

## Technical Report

**Report No. SYD/2015/22**

At the request of NSW Trade & Investment – Crown Lands, the undersigned prepared this report from information gained from a review of a report prepared on the 10<sup>th</sup> June 2015 by McLennan's Diving Service following their underwater inspection on 18<sup>th</sup> May 2015, of the vessel Ex - HMAS Adelaide were she rests following its scuttling.

The vessel's details are:

<b>Ship name:</b>	Ex -HMAS Adelaide
<b>Displacement Tonnage:</b>	2954.90
<b>LBP:</b>	407ft
<b>Breadth Moulded:</b>	47ft

### 1. Introduction

Ex-HMAS Adelaide is a former guided missile frigate de-commissioned from the Royal Australian Navy. The vessel was scuttled at a position off Avoca, New South Wales on 13 April 2011 to create an artificial reef for scuba diving.

An underwater inspection of the wreck is carried out annually. The latest inspection was carried out as mentioned above, in April and May 2015, by McLennan's Diving Service.

### 2. Report

The underwater inspection of the vessel found that the starboard helicopter hanger side structure was damaged. The details of the inspection can be found in the diver's report "Ex-HMAS Adelaide Starboard Hanger Wall Report". The inspection report stated that there was damage to the helicopter hanger in way of the starboard side structure and that the damage had caused part of the side shell and its supporting structure to separate from the main hanger structure.

The area of structure reported to have parted from the main structure is approximately seven metres in length and at the full height of the hanger. This structure was reported to have split at the following locations;

- At the bottom between the aluminium hanger structure and steel hull, structure joint at the main deck level.
- Approximately two metre aft from the forward transverse hanger bulkhead.
- At the top the connection between the hanger side structure and the top hanger structure.

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- Aft approximately one metre forward from the aft hanger entrance.

Photo 1 in Annex A is a typical hanger side structure of a vessel of similar class. The red dotted line in the photo illustrates the position of the structure on Ex-HMAS Adelaide which has come away from the vessel. Photo 2 shows the area where the structure has parted on the actual vessel.

The remaining starboard hanger side plating up to the forward transverse hanger bulkhead was found to have buckled. Photo 3 shows the area of buckled plating.

With the separation of the side structure, the starboard hanger top structure is unsupported on the outboard side although there is some remaining support at each end.

No damage to the port hanger or to the side structure on the starboard side forward of the mentioned buckled plating was reported by the divers.

### 3. Conclusion

It is my opinion that, the structure forward of the helicopter hanger transverse bulkhead is structurally sound. However, the starboard hanger top structure may deteriorate over time due to lack of support on the outboard side, therefore this area should be monitored over time.

It is also my opinion any diving activities around the starboard hanger should be suspended and all the visiting divers warned to stay clear of that area due to the risks associated with jagged metal from the failed areas.

### 4. Disclaimer

The under signed 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,



L. H. Michaels  
CEng. CMarEng, FIMarEST. MAIMS, MEngSc. Extra First Class Eng.  
for Shearforce Maritime Services Pty. Ltd.  
23<sup>rd</sup> June 2015.

#### **Attachments:**

Annex A – Photos of damaged area

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## ANNEX A



Photo 1: This photo of a similar vessel to the Ex-HMAS Adelaide demonstrates the location of the section of the starboard hanger structure that has separated from the vessel. It is marked in red.

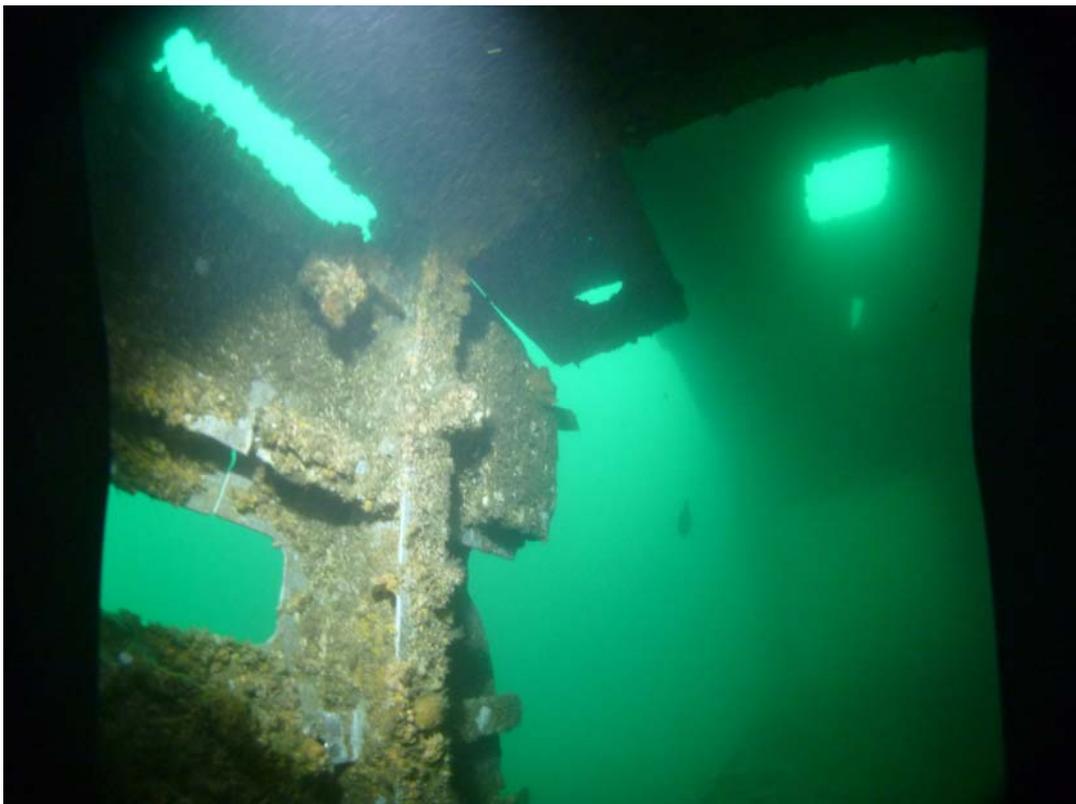


Photo 2: This photo of the EX-HMAS Adelaide is looking aft from inside the starboard hanger, it shows the area of the hanger side whereby the side has parted from the main structure

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Photo 3: This photo shows the buckled starboard hanger side plating forward to the parted structure.

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