Lesson Learned Report 2011/10

Structural Failure on Arches

In recent months there have been two failures of the aluminium tubing of the arches resulting in the loss of electronic equipment.

1. In the first the radar scanner was mounted on a single tube rising vertically from a plate welded to the rear horizontal tube, aft of the rerighting bag.



The scanner was lost overboard, and use of the radar was lost.

2. In the second the radar scanner, and GPS antenna were mounted on a subframe mounted off the rear of the arch.



This resulted in the loss of the use of the radar and the GPS and thus the plotter.

In the past year other stations have discovered fractures on various places on the cages and have had them repaired. Another station discovered wear where the tubes passed through the transom.

Our vessels do operate in adverse conditions, and the loss of sections of the arch and associated electronics during training and particularly missions can be a serious distraction, and may result in the latter being aborted.

It can also result in considerable expense if replacement scanners or antennae are no longer available and the whole electronics package needs to be replaced.

All stations with arches on their vessel are reminded to closely inspect the whole arch structure on their vessel, from its attachment to the deck, to where it is bracketed off the transom, and all appendages to find cracks or wear at an early stage, and get them repaired.

In particular close attention should be paid to cracks forming on or immediately adjacent to welds on the structure, or on any formed curves, especially on the side in tension.

This inspection should take place at monthly intervals, and after every outing in rough weather.