Senate Standing Committee on Environment and Communications
Legislation Committee
Answers to questions on notice
Environment and Energy portfolio

Question No: 161

Hearing: Budget Estimates

Outcome: Outcome 3

Program: Australian Antarctic Division (AAD)

Topic: Icebreaker – Australian Requirements

Hansard Page:

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Question Type: Written

Senator Xenophon asked:

Please identify the Australian Antarctic Division unique Australian functional requirements

Answer:

Australia asserts sovereignty over 42 per cent of the Antarctic continent – the Australian Antarctic Territory.

The Department of the Environment and Energy, through its Australian Antarctic Division, is responsible for leading, coordinating and delivering the Australian Antarctic Program and administering the Australian Antarctic Territory and, in the subantarctic, the Territory of Heard Island and McDonald Islands. The Program is focused on conducting world-class science of critical national importance and global significance that delivers on Australian Antarctic policy and operational priorities.

Australia currently has three permanent research stations on the Antarctic continent, Casey, Davis and Mawson, a research station on Macquarie Island in the subantarctic, as well as a summer only station at Wilkins Aerodrome.

The Australian Antarctic Division manages and implements combined sea, air and continental transport capabilities to undertake wide-ranging marine, ice and aviation-based research activities, personnel transfer and station resupply and waste removal.

The *Aurora Australis* came into service in 1990, and has since provided essential fuel and supplies to Australia's Antarctic stations, personnel transfer and a capable platform for marine scientific research. In the majority of years since 1990, the *Aurora Australis formed part of a two-ship solution that was required to meet the needs of Australia's Antarctic Program.*

In the last decade, aviation capability has developed and now plays a critical role in sustaining Australia's operations in Antarctica, but shipping remains the backbone of the Australian Antarctic Program.

Today's Antarctic scientific research program has evolved dramatically from the curiosity-driven individual endeavours of the past. Modern Antarctic science is big science: resource-intensive, focused on questions of global significance, and incorporating multi-national collaborations driven by leading nations.

Australia's functional requirements differ significantly from those of other nations Antarctic programs, who for example may operate a combination of cargo re-supply vessels and research vessels to meet their requirements; who operate fewer and or smaller research stations in Antarctica; or who operate research stations in Antarctica at locations that have comparatively shorter distances to traverse by sea, or have comparatively more benign sea ice conditions to break through.

The Department explored options early in the capability development phase of this project and concluded, as part of the initial approach to government, that a single multi-purpose research supply icebreaker capability was the most appropriate long-term solution to support Australia's Antarctic Program.

Due to the vast distance across the southern ocean between Hobart and our stations in Antarctica, our voyages are lengthy in duration, challenging in nature, and logistically complex. Therefore we require:

- an 'icebreaker personnel transport vessel' which can break through ice up to 1.65 metres thick over extended distances, in order to transport up to 116 expeditioners on a voyage to and from our Antarctic research stations, which is greater than the requirements of most other national Antarctic programs.
- an 'icebreaker marine science research vessel' which can break through ice up to 1.65 metres thick over extended distances, and which provides the flexible and adaptable marine science platform required to support the broad range of globally important science research conducted within the ice around Antarctica.
- an 'icebreaker cargo re-supply vessel' which can break through ice up to 1.65 metres thick over extended distances, with sufficient storage capacity, lifting capability, and ship-to-shore vessels to deliver the considerable amount of cargo, plant, equipment, and liquid fuel, which each of our research stations rely upon being delivered each summer in order to continue to operate year-round. The unique location of each research station requires differing logistics solutions and options during each summer season, such as over-ice re-supply at Davis Research Station, open water ship-to-shore re-supply at Macquarie Island, or even a limited ship to shore re-supply by helicopter due to occasional heavy ice conditions at Mawson Research Station.
- an 'icebreaker helicopter support vessel' which has sufficient landing area and hangar facilities to accommodate up to four helicopters.

Consolidating these particular functional requirements of Australia's Antarctic Program, as outlined above, into one single vessel is what makes this a unique project. However, it should be noted that none of these capability and functional requirements are themselves unique. The maritime industry can design and construct bespoke vessels to meet the user's requirements.

The next-generation successor to the *Aurora Australis* will again provide a step-change in Australia's Antarctic capabilities, providing greater icebreaking and cargo capacity, increased endurance, and a state-of-the-art suite of science capabilities. The new ship will sustain the next generation of Australian Antarctic science and operations in Antarctica.