



Technical Report

Report No. SYD/2023/02

At the request of the NSW Department of Planning, Industry & Environment – Crown Lands, the undersigned prepared this report from information gained from a review of a report prepared on the 12th June 2023 by McLennan’s Diving Service. This is following their underwater inspection carried out in compliance with the Long-Term Monitoring and Management Plan for the structural condition of the vessel. The work was carried out in stages from 12th May 2023 until the 1st June 2023 on the vessel Ex-HMAS Adelaide where she rests following the vessel’s scuttling.

The vessel’s details are:

Ship name:	Ex-HMAS Adelaide
Type:	Former Guided Missile Frigate.
Displacement Tonnage:	2954.90 tonnes
LBP:	407ft
Breadth Moulded:	47ft

1. Introduction

Ex-HMAS Adelaide is a former guided missile armed frigate (FFG) decommissioned from the Royal Australian Navy. The vessel was scuttled at a position off Avoca, New South Wales on 13th April 2011 to create an artificial reef and diving site.

An underwater inspection of the wreck is carried out annually as a requirement of the Long-Term Monitoring and Management Plan.

The latest inspection was carried out as mentioned above, from May to June 2023, by McLennan’s Diving Service.

Ex HMAS Adelaide has a steel hull which rises to the main deck. The accommodation decks 01, 02 and 03 levels are constructed of aluminium.

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2. Report

From the diver's report, the underwater inspection of the vessel found that the steel hull structure was substantially unchanged since the previous underwater inspection carried out in April 2022.

No corrosion, cracking or displacement of fittings was observed on the outside or inside of the steel hull. All entrance ways inspected were found clear. Ultrasonic thickness measurements taken at the designated monitoring positions indicated no change in the steel plate thickness since the vessel was scuttled.

All the long-term monitoring points were again inspected, and it was reported that no deterioration was found since the last inspection. These points are in way of:

- the Missile launcher opening,
- the Forward screen,
- the Hangar frames, and
- the Stern

The diver's report indicates that the hull is still fully supported by the sand. The report states the sand level was at a slightly lower level than previous years with the sand being just below the level of the bilge keels.

Whilst settling in 2012 the vessel developed a 4-degree list to port. The divers' confirmed that this list remains unchanged.

The diver's report states that the aluminium superstructure continues to suffer from deterioration. The divers did report that the starboard hanger, inboard bulkhead had broken away along the connection to the steel hull. It was held in place by its connections to the upper structure. The detached bulkhead dimensions were reported as 8 metres long by 2.5 metres high.

The diver's report indicated that the starboard hanger deckhead is still predominately intact, but, most of the starboard outboard bulkhead and its supporting structure are missing. This bulkhead is the outboard support for the deckhead. Even though the starboard deckhead (which is the deck for 02 deck) is intact it is heavily corroded. There is a significant amount of weight still supported by the deckhead. This includes the deck panels, beams, stiffeners, and an overhead lifting beam together with various ventilators and fittings on 02 deck.

The port hanger deckhead had washed away previously in March 2021.

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There is also a panel port side of the forward superstructure breaking loose. This panel is reported to be approximately 2.5 meters high by 0.70 meters long.

As with last year's report the divers have noted in their diver's report that the aluminium superstructure has reached a state of deterioration where additional panels would be expected to be broken out with every severe swell event.

As mentioned in earlier reports the hanger structure is aluminium and does not contribute to the structural strength of the vessel.

The diver's report noted that the CIC situated on 01 deck and the Radar room situated on the main deck, were still clear of silt. Divers cut openings in these compartments in 2021 to allow the silt to escape from the compartment.

As with previous years, the divers took video and still photographs of the damaged areas of the superstructure. As with previous reports and, as mentioned above, the aluminium structure is continuing to deteriorate, but the main support structure is still largely intact.

3. Conclusion

As mentioned in my previous reports, It is my opinion that the vessel is still structurally sound and the vessel is stable. However, as with my previous reports, the light aluminium structure in way of the accommodation and hanger decks is continuing to deteriorate. It is my opinion that this deterioration will continue, and the plating will continue to break away from its supports thus allowing it to move with the currents and the weather. It is also my opinion that the corrosion of the aluminium structure will continue as the light structure continues to work in the seaway. Further, this area is also in the upper region of the vessel therefore in the area where the seawater becomes aeriated in adverse weather. It should also be appreciated that the aluminium structure acts as a sacrificial anode for the steel structure.

Except for the helicopter hangars located at the after end of the superstructure and which are of quite light construction, the main structural components supporting the accommodation structure are considered structurally sound.

It is recommended that the damaged areas of the starboard hanger and the forward superstructure, mentioned above, should be cut away, to make the area safe for recreational divers. Though as mentioned previously the Dive Masters should take precautions when taking recreational divers near the damaged areas of the structure.

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4. Disclaimer

The undersigned shall not be liable in any way to any person or company in respect to any claim for any kind, including claims for negligence, for loss occasioned to any person or company in consequence of any person or company acting or refraining from action as a result of material in this report.

Signed,



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3rd July 2023

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