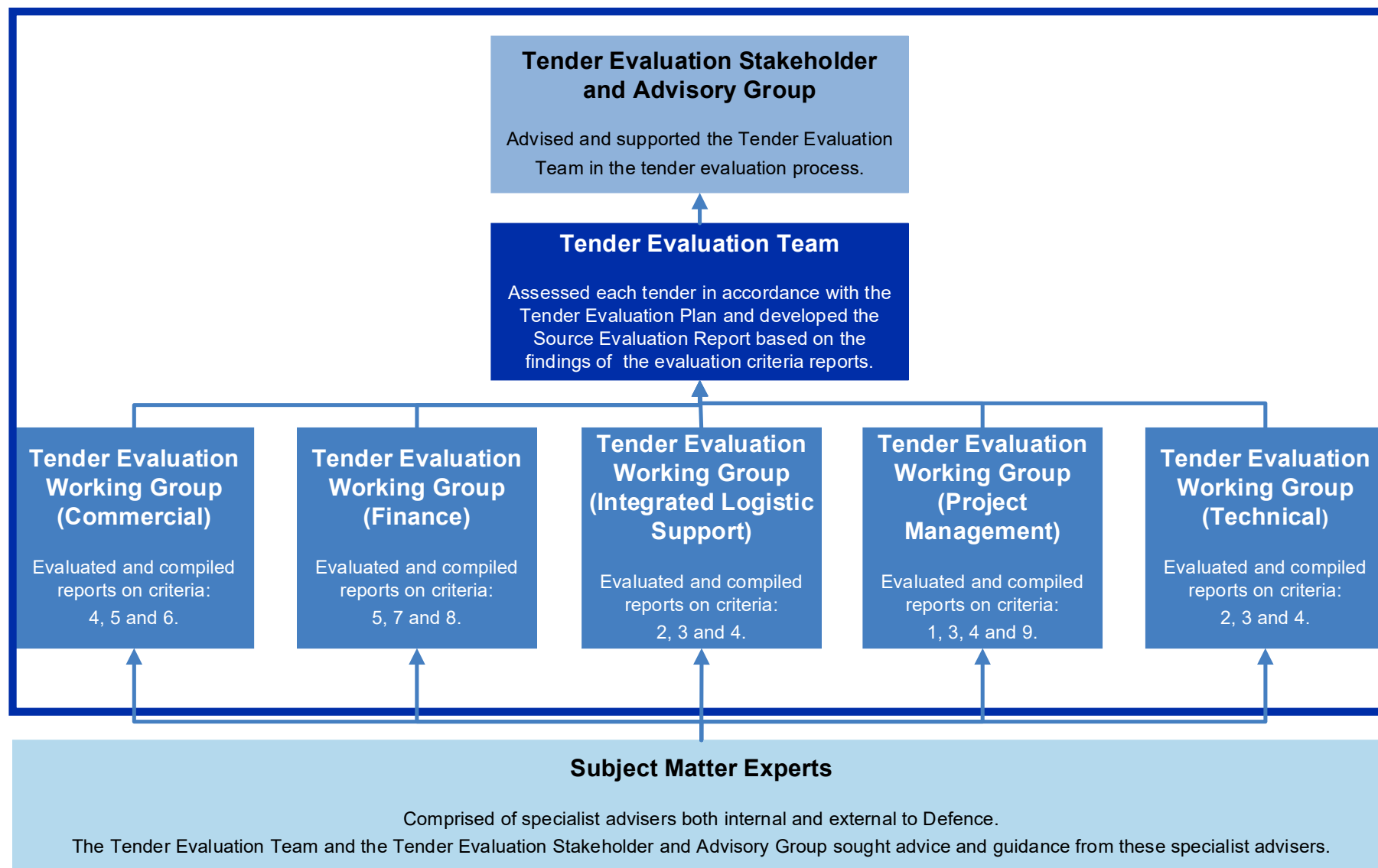
- screening tenders to ensure that the Conditions of Tender had been met. The conditions included minimum content and format requirements, conditions for participation, and essential requirements;
- assessing the tenders against the evaluation criteria;
- assessing the value for money offered;
- advising the delegate of the assessment outcomes; and
- conducting Offer Definition and Improvement Activities.

2.61 Defence established a Tender Evaluation Organisation, as illustrated in Figure 2.3, for the conduct of the tender evaluation. The results of the tender evaluation were consolidated into the Source Evaluation Report. The report presented the results from the tender evaluation, including an assessment of value for money, and included recommendations to the source evaluation delegate (the Director-General Specialist Ships Acquisition).

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<sup>50</sup> Forgacs is a wholly owned subsidiary of Cimvec Construction & Engineering Pty Ltd (Cimvec). Cimvec acquired Forgacs in February 2016, including its shipyard facilities and assets at Tomago, New South Wales.

**Figure 2.3: Tender Evaluation Organisation structure**



Source: ANAO analysis of Defence documents.

### *Screening tenders to ensure that the Conditions of Tender had been met*

2.62 The Tender Evaluation Team completed its initial screening in April 2017. Each tender was screened against the conditions of: minimum content and format requirements; conditions for participation; and essential requirements. The screening report included a checklist demonstrating Defence's assessment against each condition and recommended that all three tenderers progress to detailed tender evaluation on the basis that they met all the required conditions.

2.63 The delegate (Director-General Specialist Ships Acquisition) was advised in the Screening Report for SEA 1180 Phase 1 RFT that all tenders were assessed as acceptable, complete and received by the due date.

### *Assessment of tenders against the evaluation criteria*

2.64 Each Tender Evaluation Working Group was assigned specific tender evaluation criteria (see Figure 2.3).<sup>51</sup> The evaluation criteria were weighted equally with responses assessed for compliance against the relevant requirements specified<sup>52</sup> and the level of risk<sup>53</sup> associated with meeting the evaluation criterion. The relevant Tender Evaluation Working Groups were also to consider the information and findings from navy-to-navy engagements<sup>54</sup> when evaluating the tenders. The results of the assessment were documented in a Tender Evaluation Criteria Report, with each report setting out the relevant evaluation working group's analysis on the strengths and weaknesses of each of the three tenders, and the compliance and risk assessments conducted.

2.65 The ANAO's review of Defence's tender evaluation indicates that a consistent evaluation approach was applied in assessing each tender against the evaluation criteria and assessing risks and benefits associated with each of the three tenders.

Advice from the Tender Evaluation Stakeholder and Advisory Group (TESAG)

2.66 The Tender Evaluation Stakeholder and Advisory Group's role was to provide advice and guidance to the Tender Evaluation Team (see Figure 2.3). The Source Evaluation Report states that advisory group meetings 'were found to be not required during the tender evaluation phase because no significant issues requiring TESAG advice arose'.

2.67 The Tender Evaluation Plan scheduled a review by the advisory group of the draft Source Evaluation Report before it was submitted to the source selection delegate for review and approval. Defence advised the ANAO that three meetings were convened to brief the advisory group on the assessment outcomes. The advisory group requested that the evaluation teams conduct further analysis on the following matters:

- past performance of the ship designers and shipbuilders;

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51 The Source Evaluation Report stated that each Tender Evaluation Working Group member only had access to tendered data that was required to assess their specific evaluation criteria. This approach aimed to keep the assessments independent of external influence as well as 'suppressing bias and preventing the skewing of baseline results'.

52 The three compliance ratings used in the evaluation were: *Exceeds*; *Compliant*; and *Deficient*.

53 The risk levels used in the evaluation were: *Extreme*; *High*; *Medium*; and *Low*.

54 That is, information collected by Navy on the reference ship designs from other navies, including from an operational perspective.

- the maturity of the 3D CAD<sup>55</sup> models developed by the ship designers for production of the ship designs;
- the usage upkeep cycle of the three ship designs;
- the stability of the AustalFassmer proposed ship design; and
- the integrity of the labour rates applied by the tenderers.

2.68 The findings were included in the Source Evaluation Report.

Results from the tender evaluation

2.69 The Source Evaluation Report was structured around four core themes that underpinned the competitive evaluation process. The report's authors stated that the four core themes were inherent in the nine tender evaluation criteria, and aligned directly with the objectives of the OPV program. The four core themes were<sup>56</sup>:

- vessel capability — technical and operational;
- continuous naval shipbuilding capability and capacity — commencing build in 2018, delivering the OPVs and developing an enhanced legacy;
- costs and affordability of the OPV program; and
- ability to execute, govern and manage the OPV program.

2.70 The ANAO's review indicated that the consolidated findings in the Source Evaluation Report aligned with the findings in the Tender Evaluation Criteria Reports prepared for the nine evaluation criteria.

2.71 Defence assessed that the Lürssen bid achieved the top ranking for 'vessel capability' and 'continuous naval shipbuilding capability and capacity'. Damen's bid was ranked equal top for 'continuous naval shipbuilding capability and capacity'.

### *Assessment of value for money*

2.72 The Tender Evaluation Plan stated that a value for money assessment would be undertaken against the nine tender evaluation criteria, with comparisons to be made on the cost, benefits and risks presented by each of the three tenders. In terms of the approach taken to assess value for money, the Source Evaluation Report stated that:

A primary aim of the evaluation process is to determine the tender(s) that are within the IIP [Integrated Investment Program] available and also provide value for money to the Commonwealth. However, it is very important to recall that cost is not the sole determining factor in assessing value for money – this is because 'cost' only relates to the 'money' portion of the value-for-money comparison, while the 'value' portion is assessed through a consideration of benefits (i.e. the level of compliance with the requirements of the procurement) and risks associated with each tender.

It was therefore decided to first compare the two tenders that had the closest tendered prices (being Damen and AustalFassmer) to ascertain their relative value propositions. Given the outcome of that comparison, AustalFassmer was then compared with Lürssen (which had the

55 The acronym '3D CAD' stands for three-dimensional computer aided design.

56 Further detail on the core themes relevant to each tender evaluation criterion are in Appendix 3 (Table A.1) of this audit report.

highest tendered price) to determine the additional value that would be received by the Commonwealth if it paid the additional cost tendered by Lürssen.

2.73 All three tenders were assessed to be affordable within the Integrated Investment Program provision.

2.74 Lürssen was assessed as presenting less risk and better performance in terms of: vessel capability; delivery of continuous naval shipbuilding capability; and program governance and management. The value for money assessment determined that the Lürssen bid would deliver the best value to the Government. The Source Evaluation Report stated that:

The Lürssen proposal therefore genuinely offers distinct advantages (i.e. additional value) over the AustalFassmer proposal – including a superior capability, a sound prime contracting model, program management and shipbuilding proposal, along with a modern purpose built facility.

### *Advice to the delegate*

2.75 The Source Evaluation Report contained advice to the source evaluation delegate (Director-General Specialist Ships Acquisition) that:

The Lürssen tender offers an acceptable risk profile and better performance against the core CEP [competitive evaluation process] themes in comparison to the AustalFassmer and Damen tenders. However, that advantage logically comes at an increased cost.

2.76 The Source Evaluation Report and the associated recommendations were approved by the delegate on 14 July 2017. The Tender Evaluation Team recommended that Offer Definition and Improvement Activities be conducted to reduce risks of non-compliance and to better define aspects of the tenders to facilitate the selection of a preferred tenderer for contract negotiations.

### *Offer Definition and Improvement Activities*

2.77 The three tenderers were invited to participate in Offer Definition and Improvement Activities to resolve 'issues relating to contractual non-compliance, commercial/contracting structures and limited engineering options, as might be required.' At the end of these activities in September 2017, Defence concluded that Damen should not be further considered as it was less competitive in comparison to the other two tenders.<sup>57</sup>

2.78 The Offer Definition and Improvement Activity Evaluation Report, dated September 2017, recommended that:

... the two tenders from Lürssen and AustalFassmer be not set aside and be further considered by Defence in its recommendations to Government. The recommendations to Government should include that ... the Lurssen [sic] tender is the most capable but is the highest priced offer ...

2.79 Defence also concluded in the Offer Definition and Improvement Evaluation Report that:

Lürssen offers the capability that best meets the requirements of the FPS [Function and Performance Specification] but at the highest price.

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57 Following reviews of these activities, both the procurement assurance review team and the SEA 1180 advisory panel reached the same conclusion, that Damen should not be further considered.

AustalFassmer offers a lesser capability to Lürssen and does not meet all of the essential criteria<sup>58</sup> but has the lowest price of all tenderers.

2.80 The ANAO's review indicates that the tenders were evaluated in accordance with the Tender Evaluation Plan and the results were supported by tendered data. The evaluation process also had regard to Navy's engagement with foreign navies and outstanding issues were addressed through the Offer Definition and Improvement Activities. The conclusions of the Source Evaluation Report and the Offer Definition and Improvement Activity Evaluation Report regarding platform selection formed the basis of the submission to government for second pass approval.<sup>59</sup>

### **Addressing the Government's essential criteria and requirements**

2.81 The ANAO reviewed the extent to which Defence's approach to evaluating the three shortlisted designs addressed the essential criteria and requirements set by the Government.

2.82 Defence's approach to ensuring compliance with essential government criteria and requirements had the following key features:

- Defence developed a Threshold Requirements List in April 2016 within the context of an off-the-shelf capability solution with minimum change to the ship design. The list consisted all of the essential requirements (comprising regulatory, legislative and the minimum set of Navy's capability requirements) specified in the Function and Performance Specification.
- The Risk Reduction Design Studies required the three ship designers to refine and change only those aspects of their reference ship design that were necessary to address the essential requirements in the Threshold Requirements List. Defence would only accept those design changes that were required to meet Australian regulatory and legislative requirements.
- Each designer's modified variant of their reference ship design from the Risk Reduction Design Studies became the baseline ship design to be proposed in their tender response. This requirement was reinforced under the conditions of the Risk Reduction Design Studies and Request for Tender.
- The Request for Tender made clear that the tenderer's proposed ship design developed through the Risk Reduction Design Studies would be incorporated as the baseline that would be applied to evaluate the tenderer's solution against Defence's requirements for the OPV capability.
- Prior to release of the Request for Tender, Navy undertook navy-to-navy discussions with other nations that operated the three OPV reference ship designs under consideration. These engagements occurred from June 2016 to December 2016. Sea rides and vessel inspections were undertaken to assist Navy in understanding the capabilities and

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58 ANAO comment: the 'essential criteria' refer to the specific capability requirements of the Royal Australian Navy for the OPVs.

59 Defence's tender evaluation was against its specific criteria relating to ADF and Australian Government requirements. The outcome of tender processes conducted by other potential purchasers of the tendered solutions, against different criteria, may well differ from the outcomes of this Defence process.

limitations of the reference ship designs.<sup>60</sup> Findings from these engagements were considered in the tender evaluation.

2.83 Table 2.2 indicates whether Defence's tender evaluation criteria addressed the Government's essential criteria and requirements.

**Table 2.2: Analysis of extent to which the Government's essential criteria and requirements were addressed in the tender evaluation criteria**

| Essential government criteria and requirements   | Addressed | Relevant criteria                       |
|--|-----------|---|
| Essential criteria for the successful ship design  |           |   |
| Be buildable in Australia within project budget and starting in 2018.  | Yes       | Addressed in criteria 3, 4 and 8.       |
| Be an off-the-shelf option that is proven in service (defined as previously built and used in service by another navy, coast guard or in commercial shipping).                               | Yes       | Addressed in criterion 2.               |
| Meets Navy's capability requirements.  | Yes       | Addressed in criterion 2.               |
| Be able to accommodate communications and combat management systems compatible with the Navy's surface fleet, and comply with applicable Australian legislative and regulatory requirements. | Yes       | Addressed in criterion 2.               |
| Be based on a steel hull.  | Yes       | Addressed in criteria 2 and 5.          |
| Have a maximum displacement of approximately 1,800 tonnes and a maximum length of approximately 80 metres.   | Yes       | Addressed in criteria 2 and 5.          |
| Be supportable in Australia for operation and sustainment.   | Yes       | Addressed in criteria 1, 2, 3 and 4.    |
| Requirements for the successful ship designer and shipbuilder  |           |   |
| Maximise Australian shipbuilding jobs.   | Yes       | Addressed in criteria 1, 3, 4 and 5.    |
| De-risk the Hunter class frigate project.  | Yes       | Addressed in criteria 1, 3 and 4.       |
| Maximise opportunities for Australian industry.  | Yes       | Addressed in criteria 1, 3 and 4.       |
| Support implementation of the principles in the 2015 shipbuilding analysis.  | Yes       | Addressed in criteria 1, 2, 3, 4 and 5. |

Note: The nine tender evaluation criteria are reproduced in full in Appendix 3 (Table A.1) of this audit report.

Source: ANAO analysis of Defence documentation.

## Did Defence provide appropriate advice to ministers to inform second pass approval?

Defence's approach to advising its ministers, to inform their submission to government for second pass approval, was not appropriate as it did not include a clear recommendation on the

<sup>60</sup> Sea rides occurred on the Fassmer vessel operated by the Colombian and Chilean Navies, and the Lürssen vessel operated by the Royal Brunei Navy. Due to access limitations placed by the United Arab Emirates Coast Guard, Navy inspected the Damen vessel but did not participate in any sea rides.

preferred design and did not offer its ministers an opinion on its assessment of value for money — a core departmental function in procurement. There were shortcomings in Defence's documentation of the basis of its advice to its ministers to also include Austal as a potential shipbuilder for the Lürssen design.

2.84 Defence prepared and submitted a draft second pass submission (dated November 2017) to the Minister for Defence and Minister for Defence Industry for their consideration. The draft submission was informed by the outcome of the competitive evaluation process, with input from Navy as the capability sponsor. Defence advised the ANAO that the draft submission went through iterations as it was reviewed by various Defence committees and senior Defence officials. Defence also advised that to maintain strict confidentiality protocols under probity rules, the project team did not inform Defence Ministers or their staff of the findings in the Source Evaluation Report prior to development of the draft submission.<sup>61</sup>

### **Recommendation of two viable acquisition options**

2.85 In Defence's draft submission and the Defence Ministers' final submission to government, two acquisition options were recommended as viable — Lürssen and Fassmer. In its advice to Defence Ministers covering the draft submission, Defence indicated that:

Both the Department of Finance and [the Department of the] Prime Minister and Cabinet requested the [Defence] Department identify a preferred option. As per your previous advice, this change has not been made.<sup>62</sup>

2.86 A core function of departments of state is to provide substantive advice to responsible ministers, to inform governmental decision-making. In this case, Defence's competitive evaluation process had concluded that the Lürssen tender was the most capable but was the highest priced offer. Defence should have offered its ministers an opinion on its assessment of value for money in the circumstances. Having first received frank advice from departmental officials<sup>63</sup>, it is a ministerial decision whether or not to have regard to that advice in settling a submission for the consideration of government colleagues.<sup>64</sup>

### **Second pass approval**

2.87 Consistent with the outcomes and findings from the tender evaluation and Offer Definition and Improvement Activities, the Government was advised in the minister's submission that:

- the contract costs for all three options (Lürssen, Fassmer and Damen) were affordable within the Integrated Investment Program provision;

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61 As discussed in paragraph 2.92, Defence advised the Parliament in 2018 that it had discussed industry options with Defence Ministers.

62 Defence could not provide the ANAO with any record documenting the instruction from Defence Ministers.

63 Subsection 10(5) of the *Public Service Act 1999* provides that: 'The APS is apolitical and provides the Government with advice that is frank, honest, timely and based on the best available evidence.'

64 It is also noteworthy in this context that the relevant *Cabinet Handbook* indicated that submissions 'must include a clear recommended course of action supported by concise arguments that establish the rationale for the recommended option.' The approach adopted for this submission to government was inconsistent with that guidance. See Commonwealth of Australia, Department of the Prime Minister and Cabinet, *Cabinet Handbook 10th Edition*, Canberra, 2017, p. 19.



- Lürssen met all the essential requirements and offered the highest capability. It presented low risk to achieving a 2018 build commencement and had the highest cost;
- Fassmer offered a lesser capability compared to the Lürssen option and did not meet all the essential Australian requirements. It presented high risk to commencing construction in 2018. It was the lowest priced tender out of the three;
- both Lürssen and Fassmer had viable transition plans to move production from South Australia to Western Australia, with Lürssen assessed as having a medium transition risk and Fassmer having a low transition risk; and
- Damen was not a viable option for Australia in comparison with the other two options and should be excluded from further consideration.

2.88 The submission to government also indicated that should Lürssen be selected as the prime contractor, there was an opportunity to improve the value for money of the construction in Western Australia during contract negotiations. This could be achieved by Lürssen leveraging a wider use of the industrial capability and capacity available at Henderson, which would potentially involve incorporating a role for Austal in the OPV build program.<sup>65</sup> The submission indicated that if this option could not be achieved, Defence would revert to contracting with Lürssen for the construction of 12 OPVs based on Lürssen's original tender offer.

2.89 On 24 November 2017, the Government provided second pass approval for the OPV program and selected Lürssen as the successful prime contractor for the design and build of the OPVs. The Government agreed to:

- commence building the first two OPVs in South Australia in 2018;
- build the remaining 10 OPVs in Western Australia from 2020; and
- potentially incorporating a role for Austal, without delaying build commencement in 2018.

2.90 The Government announced the following day that:

The Navy's OPVs will be the Lürssen design utilising ASC Shipbuilding in Adelaide for the construction of the first two ships.

The project will then transfer to the Henderson Maritime Precinct in WA where Lürssen will use the capabilities of Austal and Cvmec to build ten OPVs, subject to the conclusion of commercial negotiations.<sup>66</sup>

2.91 Austal's possible inclusion as a shipbuilder in the delivery of the Lürssen design had not been documented in the Source Evaluation Report or the Offer Definition and Improvement Activity Evaluation Report. Defence advised the ANAO that the option of involving Austal was developed as the draft submission was reviewed and iterated by various Defence committees and senior Defence officials over time. Defence did not retain agenda papers or minutes of all relevant committee

<sup>65</sup> The Government was advised that Austal had expressed concerns over its commercial viability in Australia if it was unsuccessful in securing the OPV contract. However, Defence was of the view that Austal's success in the commercial and defence shipbuilding sectors demonstrated that it was able to remain viable.

<sup>66</sup> Prime Minister, Minister for Defence and Minister for Defence Industry, 'Hundreds of Australian jobs created in Offshore Patrol Vessel project', media release, 25 November 2017, available from <https://www.minister.defence.gov.au/minister/christopher-pyne/media-releases/joint-media-release-prime-minister-minister-defence-and> [accessed 22 September 2020].

meetings nor any previous iterations of the draft submission to document development of the Austal option.<sup>67</sup> The ANAO's review of available relevant Defence documentation identified one reference to such an option, in the minutes of the Three-Star Capability Manager's Steering Group meeting on 26 July 2017:

Following DG [Director-General] Littoral and HNC [Head of Navy Capability] outlining the remainder of the briefing pack (Slides 17-21), DEPSEC [Deputy Secretary] CASG indicated that from his experience Government will ask why an overseas designer/builder would be preferred over Austal in contributing to CNSB [continuous naval shipbuilding] capability.

DEPSEC CASG emphasised that Defence needs to ensure it has an executable program if government directs us to take an alternate tendered option. DGSSA [Director-General Specialist Ships Acquisition] explained that the Sponsor and project are doing this work and taking this approach.

2.92 Defence advised the Parliament in 2018 that it had discussions with its Ministers in the weeks preceding second pass approval regarding the option to involve Austal in the Henderson build.<sup>68</sup> In the course of this audit Defence advised the ANAO that, upon checking with the relevant business area within CASG, it was established that there are no records of such discussions with Defence Ministers.

2.93 Defence also advised the ANAO that the Austal option was developed to mitigate the risk in relation to workforce availability in Western Australia, as identified in Lürssen's tender responses relating to its workforce proposals for Western Australia. Defence advised the ANAO that:

Whilst individual analysis occurred on Damen, Fassmer and Luerksen's workforce proposals during the RFT [Request for Tender] responses evaluation, a holistic view of the potential workforce opportunities to mitigate the risk of individual companies workforce pressures to meet the demand of OPV builds in WA (builders either Austal or Cimmec/Foragacs) could utilise the broader Henderson Precinct workforce was under consideration in the submission.

2.94 Following the Government's second pass decision, Luerksen entered into negotiations with Austal but did not reach agreement. Luerksen concluded its commercial negotiations with Austal in May 2018 and confirmed that Austal would not be its build partner in the construction of the OPVs. Luerksen announced that: 'Despite being provided more time than any other contractor, Austal has not submitted a revised bid representing an acceptable value for money [outcome]'.<sup>69</sup>

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67 Defence records indicate that various committee meetings were held in the months (between July 2017 and October 2017) leading up to the OPV second pass approval. In a document in relation to the 27 September 2017 Extraordinary Defence Committee meeting, it was stated against the agenda item on OPV that 'Due to probity issues, SEA 1180 Offshore Patrol Vessels paper was delivered by Navy to members only'. The ANAO's review of the available committee papers, minutes and extracts of meeting outcomes provided by Defence indicates that various committees had requested that amendments be made to the draft submission and discussed changes to the submission. However, with the exception to the reference at paragraph 2.91 above, the information reviewed did not outline the changes made, demonstrate the development of the Austal option or document the rationale for the option.

68 Department of Defence answer to question on notice no. 22, 'Austal-Lürssen Negotiations', dated 14 August 2018, to Senator Kim Carr. Defence took this question on notice at the 29 May 2018 Budget Estimates hearings of the Senate's Foreign Affairs, Defence and Trade Legislation Committee.

69 Luerksen Australia, 'Luerksen Australia concludes negotiations with SEA 1180 build partners', media release, 7 May 2018, available from <https://luerksen.com.au/wp-content/uploads/2018/07/2-07052017-Luerksen-Australia-concludes-negotiations-with-SEA1180-build-partners.pdf> [accessed 22 September 2020].

2.95 The requirement that Lürssen seek to incorporate Austal in the Henderson build was an additional condition and potential cost imposed on Lürssen, which had tendered on the basis that it would be the prime contractor and would subcontract shipbuilding to ASC/Forgas JV (see paragraph 2.59 above). The terms of Defence's Request for Tender did not state that Defence had a right to restructure tenderers' contracting or commercial arrangements<sup>70</sup>, and there was a lack of transparency and documented evidence for the introduction of this additional condition. The consequences of this intervention in the documented tender process included:

- additional effort and potential cost to Lürssen, arising from the need to enter into commercial negotiations with Austal and the need to restructure its proposed commercial arrangements<sup>71</sup>;
- subsequent delay in Lürssen achieving the milestones for two Integrated Baseline Reviews<sup>72</sup>; and
- potential reputational risk to Defence and the Australian Government resulting from the introduction of additional conditions late in the procurement process.

2.96 In future procurements, Defence should document and retain evidence and advice regarding the imposition of additional conditions on successful tenderers late in a platform selection process.

## Recommendation no.2

2.97 That Defence, consistent with requirements to maintain Commonwealth records, document and retain all evidence and advice regarding its decision-making in procurement.

**Department of Defence response:** *Agreed.*

2.98 *Defence will review its senior executive record keeping processes in support of the committee process to address the concern raised that all evidence and advice regarding decision making during procurement is retained.*

70 Defence advised the Parliament on 29 May 2018 that it sought legal advice on the possible inclusion of Austal in the Henderson build. Defence records indicate that in September 2017, Defence Legal and the SEA 1180 external legal and probity advisers provided advice to CASG on the feasibility of including Austal in the OPV build program under alternate shipbuilder arrangements with Lürssen. The advice to Defence indicated that the alternate arrangements involved high probity, legal and commercial risks. The Government further contemplated Austal's involvement in the OPV program after the execution of the acquisition contract with Lürssen. In May 2018, Defence Legal, in consultation with the SEA 1180 external legal and probity advisers, prepared advice on the feasibility of engaging Austal as a prime contractor for the OPV program (whether individually or in alliance with another prime contractor), rather than as a subcontractor to Lürssen. The advice, which was reviewed by the Australian Government Solicitor, indicated that there were significant legal and probity risks in the course of action contemplated. This course of action was not pursued.

71 Following the second pass decision to potentially include Austal in the Henderson build, Lürssen had to break the commercial arrangements it had proposed in its tender response. Lürssen had to dissolve the proposed ASC/Forgas joint venture and recontract separately with Cimtec and ASC Shipbuilding following the inability to reach an agreement with Austal. See paragraph 3.42.

72 See paragraphs 3.42 and 4.4 regarding the delayed Integrated Baseline Reviews.

### 3. Contracting and program governance

#### Areas examined

This chapter examines whether Defence has established fit-for-purpose contracting and program governance arrangements for the Offshore Patrol Vessel (OPV) program.

#### Conclusion

Defence has largely established fit-for-purpose contracting and program governance arrangements for the OPV program. Contractual arrangements reflect the key preferred Commonwealth negotiation outcomes and the program governance and oversight structure includes an issues escalation process. To establish the contract and commence construction in the expected timeframes, a number of issues were not finalised at contract signature in January 2018 and remained incomplete in July 2020. Processes for monitoring progress against the contract schedule and activities to verify the accuracy of Australian Industry Capability (AIC) reported by the prime contractor are yet to be fully established. As of July 2020 the program was constructing the first three vessels without an Earned Value Management System or approved shipbuilder specific Contract Master Schedules to measure progress against an agreed baseline, as required under the contract.

3.1 The following criteria were used to assess whether Defence has established fit-for-purpose contracting and program governance arrangements:

- Has a fit-for-purpose contract been established for the OPV program?
- Has Defence established fit-for-purpose governance arrangements for the OPV program?

#### Has a fit-for-purpose contract been established for the OPV program reflecting preferred Commonwealth negotiation outcomes?

Defence's contract with Lürssen for the acquisition of 12 new OPVs and associated support system components is fit-for-purpose, reflecting preferred Commonwealth negotiation outcomes. Defence's contract negotiation approach was informed by a Contract Negotiation Directive and an Acquisition Contract Negotiation Plan which provided guidance on core negotiation issues. While all key identified negotiation issues were addressed during the contract negotiation process, some matters had not been finalised when the contract was signed in January 2018 and remained incomplete in July 2020. These were the establishment of the performance management framework and implementation of the Naval Shipbuilding Principals' Council.

3.2 To assess whether Defence has established a fit-for-purpose contract for the OPV program which reflects government's preferred negotiation outcomes, the ANAO examined the contract negotiation process and the agreed acquisition contract.

#### Negotiation of the contract

3.3 Defence commenced contract negotiations with Lürssen in December 2017, with the aim of achieving contract signature by the end of January 2018. Key documents developed by Defence to

guide the negotiation process were the Contract Negotiation Directive and the Acquisition Contract Negotiation Plan.

### *Contract Negotiation Directive*

3.4 Defence's Contract Negotiation Directive, endorsed by the General-Manager Ships on 3 December 2017, identified the roles and responsibilities of the Core Negotiating Team.<sup>73</sup> It stated that:

The objective of the negotiations is to formally agree and recommend for signature, a contract between the Commonwealth and Lürssen for the acquisition of 12 new OPVs and associated support system components that will deliver value-for-money to the Commonwealth.

As part of the negotiations you are to investigate and negotiate, where relevant, mechanisms that can enhance the value for money to be delivered to the Commonwealth and the development of the Naval shipbuilding industry in Australia. These mechanisms are to include Lürssen considering lateral subcontractor arrangements in [the] Australian shipbuilding market.

### *Acquisition Contract Negotiation Plan*

3.5 On 5 December 2017, Defence approved the Acquisition Contract Negotiation Plan detailing the arrangements and framework for the contract negotiations with Lürssen. The Plan outlined Defence's negotiation strategy. The Plan also instructed the Core Negotiating Team on key negotiation issues, relating to: the draft contract clauses; Defence's rating for each issue<sup>74</sup>; Lürssen's stated position on the individual contractual element in its tender response; and Defence's minimum acceptable position for each issue.

### *Negotiation outcomes and contract provisions*

3.6 Defence concluded negotiations with Lürssen in late January 2018 and a Contract Negotiation Report was prepared advising the Defence delegate (the Director-General Specialist Ships Acquisition) on outcomes. The delegate endorsed the report on 30 January 2018. It stated that:

The Commonwealth negotiation team, working in cooperation with Lürssen as prime contractor, have achieved an agreed contractual position for SEA 1180 that represents value for money and will effectively support a successful SEA 1180 project start up according to the timelines established by Government. Both the Commonwealth and Lürssen recognise and appreciate that there are many actions on both parties commencing immediately on contract signature and both parties are committed to accomplishing those actions and fulfilling their responsibilities in close cooperation and mutual support.

3.7 The ANAO examined the negotiation issues matrices included in the Contract Negotiation Plan and the negotiated positions reached between Defence and Lürssen outlined in the Contract Negotiation Report, to determine whether identified negotiation issues were addressed and negotiation outcomes were reflected in the contractual arrangements. Table 3.1 sets out the negotiation issues Defence identified as 'critical' or 'significant' or where Defence reported that

73 The team had a lead negotiator, deputy and assistant lead negotiators, negotiation advisers, legal and technical members. The lead negotiator had authority to refer specific issues for further discussion and consideration by Domain Work Groups, whose members had subject matter expertise to deal with technical issues relating to engineering, finance, legal, project management and integrated logistics support.

74 Each negotiation issue was rated as critical, significant or minor based on the deficiency of the contract clauses or tender deliverables identified during tender evaluation.

there were ‘significant differences’ between the negotiation outcomes and the draft contract. Table 3.1 also sets out the ANAO’s analysis of whether contract provisions addressed key negotiation outcomes.

**Table 3.1: Key negotiation issues identified by Defence, negotiation outcomes and relevant contract provisions**

| Key negotiation issues  | Did contract provisions address key negotiation outcomes — ANAO analysis  |
|---|---|
| Change of control in Lürssen Germany, Luerssen Australia Pty Ltd or an approved subcontractor | Lürssen Germany established Luerssen Australia Pty Ltd and provided a Deed of Guarantee and Indemnity to guarantee Luerssen Australia’s performance and liabilities. Luerssen Australia was the legal entity that contracted with Defence. Luerssen must obtain Defence’s written consent prior to any change of control, except for transfers within the Lürssen family.   |
| Defence’s right to terminate without prior notice   | Defence agreed to a consultation process to consider remediation of a contractor default prior to issuing an immediate termination notice. If the consultation process does not address Defence’s concerns, it will still be entitled to terminate the contract. Defence retains the right to, at any time, terminate the contract or reduce the scope by notifying Luerssen.   |
| Limitation of liability and amendments to liability caps                                      | Defence and Luerssen agreed on the limitation amounts for loss and damages. Contract provisions also ensure that Luerssen’s liability to Defence is not subject to a limitation amount if Luerssen has, or should have had under the contract, insurance for the liability.   |
| Warranties and defect rectification   | <p>Luerssen agreed to provide a warranty that the OPVs will be fit for a number of specific purposes and meet the performance criteria in the Function and Performance Specification.</p> <p>Luerssen is solely responsible for all aspects of the design, construction, workmanship and quality of the OPVs.</p> <p>In terms of warranty work on OPV 1 and OPV 2, Defence advised the ANAO in July 2020 that: ‘Luerssen are to manage how to most effectively provide the coverage to Defence, through whichever shipyard or sub-contractor. Luerssen may choose to address warranty issues at their discretion, depending on the issue and the expertise required in which location to address the Warranty item.’</p> <p>The contract provides that Luerssen shall be entitled to claim the cost of any rectification work to the extent that the defect arose because of certain events, including Defence’s default. The contract also provides a rectification period for latent defects that occur after Defence’s acceptance of the OPVs, and provides Defence with a longer period of protection in relation to latent defects in OPV 1.</p> |
| Australian Industry Capability (AIC) <sup>a</sup>   | <p>The Contract Negotiation Report sets out the outcome of the negotiations with Luerssen on AIC, whereby Luerssen agreed to an AIC plan and committed to achieve 59 per cent Australian industry content through the life of the OPV program.</p> <p>The contract requires development of an AIC plan but does not reference the 59 per cent commitment. The contract sets out Luerssen’s responsibilities to continuously monitor and identify opportunities to maximise the participation of Australian industry in the delivery of the contract. Due to the compressed schedule to commence construction in 2018, Defence and Luerssen agreed to implement a phased development approach whereby the AIC Plan is to be adjusted throughout the course of the program to maximise the participation opportunities for Australian industry.</p>   |

| Key negotiation issues  | Did contract provisions address key negotiation outcomes — ANAO analysis   |
|---|--|
| Intellectual property   | <p>Contract provisions require Luerssen to grant to Defence licences in respect of all background<sup>b</sup> and foreground intellectual property<sup>c</sup> that is owned by Luerssen and the approved subcontractors.</p> <p>Contract provisions also require Luerssen to ensure Defence is granted licences for third party intellectual property<sup>d</sup> on the best available commercial terms.</p>   |
| Shipbuilder subcontracting arrangements   | Contract provisions require Luerssen to use Australian shipbuilders to perform the shipbuilding work unless Defence approves otherwise.  |
| Clarification and updates to documentation (including System Specification, Function and Performance Specification, Contract Data Requirements List, and mandatory checklists for design reviews and production readiness review) | <p>Luerssen agreed to continue to clarify and update the technical and operational requirements during the design process and as it finalises contracts with the major system suppliers/integrators, to ensure Defence's requirements are traceable and verifiable and can be tested at appropriate stages or reviews.</p> <p>While the contract has specified the standard mandated system reviews to be conducted, the review process has been modified to allow the build to commence at Osborne on elements of the OPV that are less complex.</p> <p>There is also a requirement for Luerssen to maintain a fixed-price contract outcome whilst permitting Defence to access and observe the data underpinning its bid, such as major subcontractor pricing and management reserves.</p> |
| Changes to Government Furnished Material delivery   | Defence and Luerssen agreed to a specific list of equipment to be provided as Government Furnished Equipment (see Appendix 5 of this audit report), which will be included in the design and integration of the OPVs by Luerssen.  |
| Involvement and role of a Naval Shipbuilding Principals' Council to provide strategic oversight and governance in relation to the Osborne shipyard  | Contract provisions outline Defence's intention to establish a Shipbuilding Principals' Council, the purpose of which is to provide strategic oversight of the use of Australian shipyards by multiple Defence programs and multiple contractors. The Principals' Council was not established at contract execution.   |
| Facilities access and arrangements at Osborne shipyard  | Access terms for the shipyard facilities at Osborne were not finalised before contract signature. Instead, in order to start production in South Australia in 2018, Defence and Luerssen agreed to a set of contract commitments and principles to govern facilities access arrangements in the future. <sup>e</sup>   |
| Step in rights for Defence if Luerssen fails to perform   | <p>Contract provisions entitle Defence to step in and take control of project work at the shipyards, or have a third party undertake the work, if Luerssen fails to perform and is unable to remedy the work to Defence's satisfaction. Defence's rights extend to other circumstances such as Defence emergencies and the need to discharge a legislative, public or constitutional duty. These step-in rights apply in both South Australia and Western Australia.</p> <p>Defence has agreed not to engage certain competitors of Luerssen as third parties to perform the work without Luerssen's prior approval. Defence has to go through a consultation process with Luerssen prior to exercising its step in rights.</p>  |



| Key negotiation issues  | Did contract provisions address key negotiation outcomes — ANAO analysis  |
|---|---|
| Defence's rights with respect to resolving disputes between Luerssen and the shipbuilders | Contract provisions allow Defence to oversee and actively manage the relationship between Luerssen and the Australian shipbuilders for intractable disputes. Under the contract, Defence is able to, at its discretion, make binding determinations to resolve disputes between Luerssen and any of the shipbuilders. The intention of the contract provisions is to enable Defence to minimise the risks to cost and schedule of the program if a disagreement between Luerssen and a shipbuilder is not resolved.             |
| Establishing a continuous naval shipbuilding industry workforce                           | Luerssen committed to supporting, and ensuring its subcontractors support, a continuous naval shipbuilding industry workforce including collaboration with the Naval Shipbuilding College, implementation of relevant recruitment and training strategies, and use of workers on the Redeployment Register.   |
| Incentive payments for Luerssen's performance   | Contract provisions set out the guiding principles for the implementation of a Performance Management Framework with incentive payments. The performance management framework was not incorporated into the contract at signature in January 2018 as arrangements for the framework were not finalised.<br><br>Provisions have been established to manage non-performance or failure to meet the contractual milestones, including: suspension of some or all payments; liquidated damages or compensation; and/or termination. |
| Insurance arrangements  | During contract negotiation, Defence required that insurances that were usually arranged by the prime contractor be changed to a scheme arranged by Defence. Contract provisions required Defence and Luerssen to review insurance arrangements between the date of contract signature and April 2018.  |

Note a: Department of Defence, *Naval Shipbuilding Plan*, May 2017, paragraph 5.3, p. 79 stated that:

The Government's vision to maximise Australian industry involvement in the national naval shipbuilding enterprise will, over time, see Australian industry actively involved to the greatest extent possible across the spectrum of the enterprise – from capability design to complex project management, construction and sustainment activities.

Note b: Background intellectual property is intellectual property, other than third party intellectual property, that is in existence at the effective date of the contract, or brought into existence other than as a result of the performance of the contract and approved subcontract. Background intellectual property is embodied in the vessel supplies or is otherwise related to the functioning of the vessels.

Note c: Foreground intellectual property is intellectual property created under or in connection with the contract and approved subcontract.

Note d: Third party intellectual property is intellectual property owned by a party other than Defence, Luerssen or approved subcontractors. Third party intellectual property is embodied in the vessel supplies or related to the functioning of the vessels.

Note e: In October 2016, the Government announced the restructuring of ASC Pty Ltd into three separate government business enterprises, each responsible for one of shipbuilding (ASC Shipbuilding), submarine sustainment (ASC Submarine Sustainment), and infrastructure (Australian Naval Infrastructure). Australian Naval Infrastructure was established as the shipyard infrastructure entity in March 2017. Defence had required Luerssen to commence construction in South Australia in a shipyard that changed ownership, during the competitive evaluation process, to Australian Naval Infrastructure.

Source: ANAO analysis of Defence documentation.

3.8 The negotiation outcomes reported in the Contract Negotiation Report provided advice on each key issue, acknowledging where further action was required following contract signature. The ANAO's analysis in Table 3.1 indicates that all key identified issues were addressed during the contract negotiation process but some of these issues had not been finalised when the contract was signed:



- implementation of a performance management framework, to support an incentive payment arrangement for Luerssen's performance;
- establishment of the Naval Shipbuilding Principals' Council; and
- access to the Osborne shipyard in South Australia.

3.9 The ANAO reviewed the status of those issues and found that:

- the performance management framework had not been incorporated into the contract as of July 2020<sup>75</sup>;
- the Shipbuilding Principals' Council and its Terms of Reference have been established but the council has not met as at July 2020; and
- access arrangements to the shipyard facilities at Osborne were finalised between Luerssen and Australian Naval Infrastructure after contract signature, with Luerssen granted an access licence to Osborne for the construction of OPV 1 and OPV 2.

### The acquisition contract

3.10 Defence signed the OPV acquisition contract with Luerssen Australia Pty Ltd on 31 January 2018. It is a fixed price contract with a final negotiated price of \$1.988 billion (excluding GST). The contracted price was 1.3 per cent higher than the price tendered by Luerssen, which was partly due to the inclusion of two approved additions to the design — a bow thruster and an additional reverse osmosis freshwater plant.<sup>76</sup>

#### *Changes to the contract*

3.11 Since contract execution, both Luerssen and Defence have proposed changes to the contract. As at June 2020, 12 Contract Change Proposals were approved and agreed between Defence and Luerssen. Of the 12 change proposals, six resulted in a net increase of \$15.37 million (0.77 per cent) to the contract price. The Contract Change Proposals indicated that the changes have not affected the program delivery schedule.<sup>77</sup>

### Has Defence established fit-for-purpose governance and assurance arrangements for the OPV program?

Defence has largely established a fit-for-purpose governance and oversight structure for the OPV program. However, assurance arrangements are yet to be fully established, including processes for monitoring progress against the contract schedule and activities to verify the accuracy of the value of AIC reported by the prime contractor. As of July 2020 the program was constructing the first three vessels without an Earned Value Management System or approved

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- 75 Defence advised the ANAO that the concept of a performance management framework was introduced during the late stages of contract negotiations as a potential mechanism to incentivise Luerssen's performance, if it was deemed necessary. Defence also advised that a performance management framework has not been required to date to incentivise Luerssen as it is meeting its milestones.
- 76 Other options that were added during contract negotiations included: phone, power and data connections to support mission containers; and reserving space and weight in the OPV design for refuelling facilities for unmanned aerial vehicles. Defence documentation indicates that these options were added to enhance the operability and capability of the OPVs.
- 77 Appendix 4 (Table A.2) of this audit report outlines the approved Contract Change Proposals.

shipbuilder specific Contract Master Schedules to measure progress against an agreed baseline, as required under the contract.

3.12 To assess whether Defence's program governance and assurance arrangements are fit-for-purpose, the ANAO examined:

- Defence's internal governance structure; and
- Defence's capacity to monitor performance by Luerssen as prime contractor.

### Program governance and oversight

3.13 The governance and oversight structure for the OPV program includes an Integrated Project Team and a number of steering groups. Figure 3.1 illustrates the program's internal governance structure and the relationship between the Integrated Project Team and the One-Star Program Steering Group, Two-Star Capability Manager's Steering Group and Three-Star Capability Manager's Steering Group. Additional program assurance is to be provided through Independent Assurance Reviews (discussed in paragraph 2.19) and internal audit activity.

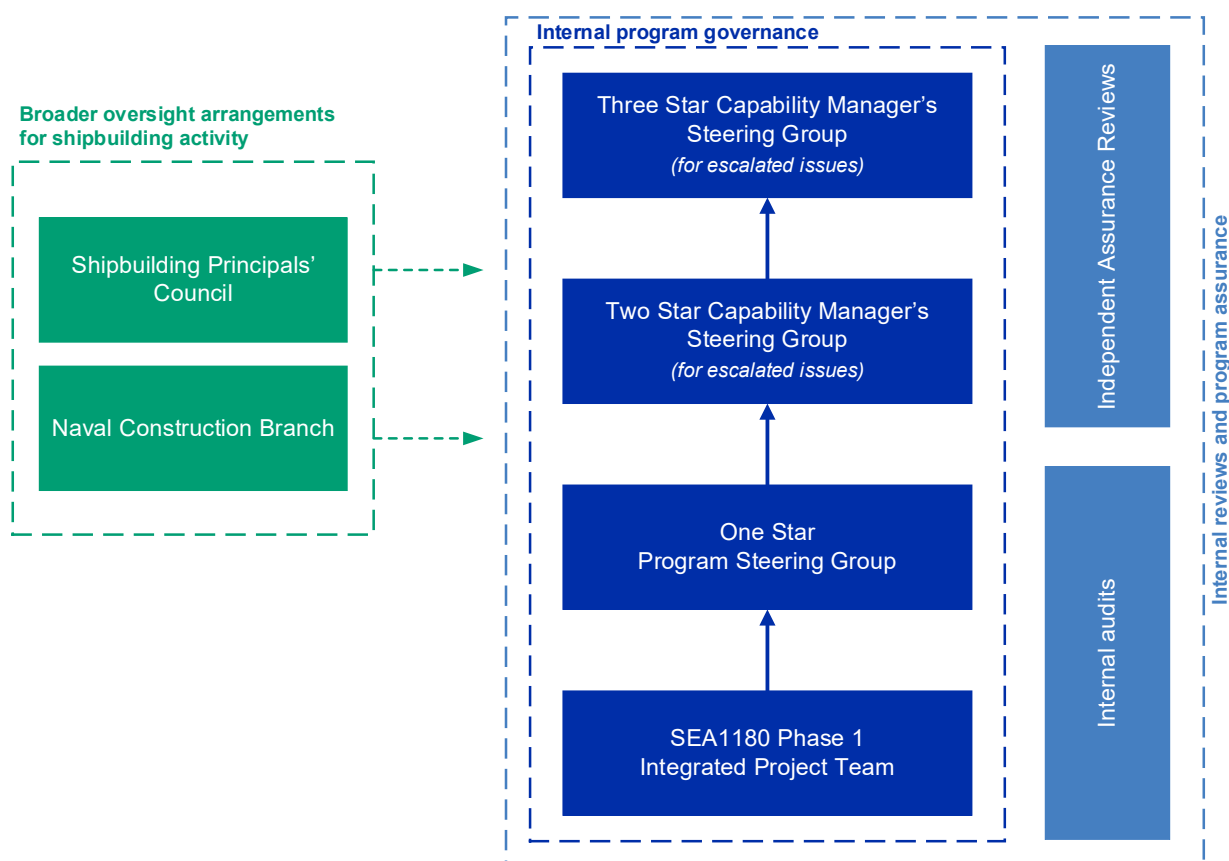
3.14 In addition to the reporting lines outlined above, the OPV program is subject to broader oversight arrangements for naval shipbuilding activity, related to Defence's wider naval shipbuilding enterprise. These arrangements include Defence's new Naval Construction Branch, which provides onsite production monitoring services to the OPV program.<sup>78</sup> Other arrangements include the Shipbuilding Principals' Council which is intended to be the primary forum for shipbuilders to govern shipbuilding activities and resolve conflicts relating to the use of the Osborne shipyard in South Australia.<sup>79</sup>

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78 Defence's *Naval Construction Branch Enterprise Strategy "First Steps"* (29 April 2019, p.6) states that:

In response to the Naval Shipbuilding Plan, the Naval Construction Branch (NCB) has been established to become: the Australian storehouse of naval ship building expertise, the manager of naval ship building infrastructure, and to provide onsite oversight of ship construction activity on behalf of the ship/submarine acquisition programs and the Navy.

79 Defence has also established a National Naval Shipbuilding Office to integrate, coordinate and report on the implementation of the four key enablers in the *Naval Shipbuilding Plan*. The enablers are: a modern, innovative and secure naval shipbuilding and sustainment infrastructure; a highly capable, productive and skilled naval shipbuilding and sustainment workforce; a motivated, innovative, cost-competitive and sustainable Australian industrial base, underpinned initially by experienced international ship designers and builders who transfer these attributes to Australian industry; and a national approach to delivering the Naval Shipbuilding Plan. See Department of Defence, *Naval Shipbuilding Plan* [Internet], available from <https://www.defence.gov.au/navalshipbuilding/Plan> [accessed 23 September 2020].

**Figure 3.1: Governance and assurance arrangements for the OPV program**

Source: ANAO analysis of Defence documentation.

### *Independent Assurance Reviews and internal audits*

3.15 To date, Defence has conducted four Independent Assurance Reviews<sup>80</sup> relating to the OPV acquisition:

- August 2015 — at the initiation of the OPV project (refer paragraphs 2.8 to 2.11);
- August 2016 — before the Request for Tender was issued (refer paragraphs 2.12 to 2.15);
- July 2017 — in preparation for second pass approval (refer paragraphs 2.16 to 2.18); and
- April 2019 — to review project status and outlook (refer paragraphs 3.22, 4.10, 4.14 and 4.31).

3.16 Defence has also conducted two internal audits relating to the OPV acquisition, in 2016 with a follow-up in 2019. Their purpose was to:

... provide reasonable assurance that the risk management processes, governance arrangements, tools, workforce skills and risk frameworks surrounding the achievement of SEA 1180 [Offshore Patrol Vessels] and SEA 5000 [Future Frigates] are adequate.

3.17 The first internal audit, on *Risk Management of Capability Development for the Offshore Patrol Vessels and Future Frigates*, concluded in December 2016 and made four recommendations that were agreed to by Defence. The recommendations were aimed at:

<sup>80</sup> Before 2016, Independent Assurance Reviews were called Gate Reviews.

- ensuring the risk management framework and processes were clearly documented and promulgated in the governing groups' terms of reference and risk management plans;
- revisiting the objective of the audit and reviewing implementation of the recommendations in a follow-up audit;
- establishing a process through the existing governance process to link bottom-up risk reporting to strategic risk monitoring; and
- applying the Smart Buyer methodology to the OPV and Future Frigate programs.

3.18 A follow-up internal audit, conducted in 2019, confirmed that Defence had implemented the four recommendations. This audit identified no significant issues and found that controls were operating effectively for both projects. It did not make any recommendations.

### *Integrated Project Team*

3.19 The Integrated Project Team has primary responsibility for oversighting the delivery of the OPV program.<sup>81</sup> The team is scheduled to meet every six to eight weeks, with the meetings chaired by the Project Director. Its terms of reference state that it is responsible for:

... advising on the escalation of risks and issues to the Program Steering Group (PSG) that cannot be accepted or resolved by the IPT [Integrated Project Team] ...

... providing assurance to the PSG [Program Steering Group] that the Project is maintaining prescribed schedule targets in the Integrated Master Schedule, or where necessary, report deviations that require Government notification ...

... advising the PSG [Program Steering Group] of Lürssen's progress against the Performance Measurement Baseline ...

3.20 Between February 2018 and February 2020, the Integrated Project Team met 12 times to discuss project governance since contract signature. The minutes for these meetings indicate that it routinely considered the following matters:

- acting on government decisions and keeping government informed of program progress;
- design requirements and the outcomes of design reviews;
- managing Navy's capability during the transition between the Armidale and Arafura class patrol vessels;
- risk management; and
- the production schedule.

3.21 The Integrated Project Team is also responsible for monitoring risks and issues and escalating relevant risks. It uses Predict!<sup>82</sup> to record, describe and rate project risks. The ANAO reviewed the June 2020 risk log provided by Defence, which showed that Defence had recorded 13 risks and their residual risk ratings — seven were rated 'low', four were rated 'medium' and two were rated 'high'.

3.22 An Independent Assurance Review conducted in April 2019 noted that the OPV risk register was not being kept up-to-date:

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81 The OPV Integrated Project Team has members from CASG and the: Capability Development Group; Navy; Defence Science and Technology Group; and Capability, Investment and Resources Division.

82 Predict! is a risk management tool used by Defence to manage risks and issues.

The project is making very good progress, against a very challenging schedule, with evident excellent relationships with and engagement between stakeholders and a highly committed and professional prime contractor. The aggressive schedule is demanding a “just in time” approach to meeting deliverables which, to date, has been successful. One consequence of that committed effort has been less attention given to maintaining project documentation, such as an up-to-date risk register or a more detailed schedule, thus making it difficult to keep senior managers and stakeholders well informed of developments.

3.23 The ANAO’s review of meeting minutes indicated that the risks documented in the risk log were discussed in recent meetings of the Integrated Project Team and the relevant steering groups.

3.24 Defence has documented a Risk Appetite Framework in the Terms of Reference for the Integrated Project Team, One-Star Program Steering Group and the Two-Star Capability Manager’s Steering Group. The matrix establishes that risks with a ‘Hazard Risk Index’ between 1 and 17 are within the authority and decision-making level of the Director-General Littoral, and therefore are within the scope of the Integrated Project Team (risk index 1–8) and the One-Star Program Steering Group (risk index 9–17). Risks with an index between 18 and 23 must be addressed by Head of Navy Capability at the Two-Star level. Risks with an index of 24 or 25 (severe risks that are likely or almost certain to occur) must be addressed by the Chief of Navy at the Three-Star level.

3.25 Defence advised the ANAO that as at September 2020 two risks had been identified for escalation by the Integrated Project Team. One risk was elevated to the One-Star Program Steering Group (PSG) for approval in March 2019 and an additional risk was presented to the PSG in August 2020.

### *One-Star Program Steering Group*

3.26 The One-Star Program Steering Group is chaired by the Director-General Littoral<sup>83</sup> and receives input from its permanent membership — comprising a number of other Directors-General, the Project Director and the Integrated Project Team. The One-Star Program Steering Group can invite members of other Defence Groups — including Navy Capability, Strategic Policy and Intelligence Group, and the Defence Science and Technology Group — as the need arises. Its functions include:

- providing guidance to the Integrated Project Team to execute the project;
- managing OPV shipbuilding program issues;
- attending six monthly Contractor Status Meetings;
- providing strategic guidance; and
- accepting risk mitigation plans and elevating those risks and issues to the Two-Star Capability Manager’s Steering Group.

3.27 The group is expected to meet at least every six months, with meeting frequency determined by the Chair. Defence advised the ANAO that the group is currently meeting between three and four times a year, with eight meetings held since March 2018. The minutes from these meetings indicate that the following matters were routinely considered by the group:

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83 The term ‘littoral’ is defined as ‘The areas to seaward of the coast which are susceptible to influence or support from the land and the areas inland from the coast which are susceptible to influence or support from the sea.’ See Royal Australian Navy, *Australian Maritime Operations* [Internet], 2<sup>nd</sup> edition, September 2017, available from [https://www.navy.gov.au/sites/default/files/documents/Australian\\_Maritime\\_Operations\\_2017.pdf](https://www.navy.gov.au/sites/default/files/documents/Australian_Maritime_Operations_2017.pdf).

- the design and build schedule for the OPV;
- capability of the ships;
- fundamental inputs to capability;
- transition of the ship build between the Osborne (South Australia) and Henderson (Western Australia) shipyards; and
- workforce planning.

3.28 Defence advised the ANAO in July 2020 that:

To date, since Gate 2 [second pass] acquisition decision, we have not required the 1\* PSG [One-Star Program Steering Group] to elevate risk to 2\*/3\* [Two-Star/Three-Star] level in accordance with the risk bands detailed in the ToR [Terms of Reference].

### *Two-Star Capability Manager's Steering Group*

3.29 The Two-Star Capability Manager's Steering Group is chaired by the Head of Navy Capability and is attended by principals and key stakeholders, including from Navy, CASG and other Defence groups. It is responsible for:

- providing oversight, direction and guidance on the OPV program's advice to government;
- providing advice to the Integrated Project Team on external impacts on the program;
- identifying, managing and escalating risks and issues to the Three-Star Capability Manager's Steering Group;
- providing direction to the Program Steering Group on managing risk;
- supporting the delivery of program outcomes;
- ensuring organisational commitment to supporting program outcomes;
- informing members of the Capability Manager's Steering Group of stakeholder interests and issues;
- critically reviewing information presented to the steering group;
- monitoring and reporting on program outcomes for internal auditing and governance purposes; and
- providing specialist advice.

3.30 The group's Terms of Reference indicate that it is expected to meet:

... at periods of approximately three to six months, as determined by the Chair with consideration of the project's tempo, complexity and status. Out-of-session meetings may be convened to address particular issues or provide decisions required within a short timeframe.

3.31 The group has not met since contract signature. Defence advised the ANAO that a meeting was intended to be held in December 2019; however, Defence instead used the forum to provide an update brief to the Head of Navy Capability because many of the steering group members were unable to attend. Defence further advised that the Terms of Reference for the Two and Three-Star steering groups were produced to support intensive activities (Risk Reduction Design Studies and the Request for Tender) during the competitive evaluation process from first pass to second pass, and issues are now raised with them by exception — for specific activities and when triggered by the risk bands (discussed in paragraph 3.24). It would be timely for Defence to revise the Terms of

Reference for the Two- and Three-Star Capability Manager's Steering Groups to better reflect their current roles.

### *Three-Star Capability Manager's Steering Group*

3.32 The Three-Star Capability Manager's Steering Group is chaired by the Chief of Navy. Its role is:

... to act as the appropriate governance body to oversee the capability transition of the Arafura Class OPV Program and Hunter Class Frigate Program, while facilitating the mandated accountabilities and responsibilities of the CM [Chief of Navy, who is the Maritime Domain Capability Manager] ... The 3-Star CMSG [Capability Manager's Steering Group] is chaired by the CM and supported by standing and invited members to make decisions on key program issues; specifically issues affecting the progress of acquisition and coordination of the FIC [Fundamental Inputs to Capability] to support the capability transition.

3.33 The steering group is to meet as required, with meetings to be convened based on risks or issues referred from the Two-Star Capability Manager's Steering Group. It has not met since contract signature.

3.34 As outlined in the OPV risk framework, the Two-Star Capability Manager's Steering Group will escalate risks with the highest hazard risk index (extreme risk with an index of 24–25), or as required, to Chief of Navy (Chair of the Three-Star Capability Manager's Steering Group). Defence advised the ANAO in July 2020 that no risks or issues had been escalated to the Chief of Navy to date.

### **Alignment with the wider naval shipbuilding enterprise**

3.35 As discussed in paragraph 3.14, the OPV program is also subject to broader governance and oversight arrangements, including the Shipbuilding Principals' Council and Defence's Naval Construction Branch.

#### *Shipbuilding Principals' Council*

3.36 The contract between Defence and Luerksen states that:

The parties acknowledge ... to establish a body referred to as the Principals Council which will perform functions related to the Commonwealth's continuous naval shipbuilding plan. The functions of the Principals Council may, among other things, provide a senior level forum to discuss priorities and to resolve conflicts that have not been resolved at a project level relating to the use of the Shipyard in South Australia.

3.37 The Terms of Reference for the Shipbuilding Principals' Council provide that: 'the Principals Council is the pre-eminent body for directing operations on ANI-owned [Australian Naval Infrastructure] sites and retains sufficient flexibility to move Shipbuilders around the Osborne Naval Shipyard.' The functions of the council also include intervening on operational matters and assisting to resolve conflicts, and in this respect it is an escalation forum for the Osborne Naval Shipyard Operations Forum.<sup>84</sup> Defence advised the ANAO that as at July 2020 the forum had not made any request that issues be escalated to the council. The Terms of Reference provides that the council

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84 The forum has been established to provide management, at a working level, of the Osborne Naval Shipyard, and interfaces between the shipyard's primary stakeholders.

will meet at least once per calendar year. Defence advised that the council has not met since its establishment.

### *Naval Construction Branch*

3.38 In response to the *Naval Shipbuilding Plan*, a Naval Construction Branch was to be established within Defence to:

- act as the Australian storehouse of naval shipbuilding expertise;
- manage the naval shipbuilding infrastructure in Australia; and
- provide oversight of naval ship construction activity on behalf of the Capability Acquisition and Sustainment Group's acquisition programs and the Navy.

3.39 Establishment of the new branch began in October 2018 but it was not expected to operate at full capacity until June 2022. Defence approved a *Naval Construction Branch Enterprise Strategy* – 'First Steps' in April 2019 (the strategy), which stated that the branch<sup>85</sup>:

... will grow out of the existing AWD [Air Warfare Destroyer] Program and the Commonwealth PMO [Project Management Office]. NCB [Naval Construction Branch] will be a re-tasked, enduring organisation that will support naval construction activity across multiple, overlapping ship and submarine build programs ...

... to harness the ship building knowledge and expertise it has gained as the AWD PMO and part of the AWD Alliance. NCB will build on that knowledge and expertise, to become a trusted service provider and partner of: Ship/Submarine Acquisition Programs, and the contracted Ship Builders and Designers.

3.40 A Service Level Agreement between Defence's Ship Acquisition—Specialist Ships Branch (responsible for the OPV program) and the Naval Construction Branch was developed in September 2019, but had not been finalised as at July 2020. The agreement was intended to clarify relationships. Defence advised the ANAO in July 2020 that the agreement would be replaced by a Ships Division Work Breakdown Structure under development at that time, to clarify the relationship and articulate the priorities between the project team and the Naval Construction Branch.

3.41 Defence documentation indicates that some 39 functions — ranging from workplace health and safety to warehousing and documentation — were divided between the project team and the Naval Construction Branch. In March 2020, the Director-General Naval Construction Branch provided an update to the One-Star Program Steering Group on the activities of the Naval Construction Branch in the OPV Program.

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85 The strategy also set eight strategic goals for the branch: finalise the completion of the Hobart class air warfare destroyer program with a view to establishing the Naval Construction Branch as a service provider to shipbuilding programs; facilitate the schedule, budget and quality delivery of the production of ships and submarines; facilitate the lowering of cost in delivering each ship acquisition program and the overall cost of the *Naval Shipbuilding Plan*; optimise the use and benefits of naval shipyards in Australia and associated shipbuilding resources; facilitate 'successful multi-program, multi-location, continuous shipbuilding'; contribute to the Australian capability for shipbuilding; attract, develop and retain expertise through a commitment to the quality of the work environment and workforce; and ensure there are safe, sustainable, environmentally responsible facilities and practices in shipbuilding.



## Program monitoring

### *Earned Value Management System and Contract Master Schedules*

3.42 An Earned Value Management System is a project management tool used by Defence to measure project progress.<sup>86</sup> The contracted Statement of Work requires Luerssen to develop, deliver and update an Earned Value Management Plan and establish the Earned Value Management System before the first Production Readiness Review scheduled for November 2018. The plan was provided by Luerssen to Defence in February 2018, but a system has not yet been established. Defence advised the ANAO in December 2019 that:

Luerssen had not established an EVMS [Earned Value Management System] prior to PRR1 (SA) [Production Readiness Review 1 in South Australia]. At the RFT [Request for Tender] Luerssen provided a detailed build schedule. This was based on the subcontractor arrangements established during the RFT. Following Gate 2 [second pass] and the decision to include Austal, Luerssen had to break those commercial arrangements and in addition to establishing new ones it also had to rebuild detailed production schedules with ASC and Civmec. Adding to the challenge, is the fact that Luerssen's subcontractors were using different Enterprise Resource Planning tools. Building an EVMS remains a priority. Luerssen's initial priority was to produce a detailed production schedule with ASC and then Civmec. Because of the above, Luerssen have not been able to successfully achieve Integrated Baseline Reviews with either ASC or themselves.<sup>87</sup> Luerssen have made a renewed commitment to providing the ASC CMS [Contract Master Schedule] by end of CY19 [calendar year 2019].

3.43 Defence's documentation — SEA 1180 Phase 1 Arafura Class Offshore Patrol Vessel Integrated Project Management Plan — discussed the challenge faced by Luerssen in producing Earned Value Management reporting due to the different Enterprise Resource Planning systems of its subcontractors, some of which provide resource and schedule information that could not be readily integrated with Luerssen's system. Defence and Luerssen agreed that they would initially focus on an Earned Value Management System from ASC to monitor the build of the first two OPVs. This had not been achieved as at July 2020.

3.44 The Contract Master Schedule establishes the performance measurement baseline and is to be used as the primary schedule for managing the contract. The contracted Statement of Work requires Luerssen to develop, deliver and update a Contract Master Schedule. Defence advised the ANAO in July 2020 that Luerssen was nearing completion of its Contract Master Schedule for submission to Defence for approval. Luerssen was not able to complete its Contract Master Schedule without an approved schedule from its sub-contractors, ASC and Civmec.

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86 An Earned Value Management System measures the value of work accomplished in a given period against the planned value of work scheduled for that period and the actual cost of work accomplished. Differences in these values are measured in both cost and schedule variances. Positive variances indicate that project activities are costing less or are ahead of schedule. Negative variances indicate that project activities are costing more or are falling behind schedule. See United States Government Accountability Office, *NASA: Earned Value Management Implementation across Major Spaceflight Projects Is Uneven*, GAO, Washington D.C., November 2012, p. 4. See also Auditor-General Report No.22 2013–14 *Air Warfare Destroyer Program*, paragraph 6.76.

87 ANAO comment: paragraph 4.4 discusses the Integrated Baseline Reviews for ASC and Luerssen. Luerssen was expected to finalise establishment of the Earned Value Management System by the time the Integrated Baseline Review with ASC was undertaken in September 2019.

3.45 In summary, as of July 2020 construction of three OPVs was under way without approved shipbuilder specific Contract Master Schedules or an established Earned Value Management System. Defence advised the ANAO that in the absence of an approved Contract Master Schedule with Luerssen, it was using the following to aid its management of the contract with Luerssen:

- the ASC's Integrated Master Schedule<sup>88</sup> (unapproved) was being used to manage the build of OPV 1 and OPV 2, to monitor progress and to generate monthly earned value reporting to Luerssen to show its progress against the contracted schedule despite it not being against an agreed baseline;
- Civmec's Contract Master Schedule (unapproved) was being used to generate earned value reporting and to track its progress; and
- from September 2019, Defence had requested that ASC and Civmec provide it with weekly updates to their Contract Master Schedules to enable Defence to review the activities supporting the production of the OPVs. Both ASC and Civmec have done so.

### *Contract Status Reports*

3.46 Contract Status Reports allow Defence to monitor Luerssen's progress against the acquisition contract. Luerssen is required to provide these reports to Defence every three months, reporting on the status of the work required under the contract's Statement of Work. The information to be reported includes:

- a summary of significant work activities undertaken in the current reporting period and work activities to be undertaken in the next period;
- a summary of progress against the Contract Master Schedule;
- outstanding and due data items, including due dates, delivery dates, review cycles and results;
- a financial report, including actual payments received by Luerssen and expected payments for the next period;
- a human resources report, including details of the actual versus planned personnel head count;
- progress of any required export approvals;
- the status of engineering work activities;
- status of the Integrated Logistic Support activities;
- quality assurance report;
- an Australian Industry Capability report; and
- intellectual property progress report.

3.47 Defence records indicate that Luerssen provided Contract Status Reports to the Integrated Project Team every three months from April 2018 to April 2020 as required.

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<sup>88</sup> Defence advised the ANAO that ASC's production schedule is referred to as the Integrated Master Schedule.

## Reporting on Australian Industry Capability

3.48 Defence's Contract Negotiation Report of 30 January 2018 indicates that in the contract negotiations Luerssen committed to achieving 59 per cent Australian industry content through the life of the OPV program.<sup>89</sup> In November 2019, the Minister for Defence informed the Parliament that 'Luerssen Australia have now hit their benchmark of 60 per cent and they are growing.'<sup>90</sup>

3.49 Luerssen has developed an Australian Industry Capability (AIC) Plan, as contractually required, to outline its responsibilities for the management of Australian industry involvement in the OPV program for the period of the contract. Under the OPV acquisition contract, Defence required Luerssen to deliver an updated AIC Plan on a periodic basis after contract signature to incorporate any changes to Australian industry opportunities. Luerssen has complied with its contractual obligation to provide updated AIC Plans.<sup>91</sup>

3.50 A public AIC Plan<sup>92</sup> was also provided by Luerssen in October 2018 and published on the Defence website in accordance with the requirements of the AIC program.<sup>93</sup> The public AIC Plan outlines the total 'Australian contract expenditure' as at October 2018 and identifies the major Australian companies engaged by Luerssen to supply goods and services under the OPV program. In the 2018 plan, Luerssen estimated that of the total current contract value (\$1.988 billion), the portion of 'Australian contract expenditure' would be \$1.22 billion (or 61.4 per cent).<sup>94</sup>

3.51 According to Defence, the total 'Australian contract expenditure' is an aggregate of the following:

- local industry activities — the value of work performed in Australia by Australian industry in support of the OPV program<sup>95</sup>; and
- local overheads — the value of local expenditure in support of the work activities under the contract, including Australian taxes, customs duties, insurances, bank fees and corporate overheads.

89 The report detailed Defence's negotiation outcomes.

90 Commonwealth, *2019–20 Supplementary Budget Estimates for the Foreign Affairs, Defence and Trade Legislation Committee*, Senate, 29 November 2019, Minister for Defence. Defence advised the ANAO that it has always rounded up the AIC percentage to approximately 60 per cent publicly.

91 The most recent AIC Plan reviewed by the ANAO was the October 2019 version delivered by Luerssen to Defence. This is the final update required after contract signature.

92 The *SEA 1180 Phase 1 Offshore Patrol Vessel Public Australian Industry Capability Plan* is available at <https://defence.gov.au/spi/Industry/PublicPlans/Public-AIC-Plan-SEA-1180-Phase-1-OPV-Luerssen.asp> [accessed 22 September 2020].

93 The Australian Industry Capability (AIC) program aims to: provide opportunities for Australian companies to compete on merit for defence work within Australia and overseas; influence foreign prime contractors, including Australian subsidiaries, to deliver cost-effective support; facilitate transfer of technology and access to intellectual property rights; and encourage investment in Australian industry. See: <https://defence.gov.au/SPI/Industry/AIC.asp> [accessed 14 August 2020].

94 *SEA 1180 Phase 1 Offshore Patrol Vessel Public Australian Industry Capability Plan*, p. 2.

95 In evidence given on 29 November 2019 at the 2019–20 Supplementary budget estimates hearings of the Senate Standing Committee on Foreign Affairs, Defence and Trade, Defence agreed to the proposition put by Senator Rex Patrick that 'this is work done in Australia by value'.

The value of work is captured as a contractual commitment in the Local Industry Activity Schedule in the public AIC Plan. The contractual commitment with each individual Australian entity is listed in the schedule. The schedule also outlines the Australian location where the majority of work is to be performed.

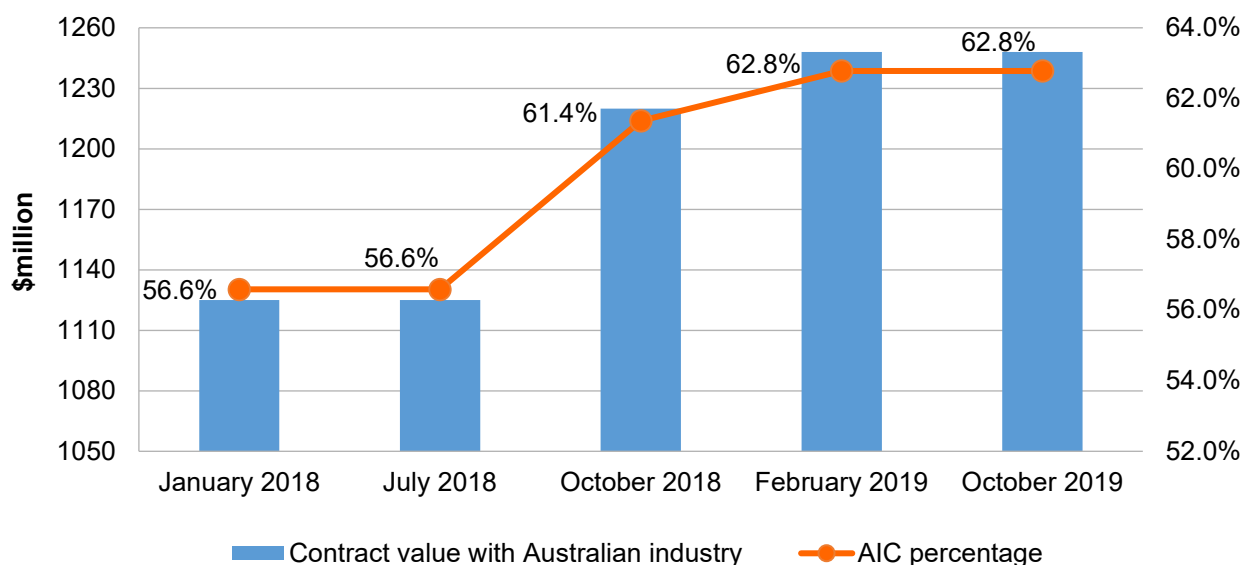
3.52 The public AIC Plan states that Luerssen’s strategies for maximising Australian industry participation include:

- maximising its use of local Australian industry through multiple subcontracting arrangements;
- seeking opportunities to replace foreign sourced supplies and services with locally sourced supplies and services, particularly during the Design Refresh Review for OPV 3, OPV 6 and OPV 9;
- prioritising established suppliers that have a commitment to Australia through local presence or established support arrangements; and
- seeking out and introducing Australian companies into the global supply chains of Luerssen and major subcontractors.

3.53 Quarterly Contract Status Reports submitted by Luerssen have included reporting on progress against the AIC Plan. The AIC reporting informs Defence of the level of work undertaken by Luerssen and progress in respect to the agreed local industry activities for the reporting period.

3.54 Figure 3.2 illustrates the value of contracts that Luerssen has established with Australian companies for the purpose of SEA 1180, as reported to Defence in a series of AIC Plan updates between January 2018 and October 2019. It also indicates the AIC percentage achieved by Luerssen — in terms of the total value of contracts established with Australian industry measured against the value of Luerssen’s contract (\$1.988 billion). Figure 3.2 indicates that in October 2019 Luerssen had subcontracted 62.8 per cent of its total contract value to Australian registered companies. This percentage exceeds the AIC percentage Luerssen agreed during contract negotiations (59 per cent).

**Figure 3.2: Value of SEA 1180 sub-contracts established with Australian companies by Luerssen as reported to Defence (January 2018 to October 2019) and the AIC as a percentage**



Source: ANAO analysis of Defence documentation and Luerssen reporting.

3.55 Defence advised the ANAO in July 2020 that it had not verified the accuracy of the AIC content reported by the prime contractor. Defence also advised the ANAO that while it has a right under the acquisition contract to audit Luerssen and its approved sub-contractors with respect to

their compliance with AIC commitments, it has not considered that such an audit is required at this relatively early stage of OPV production. Defence also advised that it has yet to develop a methodology to verify AIC compliance by the prime contractor and sub-contractors:

The project has not developed a specific methodology for conducting the audit. It has advised Luerssen, informally, that it will be conducting an audit primarily aimed at tracing the expenditure of money within Australia as it flows from contractor to sub-contractor. To support this, Luerssen have already written to its sub-contractors advising them that they will need to demonstrate how “AIC committed funds” are spent within Australia. This level of granularity is not yet available in the Contract Status Reports. The last CSR [Contract Status Report] provided in July 2020 did not have the detail and Luerssen have promised to provide the detail in the next CSR due at the end of September 2020.

## 4. Progress against milestones

### Areas examined

This chapter examines whether Defence's Offshore Patrol Vessel (OPV) program is meeting program milestones and supporting the delivery of the Government's *Naval Shipbuilding Plan* and the wider naval shipbuilding enterprise.

### Conclusion

Defence's OPV program has been largely effective to date in making progress against its milestones and has contributed to delivery of the wider *Naval Shipbuilding Plan*. As at July 2020 all but three program milestones were met on time, with Defence withholding payments for these three missed review milestones. Through its reviews, Defence has identified early signs of design and integration risks emerging, particularly with regards to Government Furnished Equipment. Delivery of the required capability will depend on Defence actively managing the identified risks, a number of which are related to the accelerated build schedule. As the foundation program for the Government's continuous naval shipbuilding program, there is evidence that the OPV program is contributing to the delivery of the wider naval shipbuilding enterprise, including through the transfer of shipbuilding expertise to Australia.

### Area for improvement

Having regard to the risks relating to the integration of Government Furnished Equipment, Defence could consider the merit of closer attention by Defence senior leaders of the OPV program as a Project of Interest.

4.1 This chapter examines whether:

- construction of the OPVs is meeting program milestones for schedule, cost and delivery of the required capability; and
- the OPV program remains aligned with the Government's continuous naval shipbuilding plan and enterprise.

### Is construction of the OPVs meeting program milestones for schedule, cost and delivery of the required capability?

The OPV program milestones have been developed to achieve the Government's requirements for an accelerated build schedule to manage shipbuilding workforce risks. As at July 2020, the program had achieved 29 contractual review and construction milestones on time or ahead of schedule. Three reviews were delayed, with payments withheld by Defence for these three missed milestones. Defence has identified system integration risks and emerging design risks, particularly relating to Government Furnished Equipment, that could impact program schedule and cost at later stages of program delivery. There has been some rework in the course of construction that was driven by design work occurring in parallel with OPV construction, with design changes subject to a monitoring and approval process. Program cost is within the allocated budget and the program has not accessed contingency funding. Delivery of the required capability on time and within budget will be dependent on the active management of identified design and integration risks.

## Contractual program milestones and program cost

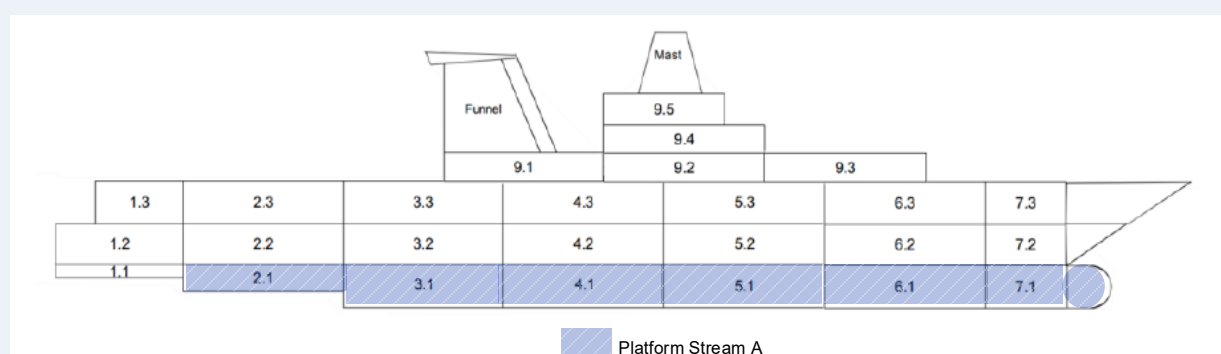
### Contractual milestones

4.2 The approach to the construction of the OPVs is outlined in Box 3. To monitor the delivery of the OPV against schedule, the OPV acquisition contract contains milestones for system reviews and for measuring the progress of ship construction. Payment is to be made to Luerssen against achievement of these contractual milestones.

#### Box 3: Approach to the construction of the Offshore Patrol Vessels

The OPVs are being built using the block construction method. Each OPV is comprised of 26 blocks, as shown in Figure 4.1.

**Figure 4.1: OPV block diagram**



Source: ANAO adaptation of Luerssen block diagram.

The OPVs have been designed, and are to be built, in two streams — Platform Stream A and Platform Stream B. Platform Stream A is the initial six keel blocks shown in Figure 4.1. Platform Stream A also consists of the engine rooms, bilge and bulbous bow. The OPV acquisition contract identifies that Platform Stream A is made up of elements that ‘have a stable design and for which production can commence with minimal risk of rework’. Platform Stream B is the remainder of the ship design that includes the generator room, accommodation, mission decks, combat systems, and communication and navigation systems.

4.3 As at July 2020, the OPV program had achieved 29 contractual review and construction milestones on time or ahead of schedule.<sup>96</sup> Three reviews were delayed:

- the ASC Integrated Baseline Review scheduled for July 2019;
- the Luerssen Integrated Baseline Review scheduled for November 2019; and
- the Support System Detailed Design Review scheduled for March 2020.

4.4 Delays to the two Integrated Baseline Reviews were related to the delays in finalising approved Contract Master Schedules and establishing an Earned Value Management System, discussed in paragraphs 3.42 to 3.45.<sup>97</sup> Defence has withheld the payments relating to the missed

<sup>96</sup> Appendix 6 (Table A.4) of this audit report lists the contractual review and construction milestones, and achievement against them.

<sup>97</sup> As discussed, Luerssen was not able to complete its Contract Master Schedule without an approved schedule from its sub-contractors, ASC and Civmec. The Integrated Baseline Review for Luerssen could not be successfully achieved as a result.

Integrated Baseline Review milestones and will proceed to conduct an Integrated Baseline Review with Luerssen when its Contract Master Schedule is completed and submitted. Defence advised the ANAO that the Luerssen Integrated Baseline Review was now expected to be conducted in September 2020.

4.5 The Support System Detailed Design Review will be further delayed from March 2020 to November 2020.<sup>98</sup> Defence advised the ANAO that:

The Support System Detailed Design Review has been delayed due to issues encountered receiving data in support of OEM [original equipment manufacturer], reliance on the detailed design program and maturity in applying processes prescribed for Support System delivery specific for the RAN [Royal Australian Navy].

### *Program cost*

4.6 The approved acquisition cost for the OPVs at second pass (November 2017) was \$3.58 billion (out-turned), to be funded from an Integrated Investment Program capital provision of \$3.78 billion. The total program budget at second pass (November 2017) was \$3.64 billion<sup>99</sup>, and at 30 June 2020 it was \$3.70 billion.

4.7 Total program expenditure as at 30 June 2020 was \$580.30 million.<sup>100</sup> The majority of the program expenditure comprised payments to Luerssen under the acquisition contract.

4.8 The OPV program Integrated Investment Program provision includes contingency funding of \$426.6 million. Defence has maintained a contingency budget register to identify risks that might arise in the delivery of the OPV program and to estimate the contingency funding required to mitigate those risks.<sup>101</sup> As at June 2020, the program had not accessed contingency funding to complete program activities.

4.9 Of the 12 Contract Change Proposals executed as of June 2020, six have resulted in changes to the contract price — with the overall contract price increasing by \$15.37 million (GST-exclusive).<sup>102</sup> When seeking the delegate's approval for these Contract Change Proposals, Defence advised that it had assessed that there was available program funding for the increase.

4.10 The Independent Assurance Review conducted in April 2019 noted that the OPV program budget has been fully allocated with no discretionary funding. It also identified potential funding pressures in relation to future Engineering Change Proposals and Government Furnished

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98 The Support System Detailed Design Review was initially delayed for 12 months to March 2020 via a Contract Change Proposal (CCP 007) that was executed in July 2019. Defence advised the ANAO in July 2020 that a Contract Change Proposal to further delay the review to November 2020 was yet to be finalised.

99 The \$3.64 billion total program budget comprised: \$10 million initial funding to bring forward the project by two years; additional \$1.5 million funding for the initial phase of the competitive evaluation process; \$45 million for the completion of the competitive evaluation process (including the Risk Reduction Design Studies, Schedule Protection Activities, and project support); and the \$3.58 billion approved acquisition cost.

100 This expenditure amount was calculated on a cash basis.

101 As at June 2020, Defence had identified major risk items which would require contingency funding of around \$67.7 million for risk mitigation if the risk eventuated. These items included: failure to deliver Government Furnished Data on time to inform ship design; failure to achieve initial operational release due to lack of explosive ordnance certification; future Government Furnished Equipment changes leading to an impact on cost; and the program being affected by the COVID-19 pandemic leading to an impact on schedule and cost.

102 CCP 009, which changed the supply of machine guns and mounts to Government Furnished Equipment, resulted in a reduction in contract price of \$1.20 million. See Appendix 4 (Table A.2).



Equipment, elements of which were unfunded. This would require the program to fund any increase in cost or changes to contracted deliverables arising from Contract Change Proposals or Engineering Change Proposals, through the contingency budget or the identification of savings.

4.11 While the OPV program has achieved the majority of its contractual milestones to date with program cost currently within the approved budget, past experience of naval shipbuilding programs indicates that design changes and/or design immaturity (discussed in the next section) can increase budget and schedule pressure (for example, if there is a need for rework in the construction phase).<sup>103</sup>

### Identified risks to design and schedule

4.12 The OPV program milestones were developed to achieve the Government's requirements for an accelerated build schedule to manage shipbuilding workforce risks.<sup>104</sup> As discussed in paragraph 4.3, the program had achieved the majority of its contractual milestones as at July 2020, with the build of the first three vessels commencing on schedule. Defence has identified that system integration risks and emerging design risks could potentially impact program schedule and cost at later stages of program delivery.

#### *Integration of Government Furnished Equipment*

4.13 Defence is responsible for supplying Government Furnished Equipment (GFE) items for the OPVs (discussed further in Appendix 5) which will be installed by Luerksen and the systems integrator. Construction of the OPVs commenced before the sourcing of GFE was finalised.

4.14 The potential effect on OPV design of the compressed build schedule has been acknowledged by Defence<sup>105</sup> and was identified in an Independent Assurance Review conducted in April 2019. The review reported that the OPV program was 'making very good progress, against a very challenging schedule' but identified the 'delivery of Government Furnished Equipment as a major risk for program schedule and budget'. The review stated that:

Inevitably, the rate of progress and the shortening of timeframes for the development and clearance of plans and designs will have transferred some risk into later stages.

4.15 Through system reviews undertaken in December 2018 as well as the Independent Assurance Review in April 2019, the OPV Integrated Project Team (OPV project team) has identified the sourcing of GFE as one of the key risks for the program schedule and budget. The issues identified by Defence mainly relate to equipment for the navigation systems, communication systems, software modules, and command and control systems. The identified issues include:

103 Auditor-General Report No.22 2013–14 *Air Warfare Destroyer Program* identified significant immaturity in detailed design documentation, with design and construction issues leading to extensive, time-consuming and costly rework (p. 21). The ANAO has also previously identified affordability issues relating to Defence's naval shipbuilding programs — see Auditor-General Report No.39 2017–18 *Naval Construction Programs—Mobilisation*, pp. 48–49.

104 Discussed in paragraphs 1.6 and 1.7.

105 Defence advised the ANAO that: 'The OPV project had a schedule imperative to commence build in 2018. This set in place a challenging schedule to deliver the Government Furnished Equipment [GFE]. GFE procurement planning and a more standard ship design schedule would allow for GFE procurement to be aligned to construction milestones supporting timely integration rather than one that is overlapped in the case of OPV to achieve the 2018 schedule imperative.'

- Defence had not finalised acquisition contracts for some GFE in time to align with the accelerated build schedule of the OPV program. For example, there are a number of systems that are to be acquired under the United States Foreign Military Sales Program (FMS) and/or are subject to the United States International Traffic in Arms Regulations (ITAR). Both the FMS and ITAR processes could lengthen the lead-time for acquiring some GFE, with possible implications for the program schedule.
- Defence identified design immaturity in some of the GFE, despite it being presented to Defence as off-the-shelf equipment.
- Defence identified uncertainties with the configuration and interface of some systems with the OPVs.<sup>106</sup>
- Defence was required to enter into new commercial arrangements to expand the scope of contract to enable the purchase of additional units for some GFE.

4.16 In October 2019, the Whole of Ship Detailed Design Review identified that good progress had been made against managing GFE risk. Defence advised the ANAO in July 2020 that it was actively managing risk in relation to GFE to minimise impacts on the program:

The risk has been appropriately flagged and is being managed at the appropriate level.

All GFE required for the OPV is being procured and will be available in time to support the build of OPV. To mitigate the design risk, the project held workshops with Luerksen, L3 and Saab where design assumptions were discussed and recorded. The assumptions shifted risk to the Commonwealth and allowed sub-contractors to progress. Procurement of GFE systems occurred in parallel and the delivery dates of all equipment will support the build program. Whilst the risk will stand in Predict [Defence's risk management system] until the items arrive there are no foreseen schedule impacts due to the lack of GFE. A GFE management team has been set up in the Project to manage delivery of GFI and GFE to meet project schedule.

4.17 Defence advised the ANAO in September 2020 that GFE is currently a Medium risk.

### *Design risks*

4.18 The compressed build schedule has also resulted in the concurrent delivery of system design and ship construction activities, with the build of the vessels progressing at a faster pace than design maturation.

4.19 The ANAO observed instances where Defence's reviews noted misalignment between the maturation of the design and construction progress. For example, the agreed approach for the design and build of the OPVs resulted in the progression to construction of Platform Stream A prior to the completion of design work for the remainder of the ship (Platform Stream B).

4.20 A further example was that the combined System Definition Review and Preliminary Design Review for Platform Stream B, completed in December 2018, noted that design work was still progressing for the upper levels of the ship and integration challenges remained. The areas identified as requiring further development included the upper deck and mast design, and the

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106 GFE was identified as one of the key risk areas in the combined System Definition Review and Preliminary Design Review for Platform Stream B. The OPV project team identified there is a risk that some GFE systems may not be able to be integrated with the constructed OPVs. For example, any changes made to the design of the sea boats under Defence's contract with Boomeranger would impact the integration of the sea boats with the OPV's cranes and stern ramp.

integration of systems (command and control systems, communication and navigation systems) into the platform. The review minutes commented that:

Luerssen's preliminary design is progressing well and that there are a number of areas that still require design maturation prior to being suitable for DDR [Detailed Design Review] Platform Stream B.

4.21 Issues relating to upper deck design and system integration remained unresolved at the completion of the Detailed Design Review for Platform Stream B in April 2019. The Detailed Design Review for Platform Stream B achieved a conditional close-out subject to a further review — a Whole of Ship Detailed Design Review — in October 2019. The outcomes of the design reviews for Platform Stream B demonstrated that the system design for the upper levels of the OPV was not stable when construction of the OPVs commenced. This creates a risk that the upper levels will not match the lower levels.

4.22 In May 2019 a Contract Change Proposal (CCP 007) was raised to amend certain details in the contract, including milestone payments and schedules, to better match the evolving program schedule.<sup>107</sup> CCP 007 was approved in July 2019 and specifically delayed the schedule and reduced the payment for the Support System Detailed Design Review. CCP 007 also divided the review into three new sub-milestones — a Whole of Ship Detailed Design Review, an ASC Integrated Baseline Review and a Luerssen Integrated Baseline Review — with individual milestone payments.<sup>108</sup> The purpose of the Whole of Ship Detailed Design Review was to undertake a complete assessment of the detailed design of the OPV, including the antenna arrays on the upper level.

4.23 The Whole of Ship Detailed Design Review was undertaken in late October 2019 for Defence to better understand design risks, particularly with respect to the upper deck design and the impact on production. The October 2019 review found that good progress had been made since the Detailed Design Review for Platform Stream B. The review minutes identified that the key areas with good progress include configuration management, GFE and upper deck design. The October 2019 review noted that 'major success during this review has been locking down the Upper Deck design' and that 'the program is now getting close to finalising the Upper Deck design'.

4.24 OPV 1 and OPV 2 commenced construction in November 2018 and June 2019 respectively. The outcomes of the October 2019 Whole of Ship Detailed Design Review indicate that the upper deck design was still immature after construction of these ships had commenced. Past experience indicates that concurrent design and construction work can introduce additional risk to shipbuilding programs.<sup>109</sup>

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107 See Contract Change Proposal CCP 007 in Table A.2 of Appendix 4.

108 The payment for the Support System Detailed Design Review was reduced to a level commensurate with other detailed design reviews in order to create the three new payment milestones. CCP 007 did not result in changes to the contract price.

109 See Auditor-General Report No.22 2013–14 *Air Warfare Destroyer Program*, paragraphs 5.8, 5.78–5.85. See also United States Government Accountability Office, *Columbia Class Submarine: Overly Optimistic Cost Estimate Will Likely Lead to Budget Increases*, GAO, Washington D.C., April 2019, pp. 3–4 whereby naval shipbuilding programs with aggressive schedules and extensive overlap between the development, design and construction phases usually had higher schedule risk and cost growth.

## *Rework during construction*

4.25 Defence advised the ANAO in July 2020 that a level of rework is expected for the first-of-class and for the first ship to be built in a different yard, such as OPV 3 in Western Australia. Defence further advised that:

One important cause of design change has been the integration of Australian Industry Content (AIC) into the platform design. Various changes from European suppliers to Australian suppliers has meant changes to the platform to integrate that equipment. While functionally equivalent to European equipment, physical design differences has driven changes to foundations, isometric pipes, penetrations and conduits. Changes have also been made in the design to maximise the use of Australian suppliers for various minor parts; examples like stainless steel ladders and foundations where the grade of steel has been changed to maximise the use of material available in Australia.

4.26 Defence documentation indicates that design and design drawing changes are subject to an approval process<sup>110</sup> and that the project office and Naval Construction Branch (NCB) have monitored and reported on production issues during construction. In April 2020, NCB produced a report for the project office which analysed changes generated to date and the source of the change. The purpose was to 'understand where these changes originate and the reasoning behind ongoing design updates considering the maturity level of the OPV design.'<sup>111</sup> The report identified that of the 431 changes raised over the reporting period, 210 were potentially impacting production. Of this number, 30 per cent were due to changes required to penetrations following design changes, 15 per cent for outfitting design changes, 14 per cent due to the manufacture of material and 10 per cent due to design issues identified in-build. The report also observed that:

The construction of OPV01 commenced ahead of achieving the adequate design maturity and detail design coordination stability. This issue is a single most significant influencer of the number of design changes that are being experienced at the moment. Effectively, there is a design phase going in parallel with production.

4.27 Defence advised the ANAO in July 2020 that:

SEA 1180 is confident that Luerssen has an established configuration control process in place, commencing during the Risk Reduction Design Study and furthermore the Commonwealth is actively monitoring those changes and involved in the change process to identify early any emergent risks.

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110 Defence advised that Luerssen's engineering department generates a 'BUF' to manage deviations or changes, defective products and corrective measures. Design changes can occur at different levels and the major ones are captured in Engineering Change Proposals (Class 1) and are the only costed changes to the program. Class 1 proposals require Commonwealth approval and are a very small sub-set of the changes to OPV production. All other minor changes (e.g. a new hole to be drilled in a different position to accommodate a different type of bracket) are generally below the level of management control of the Commonwealth. These changes, which still require a BUF, are closely monitored to identify early risks to cost, quality or schedule.

111 The report was prepared because 'anecdotal advice has been received that a significant amount of production hours have been spent on work influenced by engineering design changes'.

4.28 The integration and design issues identified by Defence will require active management to avoid impacts on the program.<sup>112</sup> The above evidence indicates that the risk to program schedule and budget presented by the misalignment between the construction of the OPVs, design work and the sourcing of GFE is recognised and is being monitored.<sup>113</sup> Having regard to the risk of potentially costly rework if, for example, GFE is not able to be integrated, and the potential impact of any such work on schedule and project scope, Defence has the option of considering whether the risk warrants closer attention by Defence senior leaders as a Project of Interest.

### Delivering the OPV capability to Navy

4.29 The OPV program is progressing toward delivering OPV 1 to the Royal Australian Navy (Navy) in December 2021. Upon Initial Materiel Release, Navy will conduct operational test and evaluation on OPV 1, with Initial Operational Capability expected to be achieved in December 2022. Table 4.1 outlines the expected timing for the delivery of the OPVs to Navy from Initial Materiel Release to Final Operational Capability.

**Table 4.1: Timeline for OPV capability delivery**

| Deliverable                            | Delivery schedule |
|--|-------------------|
| OPV 1 – Initial Materiel Release       | December 2021     |
| OPV 2 – Materiel Release               | September 2022    |
| OPV 1 – Initial Operational Capability | December 2022     |
| OPV 3 – Materiel Release               | May 2023          |
| OPV 4 – Materiel Release               | February 2024     |
| OPV 5 – Materiel Release               | December 2024     |
| OPV 6 – Materiel Release               | July 2025         |
| OPV 7 – Materiel Release               | April 2026        |
| OPV 8 – Materiel Release               | January 2027      |
| OPV 9 – Materiel Release               | October 2027      |
| OPV 10 – Materiel Release              | June 2028         |
| OPV 11 – Materiel Release              | March 2029        |
| OPV 12 – Final Materiel Release        | December 2029     |

112 The ANAO has previously observed that risks to schedule and cost often arise in the complex phase of systems integration. See for example Auditor-General Report No.22 2013–14 *Air Warfare Destroyer Program*, paragraph 25 and footnote 17. Further, the Major Projects Report has observed that reasons for schedule slippage often include underestimation of the difficulties associated with technical factors such as design problems, industry capacity and capability, difficulties in system integration to achieve the required capability, or emergent work associated with upgrades. See Auditor-General Report No.16 of 2015–16 *2014–15 Major Projects Report*, paragraph 2.45.

113 For example, the project office has established a team to manage GFE procurement against program schedule, Defence held workshops with Luerssen to discuss detailed design assumptions relating to GFE, and Defence has been monitoring design changes and production issues (with all design changes being subject to an approval process).

| Deliverable                  | Delivery schedule |
|------------------------------|-------------------|
| Final Operational Capability | June 2030         |

Note: Definitions of these capability states are provided in Table 1.3 of this audit report.

Source: ANAO presentation of the delivery schedule set out in the Materiel Acquisition Agreement.

### *Ship Zero training initiative*

4.30 Navy's 'Ship Zero' training initiative applies to each of the three continuous naval shipbuilding programs, with the OPV program being the frontrunner for the initiative. Ship Zero aims to transfer an increasing amount of traditional training from sea to shore by reducing the requirement for training at sea. An interim Ship Zero function for the OPV program<sup>114</sup> — an OPV capability centre for collective training<sup>115</sup> at the Henderson maritime precinct in Western Australia — is to be established before the delivery of OPV 1 in December 2021. To support Defence in establishing the OPV capability centre for Ship Zero, the acquisition contract requires Luerssen to identify and develop crew training, training equipment and a land-based test site for the OPV platform and combat systems.

4.31 Three reviews undertaken to date by Defence, and the April 2019 Independent Assurance Review, have raised the following concerns about the OPV Ship Zero deliverables:

- The December 2018 System Definition Review (Support Systems) found that the requirements for Ship Zero had not been defined in detail. Luerssen identified this as a risk to the support systems as Ship Zero may not be ready for commencement of initial crew training. It was identified in the review that the establishment of Ship Zero was due to be completed in September 2021, despite crew training for OPV 1 being due to start in June 2021.
- The February 2019 Preliminary Design Review (Support Systems) raised concerns about the timeline for crew training for Ship Zero.
- The March 2019 Detailed Design Review (Platform Stream B) noted that the definition and requirements for Ship Zero training, equipment and test site were yet to be completed. The training and equipment requirements could only be determined in detail when the design and build of the OPVs had been established more fully.
- The April 2019 Independent Assurance Review identified that the Ship Zero approach required refinement, with the requirements for Ship Zero training and equipment yet to be defined by Luerssen.

4.32 The minutes for the June 2019 Long Lead Time Item Review and June 2020 Training Equipment Provisioning Preparedness Review identified that requirements for training and training equipment have been defined further, with action plans developed for issues that may affect the production and delivery of the training equipment.

4.33 In January 2020, approval was provided for Defence to pursue a commercial lease with Cimtec to establish an interim OPV Ship Zero facility at Henderson. The interim Ship Zero at

<sup>114</sup> The current Navy Infrastructure Plan indicates that permanent facilities for the Ship Zero initiative will not be available until December 2023, thus an interim facility is required.

<sup>115</sup> OPV collective training includes a combination of classroom instruction, shore-based simulation, virtual reality training systems and live training ashore at the OPV capability centre.

Henderson will provide facilities, resources and accommodation to house the OPV System Program Office, OPV Headquarters, Crew Zero, Naval Construction Branch and the training elements.

4.34 As with the design and integration issues discussed above, OPV Ship Zero delivery will also require active management to avoid impacts on OPV program outcomes.

*Transitioning from the Armidale to Arafura class — managing the capability gap*

4.35 As discussed in paragraphs 1.1 to 1.3, the OPVs are expected to replace and improve upon the current capabilities delivered by the Armidale class patrol boats, which are nearing the end of their life-of-type and are due to be withdrawn from service between 2020 and 2022.<sup>116</sup> The second pass approval for the OPVs included funding of \$103.7 million to transition the border protection and patrol capabilities to the new OPVs, with the first OPV entering service in December 2022.

4.36 The indicative transition plan, identified in the second pass submission to government, included a combination of: a five year life-of-type extension for up to six Armidale class patrol boats; and the lease of up to two Cape class patrol boats until 2022. In August 2019, Navy extended the lease of two Cape class patrol boats until April 2022 and May 2022 respectively.

4.37 In late 2019, Navy was still developing an approach for the Armidale class patrol boat life-of-type extension and considering an alternate approach to transitioning from the Armidale to the Arafura class.

4.38 In late 2019, Navy was also considering an unsolicited proposal from Austal to build and lease six Cape class patrol boats to the Navy.<sup>117</sup> At the end of the lease, the Government would have the option to own the Cape class patrol boats. Navy advised the ANAO that a Risk Reduction Design Study for the Austal proposal was in progress from November 2019 to March 2020. Navy also advised the ANAO that a cost analysis, including a value for money assessment, had been undertaken.

4.39 The Armidale class patrol boat life-of-type extension transition plan and the Austal unsolicited proposal, were considered by the Chief of Navy Senior Advisory Committee<sup>118</sup> and the Defence Investment Committee in February 2020.

4.40 The Government considered a submission on the revised transition plan in early April 2020 and announced in May 2020 that Austal would build six new Cape class patrol boats for Navy (refer paragraph 1.18). Defence advised the ANAO that:

The primary purpose of the Cape Class Patrol Boats will be to provide a transition capability whilst the Arafura Class OPVs [Offshore Patrol Vessels] are brought into service, replacing the need for the ACPB [Armidale class patrol boats] Life of Type Extension.

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116 The Armidale first-of-class has been in service for 15 years. There was heavy use of the Armidale class patrol boats for Operation Resolute and Operation Sovereign Borders.

117 Austal was the shipbuilder for the Armidale class patrol boats and the Cape class patrol vessels. The Australian Customs and Border Protection Service's acquisition and management of eight Cape class patrol boats was examined in Auditor-General Report No.13 2014–15 *Management of the Cape Class Patrol Boat Program*. The Department of Home Affairs' administration of support arrangements was subsequently examined in Auditor-General Report No.21 2018–19 *Cape Class Patrol Boat – In Service Support Arrangements*.

118 The committee comprises Navy representatives.

4.41 Defence further advised the ANAO that the planned life-of-type extension of the Armidale class patrol boats will no longer proceed, and that the funding allocated at second pass to the life-of-type extension has been quarantined pending further advice.

### Does the OPV program remain aligned with the Government's continuous naval shipbuilding plan and enterprise to date?

To date, the OPV program remains largely aligned with the Government's wider continuous naval shipbuilding plan and enterprise. The OPV program is supporting the delivery of the key *Naval Shipbuilding Plan* outcomes of naval capability enhancement, shipbuilding infrastructure improvement, Australian industry involvement and the transfer to Australia of shipbuilding expertise, and job creation. Two Defence reviews have identified uncertainties as to whether the OPV program has 'de-risked' production of the Hunter class frigate as intended, by trained OPV workers transitioning to the frigate program.

4.42 The Australian Government's continuous naval shipbuilding enterprise, set out in the May 2017 *Naval Shipbuilding Plan*<sup>119</sup>, aims to deliver the following key outcomes:

- enhancement and modernisation of Australia's naval capability;
- development and upgrade of naval shipbuilding and sustainment infrastructure<sup>120</sup>;
- optimisation of Australian industry involvement and transfer of naval shipbuilding expertise to Australian industry; and
- creation of jobs and the development of a skilled workforce for naval shipbuilding.

4.43 The OPV program is critical to the successful delivery of these outcomes and the *Naval Shipbuilding Plan*.<sup>121</sup> The OPV program is the foundation program for the continuous naval shipbuilding enterprise.

4.44 Table 4.2 outlines the ANAO's analysis of the OPV program's contribution to the four key outcomes.

119 Minister for Defence, 'Securing Australia's naval shipbuilding and sustainment industry', media release, 16 May 2017, available from <https://www.minister.defence.gov.au/minister/marise-payne/media-releases/securing-australia-naval-shipbuilding-and-sustainment-industry> [accessed 22 September 2020].

120 The Government announced in April 2016 that the major warship continuous build program would be based at the Osborne naval shipyard in South Australia — comprising Osborne South (for surface vessels), Osborne North (for the future submarine build) and a shared Common User Facility. Minor naval vessel continuous build activity would be based at the Henderson maritime precinct in Western Australia. The Government also stated that improvements and modernisation of the infrastructure and facilities at Osborne and Henderson are required to support the delivery of the continuous naval shipbuilding program, and committed to investment in developing the infrastructure and facilities at the two shipyards.

121 Department of Defence, *National Naval Shipbuilding Enterprise* [Internet], available from <https://www.defence.gov.au/NavalShipbuilding/Default.asp> [accessed 22 April 2020].



**Table 4.2: ANAO analysis of OPV program's contribution to key outcomes of the Naval Shipbuilding Plan, as of April 2020**

| Key outcome  | ANAO analysis  |
|--|--|
| Enhancement and modernisation of naval capability                      | <p>Selection of more capable vessels to replace Armidale class.</p> <p>The OPV program is meeting the current construction milestones, with the build of the first three OPVs commencing on schedule. Timely commencement contributes to the avoidance of a capability gap.</p> <p>In line with Navy's aim to apply a 'Ship Zero' training approach to each of the three continuous naval shipbuilding programs, Defence and Luerssen are working together to establish a Ship Zero OPV capability centre (see paragraph 4.30).</p>  |
| Development and upgrade of shipbuilding and sustainment infrastructure | <p>The construction of the first OPV commenced at Osborne South in November 2018 to support the initiation of the Government's continuous naval shipbuilding program. The existing infrastructure at the Osborne South shipyard, largely developed for the block assembly of the Hobart class AWD program, was suitable for the construction of the less complex OPVs without requiring significant shipyard changes.<sup>a</sup></p> <p>Construction of OPV 1 and OPV 2 at Osborne South prior to transitioning the OPV build to Western Australia (Henderson) in 2020 provided additional time for the preparation and upgrade of the shipbuilding infrastructure at Henderson.</p> <p>Civmec invested around \$85 million in constructing a new ship assembly and maintenance facility at Henderson to support construction of the remaining 10 OPVs.</p>   |
| Australian industry involvement and transfer of expertise              | <p>At the conclusion of contract negotiations, Luerssen committed to achieve 59 per cent Australian Industry Capability (AIC) content through the life of the OPV program. As of October 2019, Luerssen reported in its updated AIC Plan that it had subcontracted around \$1.25 billion of work activities that were to be performed in Australia by Australian industry, representing an AIC content of around 63 per cent.</p> <p>Luerssen has teamed experienced project management and technical shipbuilding staff from Germany with ASC and Civmec employees. Luerssen staff from Germany are to work in collaboration with ASC and Civmec employees to train them in the shipbuilding processes, utilisation of technology, project management, and design and engineering expertise. The transfer of shipbuilding expertise, skills and capability to Australia is expected to support the establishment of a continuous naval shipbuilding enterprise.</p>   |
| Workforce development and job creation                                 | <p><b>Workforce development</b></p> <p>Luerssen is to work with the Naval Shipbuilding College<sup>b</sup> to determine the skills requirements for the OPV program and develop training programs to match skills demand.</p> <p>In October 2019, Luerssen and the other major contractors of the naval shipbuilding projects signed a Strategic Workforce Plan with Defence to manage workforce development issues in relation to the Government's continuous naval shipbuilding program.<sup>c</sup> The plan aims to: help Defence and the major shipbuilding contractors work together on meeting workforce demands; and ensure that workforce and training needs for each shipbuilding project are identified in advance to better meet workforce demand throughout the lifetime of the projects. The plan also includes a commitment from the major contractors to share workers, as a collaborative approach is expected to help avoid competition between contractors for skilled workers.</p> <p>Luerssen reported in its Australian Industry Capability Plan to Defence that it has provided technical and managerial skills training to ASC and Civmec employees.</p> <p><b>Job creation and skills retention</b></p> <p>As discussed further in paragraphs 4.45 to 4.52:</p> |

| Key outcome | ANAO analysis   |
|-------------|---|
|             | <p>Based on Defence's advice to Parliament and information provided by ASC, the number of workers retained from the Hobart class destroyer (AWD) workforce to date has exceeded the estimate of 200 workers provided to the Government in November 2018. The number of OPV workers at Osborne (359) as at July 2020, as advised by ASC, has also exceeded Defence's revised OPV workforce projections for 2020 (300).</p> <p>Two internal Defence reviews have raised issues as to whether the OPV program will help de-risk SEA 5000 (Future Frigate program) as expected, by trained OPV workers transitioning to SEA 5000.</p> |

Note a: Defence considers that further capacity and capability improvements are needed at Osborne South to accommodate the construction of major surface combatants such as the Hunter class frigates.

Note b: In 2018, the Government established the Naval Shipbuilding College at the Osborne naval shipyard to support workforce growth and skilling needs across the continuous naval shipbuilding enterprise.

Note c: The other participants of the Strategic Workforce Plan are Naval Group Australia, BAE Systems Australia, ASC, SAAB Australia and Lockheed Martin Australia.

Source: ANAO analysis.

## Workforce issues

4.45 To maintain the shipbuilding workforce at the Osborne shipyard in South Australia between the wind-down of the Hobart class destroyer (AWD) build from 2017 and the commencement of the Hunter class frigate program in 2020, the Government decided that the first two OPVs would be built at Osborne. The 10 remaining OPVs are to be built at the Henderson shipyard in Western Australia.

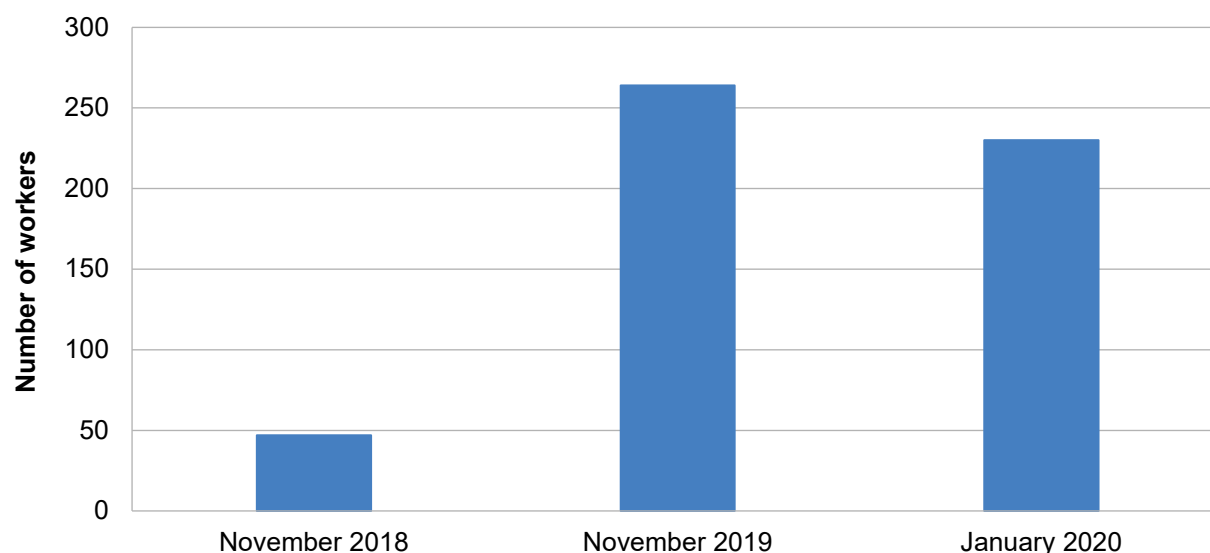
4.46 Defence advised the Government in November 2018 that approximately 200 workers from the Hobart class destroyer (AWD) program would be retained for the construction of the first two OPVs at Osborne through to 2022. Defence also advised the Government that the OPV program would employ around 400 workers in total.<sup>122</sup> Defence forecast an estimated 60 workers would be required by ASC Shipbuilding for the OPV construction at Osborne by January 2019, increasing to 310 workers in January 2020.

4.47 Figure 4.2 shows the number of workers at Osborne that Defence has reported to the Government and the Parliament as being employed on the construction of the first two OPVs. Defence advised the Senate in November 2019 that 264 workers had transferred from the Hobart class destroyer (AWD) program to the OPV program at Osborne.<sup>123</sup>

<sup>122</sup> Government and Defence statements regarding OPV employment are included in Appendix 7 of this audit report.

<sup>123</sup> Commonwealth, *2019–20 Supplementary Budget Estimates for the Foreign Affairs, Defence and Trade Legislation Committee*, Senate, 29 November 2019, Mr D Fankhauser, Assistant Secretary Naval Shipbuilding.

**Figure 4.2: Number of workers employed in the OPV program at the Osborne shipyard as reported by Defence**



Source: ANAO analysis of statements made by Defence in its advice to government in November 2018, Defence evidence provided at supplementary budget estimates hearings on 29 November 2019 (see footnote 123), and Defence answer to question on notice number 484 regarding 'OPVs – direct and indirect Jobs'.

4.48 In February 2020, Defence provided the Senate with an updated estimate of the direct workforce numbers at both Osborne and Henderson for the OPV program over the next five years. Table 4.3 shows Defence's revised workforce projections of direct jobs for the program.

**Table 4.3: Projections of direct job figures for the OPV program at the Osborne and Henderson shipyards from 2020 to 2024**

| Shipyard       | 2020 | 2021 | 2022 | 2023 | 2024 |
|----------------|------|------|------|------|------|
| Osborne (SA)   | 300  | 260  | 135  | 0    | 0    |
| Henderson (WA) | 145  | 235  | 260  | 260  | 260  |

Source: Defence response to question on notice number 484, provided on 6 February 2020, regarding 'OPVs – direct and indirect Jobs' asked by Senator Kitching at the 2019–20 supplementary budget estimates hearings of the Senate Standing Committee on Foreign Affairs, Defence and Trade held on 29 November 2019.

4.49 The ANAO sought from Defence the underlying data in relation to the OPV workforce numbers and the mechanism in place for Defence to monitor the actual workforce numbers. Defence did not retain this data and advised the ANAO that based on information provided by ASC, as at July 2020 there were 359 workers on the OPV program, of which 255 workers were transferred from the Hobart class destroyer (AWD) program. According to ASC, the 255 workers comprised 240 resources currently deployed by ASC Shipbuilding to the OPV build and 15 existing employees from ASC Pty Ltd who were retained from the AWD program.<sup>124</sup> Defence did not provide the ANAO with evidence that it had assured these numbers.

<sup>124</sup> ASC Shipbuilding was formed out of the restructuring of ASC Pty Ltd in October 2016. ASC advised Defence that ASC Shipbuilding has done minimal external recruitment for the OPV program, and that the 240 resources deployed to the OPV build would have been retained from the AWD program as a result.

4.50 Based on Defence's advice to Parliament and information provided by ASC, the number of workers retained from the Hobart class destroyer (AWD) workforce to date has exceeded the estimate of 200 workers provided to the Government in November 2018. The number of OPV workers at Osborne (359) as at July 2020, as advised by ASC, has also exceeded Defence's revised OPV workforce projections for 2020 (300).<sup>125</sup>

4.51 Defence's internal advice identified that it was not possible to redeploy all the existing Hobart class destroyer workers to the OPV program because:

- the resource requirements for building the OPVs are less than those for the Hobart class (AWD) build; and
- the transition of shipbuilding skills from the Hobart class (AWD) program to the OPV build is limited. The majority of workers engaged on the latter part of the Hobart class program were primarily focusing on system integration. This is a different skillset to the heavy industrial skills required for steel fabrication and block assembly of the OPV build.

4.52 Looking to the future, two Defence reviews have indicated uncertainty as to whether the current OPV workforce will be transitioned to the Hunter class frigate program (SEA 5000) to help de-risk that program by addressing the gap in workforce demand (the 'valley of death') as originally intended.<sup>126</sup>

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Grant Hehir  
Auditor-General

Canberra ACT  
12 October 2020

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125 The number of workers on the build of the first two OPVs at Osborne, as at July 2020, was lower than the Government's initial projections of '400 direct jobs'. See Appendix 7 of this audit report for Government and Defence statements on OPV employment outcomes.

126 An Independent Assurance Review conducted in July 2017 observed that: 'it is unclear how this project [OPV] will de-risk the SEA 5000 construction in Osborne given the future frigate is a different design; it will involve a different designer; and will require additional facilities than those proposed for construction of OPV 1 – 2 in Osborne.' The September 2017 advisory panel review (see paragraphs 2.24 to 2.26) observed that while the OPV program was intended to de-risk the SEA 5000 Project, the panel noted some issues in the plans provided by all three tenderers that may actually increase the risk exposure for the SEA 5000 Project, particularly with respect to workforce and facilities. The panel noted that the three tenderers proposed to transition some of the upskilled Osborne workforce for OPV 1 and OPV 2 to Henderson (Western Australia) for the construction of OPV 3 to OPV 12, and commented that such an approach might reduce the capability of the South Australian workforce as the Hunter class frigate program commences, increasing the risk for the future frigate program. The panel also observed that the OPV project has to vacate the Osborne South shipyard in time to enable infrastructure upgrades to support construction of the Hunter class frigates, and commented that risk will be introduced to the Hunter class frigate program if the construction of OPV 1 and OPV 2 does not progress as intended, resulting in a delay in vacating the shipyard.

## **Appendices**

## Appendix 1 Entity response



Australian Government

Department of Defence

PO Box 7900 CANBERRA BC ACT 2610

EC20-003336

**Mr Grant Hehir**  
Auditor-General  
PO BOX 707  
CANBERRA ACT 2601

Dear Mr Hehir *Dear Grant*

**Australian National Audit Office Section 19 Proposed Report: Defence's Procurement of Offshore Patrol Vessels – SEA 1180**

Thank you for your correspondence of 24 August 2020, containing the Proposed Report for the ANAO performance audit – *Defence's Procurement of Offshore Patrol Vessels – SEA 1180*.

Defence acknowledges the findings contained in the audit report on the Procurement of Offshore Patrol Vessels – SEA 1180 and agrees with the two recommendations. Defence will improve planning and timing of Independent Assurance Reviews during selection processes to ensure the reviews are conducted effectively and reviewers can access the required information. Defence will also ensure that record keeping pertaining to procurements aligns with requirements.

Attached to this letter are Defence's Proposed Amendments, Editorials and Comments (**Annex A**), Defence's Response to Requests for Information (**Annex B**), Defence's Response to the Proposed Recommendations (**Annex C**) and the Defence Summary Response (**Annex D**). These constitute Defence's formal response to the Proposed Report.

Our point of contact is the ANAO Liaison Officer, Nicole Fry, who can be contacted by telephone on 02 6266 3103 or via email at: [nicole.fry@defence.gov.au](mailto:nicole.fry@defence.gov.au).

Defence remains committed to assisting you with the successful completion of this audit. We look forward to the upcoming tabling of the Final Report.

Yours sincerely

*G Moriarty*  
**Greg Moriarty**  
Secretary

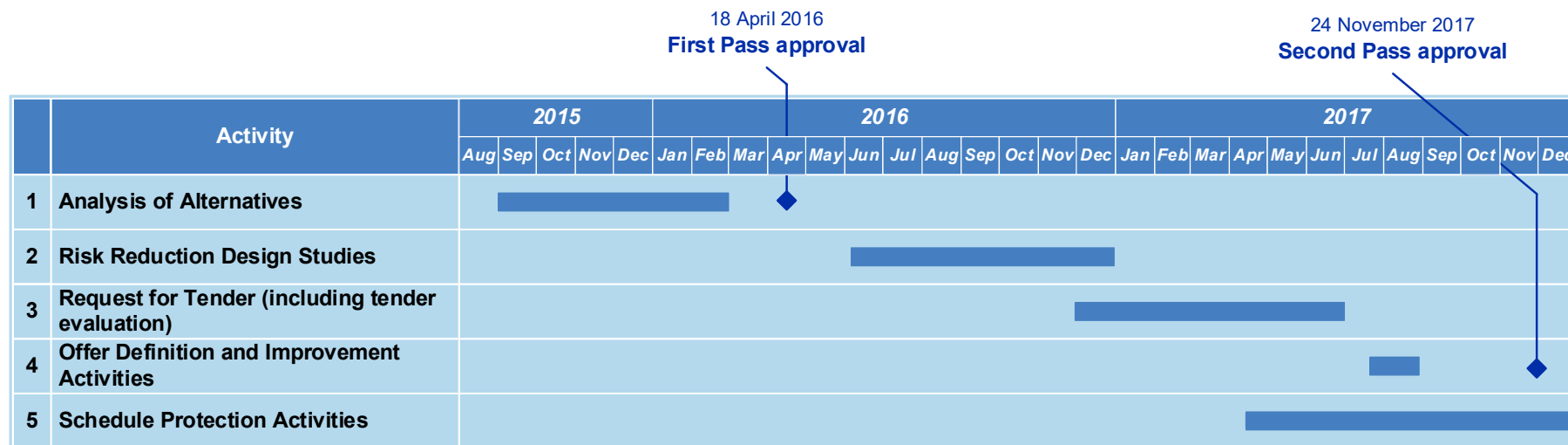
15 September 2020

*A J Campbell*  
**Angus J Campbell, AO, DSC**  
General  
Chief of the Defence Force

15 September 2020

## Appendix 2 Timing of the competitive evaluation process and government approvals

Figure A.1 Timing of the competitive evaluation process, first pass approval and second pass approval



Note: The Request for Tender was released on 30 November 2016 and closed on 30 March 2017. Tender evaluation was conducted from 4 April 2017 to 30 June 2017. Schedule Protection Activities were conducted in three phases: Phase 1 (31 March 2017 to 30 June 2017); Phase 2 (17 July 2017 to 29 September 2017); and Phase 3 (October to December 2017).

Source: ANAO analysis of Defence documents.

## Appendix 3 Tender evaluation criteria for the Offshore Patrol Vessel Request for Tender

**Table A.1: Tender evaluation criteria and core theme of the competitive evaluation process**

| Criterion | Description   | Core theme of the competitive evaluation process  |
|-----------|---|---|
| 1         | The tenderer's proposed commitment and approach to the development of an Australian continuous naval surface ship building capability, including the extent of Australian Industry Capability, and development of an Australian shipbuilding workforce capability and an Australian supply chain. | <ul style="list-style-type: none"> <li>Continuous naval shipbuilding capability and capacity — commencing build in 2018, delivering the Offshore Patrol Vessels and developing an enhanced legacy.</li> <li>Ability to execute, govern and manage the program.</li> </ul> |
| 2         | The extent to which the tendered solution for the Mission System and the Support System is assessed as meeting the requirements of the draft Contract, including the draft Preliminary and Support Intent and the Function and Performance Specification set out in the draft Statement of Work.  | <ul style="list-style-type: none"> <li>Vessel capability — technical and operational.</li> </ul>  |
| 3         | The tenderer's demonstrated ability to deliver the other requirements in the draft Statement of Work and the assessed level of risk to commence construction in 2018.   | <ul style="list-style-type: none"> <li>Continuous naval shipbuilding capability and capacity — commencing build in 2018, delivering the Offshore Patrol Vessels and developing an enhanced legacy.</li> <li>Vessel capability — technical and operational.</li> </ul>     |
| 4         | The extent to which the tender is compliant with the draft conditions of contract, including the extent to which the tender proposes intellectual property rights to the Commonwealth and the assessed level of risk relating to the negotiation of a contract acceptable to the Commonwealth.    | <ul style="list-style-type: none"> <li>Ability to execute, govern and manage the program.</li> <li>Continuous naval shipbuilding capability and capacity — commencing build in 2018, delivering the Offshore Patrol Vessels and developing an enhanced legacy.</li> </ul> |
| 5         | The extent to which the nominated Australian ship builder meets the requirements in clause 4.1 of the draft contract. <sup>a</sup>  | <ul style="list-style-type: none"> <li>Continuous naval shipbuilding capability and capacity — commencing build in 2018, delivering the Offshore Patrol Vessels and developing an enhanced legacy.</li> <li>Ability to execute, govern and manage the program.</li> </ul> |
| 6         | The proposed corporate structure and contracting structure of the tenderer, including any proposed joint venture and approved subcontractors, and the assessed level of associated risk to the Commonwealth.  | <ul style="list-style-type: none"> <li>Ability to execute, govern and manage the program.</li> </ul>  |



| Criterion | Description  | Core theme of the competitive evaluation process   |
|-----------|--|--|
| 7         | The financial and corporate viability of the tenderer and any proposed joint venture and approved subcontractors, including the level of risk relating to the delivery of contract obligations.                              | <ul style="list-style-type: none"> <li>• Ability to execute, govern and manage the program.</li> </ul> |
| 8         | The tendered prices, pricing structure and life cycle costs.   | <ul style="list-style-type: none"> <li>• Costs and affordability of the program</li> </ul>             |
| 9         | The past performance of contractual obligations by the tenderer, any proposed approved subcontractors and any related bodies corporate, or a special purpose vehicle in which any of these entities is or has been involved. | <ul style="list-style-type: none"> <li>• Ability to execute, govern and manage the program.</li> </ul> |

Note a: To qualify as an Australian shipbuilder for the OPV program, the criteria to be met by the shipbuilder include: demonstrated capability to build vessels similar to the OPV; current registration as an Australian registered company and have a continuous registration for at least 15 years; demonstrated capability to deliver an ongoing shipbuilding program over the last 15 years; demonstrated international competitiveness; and demonstrated financial viability.

Source: ANAO analysis of Defence documents.

## Appendix 4 Approved Contract Change Proposals — January 2018 to June 2020

**Table A.2: Approved Contract Change Proposals from January 2018 to June 2020**

| Contract Change Proposal (CCP)              | Execution date   | Effect of proposed changes  | Effect on contract price |
|---|------------------|---|--------------------------|
| Defence-initiated Contract Change Proposals |                  |   |                          |
| CCP 001<br>Administrative changes           | 26 November 2018 | <p>To make administrative changes to the contract, including to:</p> <ul style="list-style-type: none"> <li>• correct minor omissions, typographical errors and cross-referencing errors;</li> <li>• make consequential changes to some of the contract attachments to reflect principles agreed by both parties prior to contract execution, in relation to: <ul style="list-style-type: none"> <li>– approved subcontractors;</li> <li>– Intellectual Property Plan;</li> <li>– Price and Payment Schedule to update milestone dates, exchange rates and CCP schedule of rates; and</li> <li>– Confidential Information List</li> </ul> </li> </ul> | None                     |
| CCP 002<br>Insurances                       | 13 November 2018 | <p>To agree and incorporate:</p> <ul style="list-style-type: none"> <li>• the requirement for Ship Repairer's Liability insurance to be placed and maintained by Luerssen; and</li> <li>• the requirement for the Commonwealth to place and maintain shipbuilders' all risks insurance through the Maritime Insurance Program.</li> </ul>   | \$3.29 million increase  |
| CCP 006<br>DNV-GL scope                     | 6 May 2019       | <p>To increase the scope of the DNV-GL Classification Society review to gain independent third party assurance against critical areas of the OPV design and build to support Seaworthiness Assurance (as outlined in ECP 010) and to meet various Australian standards and requirements.</p> <p>The proposed changes include requesting that DNV-GL provide drawing approval and review a range of items, including but not limited to, deck tie-down drawings, structural fire protection, steering and rudder, shafting and delivery of MARPOL certification.</p>   | \$1.02 million increase  |

| Contract Change Proposal (CCP)  | Execution date   | Effect of proposed changes   | Effect on contract price |
|---|------------------|--|--------------------------|
| CCP 007<br>Change of Milestone 7 and Contract Data Requirement List                                       | 23 July 2019     | To amend the contract to better match the evolving program schedule. More specifically, the Support System Detailed Design Review is split into three sub-milestones that can be approved individually and shall lead to individual milestone payments: <ul style="list-style-type: none"> <li>• ASC Integrated Baseline Review,</li> <li>• Luerssen Integrated Baseline Review, and</li> <li>• Whole of Ship Detailed Design Review.</li> </ul> | None                     |
| CCP 008<br>Interior accommodation fit out   | 6 May 2019       | To make design modifications to the OPV interior spaces following a review to address areas of the design that did not meet Navy's security requirements, evacuation/escape requirements and habitability expectations (as outlined in ECP 008).   | \$4.75 million increase  |
| CCP 009<br>Removal of machine guns  | 15 May 2019      | To remove the responsibility for the supply and installation of 24 machine guns and mounts from Luerssen to Defence (as outlined in ECP 017) and to agree that they will be supplied as Government Furnished Equipment.  | \$1.20 million decrease  |
| CCP 014<br>Australian Industry Capability Plan – reduction of work packages for Local Industry Activities | 6 September 2019 | To make changes to AIC reporting in the Contract Status Report and AIC Plan update. More specifically, the changes allow for a reduction in Local Industry Activities work packages required. It was agreed that Luerssen will produce 12 consolidated work packages for the major subcontractors only instead of more than 60 work packages, to make reporting more streamlined and efficient.  | None                     |
| CCP 016<br>Integrated Logistic Support technical publications update – ILS-1040 Amendments                | 6 September 2019 | To make changes to ILS-1040 (Data Item Description – Publication Packages) to reduce the level of effort required by Luerssen for preparing Integrated Logistic Support Products.  | None                     |
| CCP 024<br>Magazine/Explosive Ordnance  | 20 April 2020    | To make changes to the design of the magazine, weapons stowage and explosive ordnance.   | \$1.55 million increase  |
| <b>Luerssen-initiated Contract Change Proposals</b>   |                  |  |                          |
| CCP 004<br>Milestone repayments schedule  | 26 November 2018 | To amend the 12 'Commence Construction' milestone payments to offset a discrepancy on the Mobilisation Payment, and to apportion the cost of the Ship Repairer's Liability insurance against the 'Commence Construction' milestone payments  | None                     |

| Contract Change Proposal (CCP)   | Execution date   | Effect of proposed changes   | Effect on contract price |
|--|------------------|--|--------------------------|
| CCP 005<br>Engineering changes and ASC schedule extension                    | 20 December 2019 | <p>To make engineering changes to the following:</p> <ul style="list-style-type: none"> <li>• Introduction of the Modified USN Compartment Marking System (ECP 001);</li> <li>• Shore connection and isolation transformer (ECP 002);</li> <li>• CO2 Firefighting Emergency Diesel Generator Room (ECP 003).</li> </ul> <p>This CCP also included a schedule extension with ASC.</p> | \$5.96 million increase  |
| CCP 017<br>Conditions of Contract – Attachment L: Key Staff Positions update | 23 October 2019  | To update Attachment L to Conditions of Contract to more accurately reflect current key staff positions of Luerssen.   | None                     |

Source: ANAO review of Contract Change Proposals between Defence and Luerssen.

## Appendix 5 Government Furnished Equipment

1. The contract requires Defence to provide Government Furnished Equipment (GFE) for the OPV. GFE will be included in the design and integration of the OPVs by Luerssen. The contract stipulates that delays in the delivery of GFE cannot be used as an excusable delay for Luerssen's performance. However, Defence's delays in delivering GFE may permit Luerssen to claim for delay in the delivery of the OPVs, or additional costs associated with the delay.

2. Defence sought to limit increases to the contract price during the negotiation process by rationalising GFE to be included in the design and integration of the OPVs. Defence and Luerssen agreed on the specific list of equipment to be provided as GFE based upon consideration of which party was best placed to procure the equipment.

3. During negotiations, Defence and Luerssen agreed to make the Boomeranger sea boats — one of the capability sub-systems included in Luerssen's tender offer — Government Furnished Equipment. Consequently, Defence contracted separately with Boomeranger Boats Oy (Ltd) for the procurement of the sea boats. The Boomeranger sea boats were procured in accordance with the specifications provided by Luerssen. Under the OPV acquisition contract, Luerssen is responsible for the performance of the sea boats and their integration into the OPV platform.<sup>127</sup> The rationale for changing the sea boats to GFE was:

The Boomeranger seaboats have been changed from CFE [Contractor Furnished Equipment] to GFE, thus saving the Commonwealth overhead and profit that was previously included as part of the Luerssen bid price.

4. Table A.3 lists the GFE items to be supplied by Defence for the production of the OPVs. These items were endorsed by Navy and agreed in the acquisition contract between Defence and Luerssen. The responsibility to install and integrate the GFE items into the OPVs lies with Luerssen and the respective systems integrator.

**Table A.3: Government Furnished Equipment**

| Item  | Quantity per OPV |
|---|------------------|
| Cryptographic equipment:  |                  |
| • Narrowband voice encryption devices                                 | 2                |
| • Serial data encryption devices                                      | 5                |
| • Secure Wire Line Terminal   | 1                |
| • IP data encryption devices  | 3                |
| • End cryptographic unit for Identification Friend or Foe transponder | 1                |
| Wideband Global Satellite communications system                       | 1                |
| Classified information and communication technology equipment         | 1                |
| Global Command and Control System – Maritime                          | 1                |
| Identification Friend or Foe system                                   | 1                |

<sup>127</sup> Given that the sea boats are part of the ship design and procured as an integrated solution of the OPV, any material changes in the design of the sea boats would have an impact on the OPV design and potentially the construction schedule. Design risk relating to the sea boats was discussed in footnote 106.

| Item  | Quantity per OPV |
|---|------------------|
| Integrated Broadcast System   | 1                |
| Very High Frequency / Ultra High Frequency tactical radios (with embedded cryptographic unit) | 4                |
| Very High Frequency / Ultra High Frequency tactical radios                                    | 1                |
| Maritime Tactical Wide Area Network   | 1                |
| Military Global Positioning System  | 1                |
| Seaboat Situational Awareness System  | 1                |
| Tactical Information Data Link (Link-16)  | 1                |
| Warship Automatic Identification System   | 1                |
| Warship Electronic Chart Display and Information System                                       | 1                |
| Wireless Navy Information Network Shore System  | 1                |
| Fast Rescue Boats – Boomeranger 850   | 2                |
| Rigid Inflatable Craft – Boomeranger C-1101   | 1                |
| Damage control outfit equipment   | 1                |
| Medical allowance equipment   | 1                |

Source: ANAO analysis of Defence documentation.

## Appendix 6 Progress of the OPV against contractual milestones

1. Table A.4 shows the progress of the OPV program against the contractual milestones as at July 2020.

**Table A.4: Progress of OPV program against contractual milestones**

| Milestone   | Date milestone achieved <sup>a</sup> | Timeliness        |
|---|--------------------------------------|-------------------|
| System Requirements Review (Platform Stream A)                    | 14 June 2018                         | On schedule       |
| System Requirements Review (Platform Stream B)                    | 14 June 2018                         | On schedule       |
| System Requirements Review (Command and Control Systems)          | 14 June 2018                         | On schedule       |
| System Requirements Review (Communication and Navigation Systems) | 14 June 2018                         | On schedule       |
| System Requirements Review (Support Systems)                      | 14 June 2018                         | On schedule       |
| System Definition Review (Command and Control Systems)            | 15 June 2018                         | On schedule       |
| System Definition Review (Communication and Navigation Systems)   | 15 June 2018                         | On schedule       |
| System Definition Review (Platform Stream A)                      | 8 August 2018                        | On schedule       |
| Preliminary Design Review (Platform Stream A)                     | 8 August 2018                        | On schedule       |
| Detailed Design Review (Platform Stream A)                        | 8 November 2018                      | On schedule       |
| Production Readiness Review 1 (South Australia) <sup>b</sup>      | 8 November 2018                      | On schedule       |
| Preliminary Design Review (Command and Control Systems)           | 14 November 2018                     | Ahead of schedule |
| Construction Commencement for OPV 1                               | 15 November 2018                     | On schedule       |
| Preliminary Design Review (Communication and Navigation Systems)  | 27 November 2018                     | On schedule       |
| System Definition Review (Support Systems)                        | 7 December 2018                      | On schedule       |
| System Definition Review (Platform Stream B)                      | 7 December 2018                      | On schedule       |
| Preliminary Design Review (Platform Stream B)                     | 7 December 2018                      | On schedule       |
| Keel Laying OPV 1   | 25 February 2019 <sup>c</sup>        | On schedule       |
| Preliminary Design Review (Support Systems)                       | 28 February 2019                     | On schedule       |
| Detailed Design Review (Command and Control Systems)              | 6 March 2019                         | On schedule       |
| Detailed Design Review (Communication and Navigation Systems)     | 15 March 2019                        | On schedule       |
| Detailed Design Review (Platform Stream B)                        | 2 April 2019                         | On schedule       |
| Production Readiness Review 2 (South Australia) <sup>d</sup>      | 4 April 2019                         | Ahead of schedule |
| Construction Commencement for OPV 2                               | 4 June 2019                          | Ahead of schedule |

| Milestone  | Date milestone achieved <sup>a</sup> | Timeliness   |
|--|--------------------------------------|--|
| Long Lead Time Item Review                                     | 28 June 2019                         | On schedule  |
| Integrated Baseline Review (ASC)                               | Did not achieve milestone            | Delayed  |
| Whole of Ship Detailed Design Review                           | 2 November 2019                      | On schedule  |
| Integrated Baseline Review (Luerssen)                          | Did not achieve milestone            | Delayed - review rescheduled from November 2019 to September 2020. |
| Keel Laying OPV 2  | 19 November 2019 <sup>e</sup>        | On schedule  |
| Support System Detailed Design Review                          | Did not achieve milestone            | Delayed - review rescheduled from March 2020 to November 2020.     |
| Production Readiness Review 3 (Western Australia) <sup>f</sup> | 28 February 2020                     | On schedule  |
| Construction Commencement for OPV 3                            | 20 March 2020                        | Ahead of schedule  |

Note a: Agreed changes to a number of contractual milestone dates were made through Contract Change Proposals (CCP 001 and CCP 004), without changing the program delivery schedule. A particular milestone was achieved where the relevant criteria were met and the progress certification was approved by Defence. The milestone achievement date was the date Defence provided such approval.

Note b: Production Readiness Review 1 (South Australia) was the review of Platform Stream A and readiness for commencement of production in South Australia for OPV 1.

Note c: The formal keel laying ceremony was held on 10 May 2019, after the achievement of the contractual milestone. The keel laying ceremony is an important shipyard and naval tradition to bring good luck to the build of the ship and the life of the vessel by placing a coin under the keel.

Note d: Production Readiness Review 2 (South Australia) was the review of the OPV mission system and ongoing production in South Australia for OPV 1 and OPV 2.

Note e: The keel laying ceremony for OPV 2 was held on 9 April 2020.

Note f: Production Readiness Review 3 (Western Australia) was the review of the OPV mission system and readiness for commencement of production in Western Australia for OPV 3.

Source: ANAO review of the OPV acquisition contract, meeting minutes for the system and design reviews, relevant Contract Change Proposals, Contract Status Reports from Luerssen to Defence and other Defence documentation.



## **Appendix 7      Government and Defence statements on OPV employment outcomes**

1.      Between August 2015 and January 2018 the Government made several statements relating to the number of direct jobs to be created by the OPV program (Figure A.2).

**Figure A.2: Government announcements relating to OPV workforce**

|  |  |   |
|--|--|---|
| 4 August 2015<br>(Media release)       | Prime Minister and Minister for Defence                                | <i>'This decision will maintain around 400 skilled jobs that would otherwise have been lost. It will also reduce the number of man-hours that would be wasted on the Future Frigate programme<sup>a</sup> if the existing workforce was disbanded and reconstituted...'</i> |
| 18 April 2016<br>(Media release)       | Prime Minister and Minister for Defence                                | <i>'This program is estimated to be worth more than \$3 billion and will create over 400 direct jobs.'</i>  |
| 30 November 2016<br>(Media release)    | Minister for Defence Industry and Minister for Defence                 | <i>'The project is expected to create around 400 direct jobs and is part of the Government's commitment to the continuous build of warships in Australia.'</i>  |
| 24 November 2017<br>(Press conference) | Minister for Defence Industry  | <i>'...we will have 400 jobs working on the Offshore Patrol Vessels in Adelaide, and then 400 jobs in Henderson when the project transfers there and the final 10 of the 12 are built in Western Australia...'</i>  |
| 25 November 2017<br>(Media release)    | Prime Minister, Minister for Defence and Minister for Defence Industry | <i>'The announcement is the next stage in Australia's National Shipbuilding Plan and will directly employ up to 1000 Australian workers - 400 direct and a further 600 in the supply chain.'</i>  |
| 31 January 2018<br>(Media release)     | Minister for Defence Industry  | <i>'The project will create around 1000 jobs - 400 direct and a further 600 in the supply chain.'<br/>'The OPV project will also help preserve and enhance shipbuilding skills required for the Future Frigates.'</i>   |

Note a: The Government also announced on 4 August 2015 that the Future Frigates would be built in South Australia.

Source: ANAO analysis of government media releases and press conference transcripts on the OPV program.

2. In October 2018, Defence advised the Senate that:

We've said that the Offshore Patrol Vessels program will employ around about 400 people directly in the shipyard. At this point in time, we plan to start building the first offshore patrol vessel on 15 November [2018]. That's in about three weeks. So that workforce is ramping up now. That's a workforce that will be made up of workers from Western Australia and workers from ASC Shipbuilding. What that final mix of those numbers is again a matter for Western Australia and ASC Shipbuilding. Our expectation is that there will be about 400 people employed on the Offshore Patrol Vessels program.<sup>128</sup>

3. In November 2019, Defence further advised the Senate that:

... the placement of those jobs would depend on where the construction is occurring. So, for the ... Arafura class ... patrol vessels, 400 for Western Australia. But, if I will just reiterate how dynamic and fluid this is. The government's decision to construct the first two Arafura class offshore patrol vessels in South Australia, instead of Western Australia, has enabled, I think, around 200 jobs to be retained in South Australia. That was a deliberate decision to carry that workforce over between the end of the Hobart class air warfare destroyer project and the commencement of the Hunter class frigate project.<sup>129</sup>

4. In February 2020, Defence provided the Senate with an updated estimate of the direct workforce numbers at both Osborne and Henderson for the OPV program over the next five years. Table A.5 shows Defence's revised workforce projections of direct jobs for the program.

**Table A.5: Projections of direct job figures for the OPV program at the Osborne and Henderson shipyards from 2020 to 2024**

| Shipyard       | 2020 | 2021 | 2022 | 2023 | 2024 |
|----------------|------|------|------|------|------|
| Osborne (SA)   | 300  | 260  | 135  | 0    | 0    |
| Henderson (WA) | 145  | 235  | 260  | 260  | 260  |

Source: Defence response to question on notice number 484, provided on 6 February 2020, regarding 'OPVs – direct and indirect Jobs' asked by Senator Kitching at the 2019–20 supplementary budget estimates hearings of the Senate Standing Committee on Foreign Affairs, Defence and Trade held on 29 November 2019.

128 Commonwealth, *2018–19 Supplementary Budget Estimates for the Foreign Affairs, Defence and Trade Legislation Committee*, Senate, 24 October 2018, evidence of RADM T Dalton, General Manager Ships.

129 Commonwealth, *2019–20 Supplementary Budget Estimates for the Foreign Affairs, Defence and Trade Legislation Committee*, Senate, 29 November 2019, Mr P Chesworth, First Assistant Secretary National Naval Shipbuilding Office.