

SUPSALV Completes Timely Repairs to Three Norfolk Based DDG Class Ships

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SEA 00C Underwater Repair Specialists Justin Pollack, Russ Mallet, and Scott Heineman recently completed three simultaneous complex rudder repairs during the Thanksgiving holidays in Norfolk, VA. These repairs, accomplished with the help of 00C's Diving Services Contractor, Phoenix International, were performed in support of NSSA.

Rudders were repaired on the following Norfolk based ships:

- USS MAHAN (DDG 72) Port and Starboard Rudder Repairs – 12 Nov – 27 Nov.
- USS GONZALEZ (DDG 66) Port Rudder Repair. 13 Nov – 23 Nov.
- USS BARRY (DDG 52) Starboard Rudder Repairs. 12 Nov – 21 Nov.

As is typical, the size and number of indications on a rudder found during the repair process is often greater than originally reported. The newly discovered indications, the term used to describe the visual portion of a suspected crack needing repair, require additional effort to accomplish and often the fault (crack) will run sub-surface making the repair area larger than the visual presentation. Once an indication is confirmed to be a crack in the rudder, repairs require: excavation of crack to soundsteel, verification/fitting of backing plate, welding and grinding flush, conducting VT (Visual Inspection), MT (Magnetic Particle Inspection), and pressure testing prior to acceptance and then application of anti-corrosive coating.

Due to the number of indications reported on the Mahan rudders it was determined to be more cost and schedule effective to employ the full rudder cofferdam. This was the inaugural application of NAVSEA 00C's new DDG rudder cofferdam. The cofferdam fully encompasses the rudder to allow multiple welder/divers to perform repairs simultaneously. This new Cofferdam is in three sections and since it fully encapsulates a rudder it enables fully drying, inspection, repairs, testing, and final preservation of the whole rudder with a reduced likelihood of needing to shift or adjust the cofferdam. The use of the full rudder cofferdam eliminated the need for repositioning saving significant time which allowed the 24/7 operation to complete on schedule and MAHAN to meet her commitments without adjustment.

The repairs to the Gonzalez and Barry rudders were conducted concurrently using a smaller 4 ft by 4 ft side mounted habitat.



The three sections of the full cofferdam are shown on Pier 6 in Norfolk Naval Station.



One section of the new three-piece rudder cofferdam being moved from the pier to the water for fitting onto USS MAHAN (DDG 72).



An image of the traditional 4' x 4' dry habitat being rigged for use.



An example of a crack that has been ground out and the backing plate before welding commences.