



## Moss Landing Marine Laboratories

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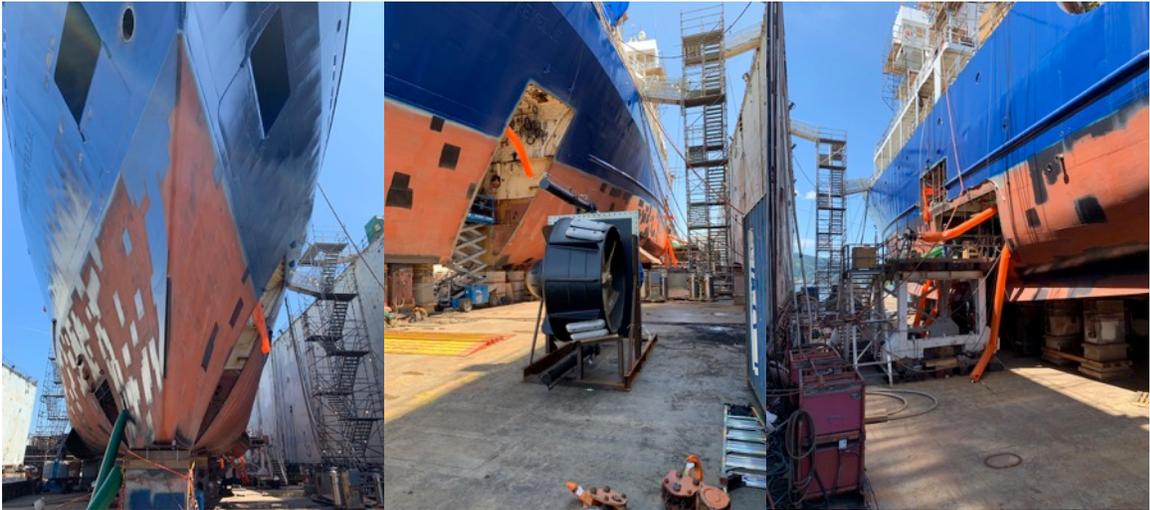
July 26, 2019

On Wednesday afternoon, July 24<sup>th</sup>, I attended the Research Vessel *Roger Revelle* in dry-dock at Vigor Portland Shipyard. I was escorted by Paul Mauricio, Port Engineer for Scripps Institution of Oceanography (SIO). We examined the vessel from the dock floor and through all decks on board. Work is progressing well with removals all complete and installations proceeding more or less on schedule.

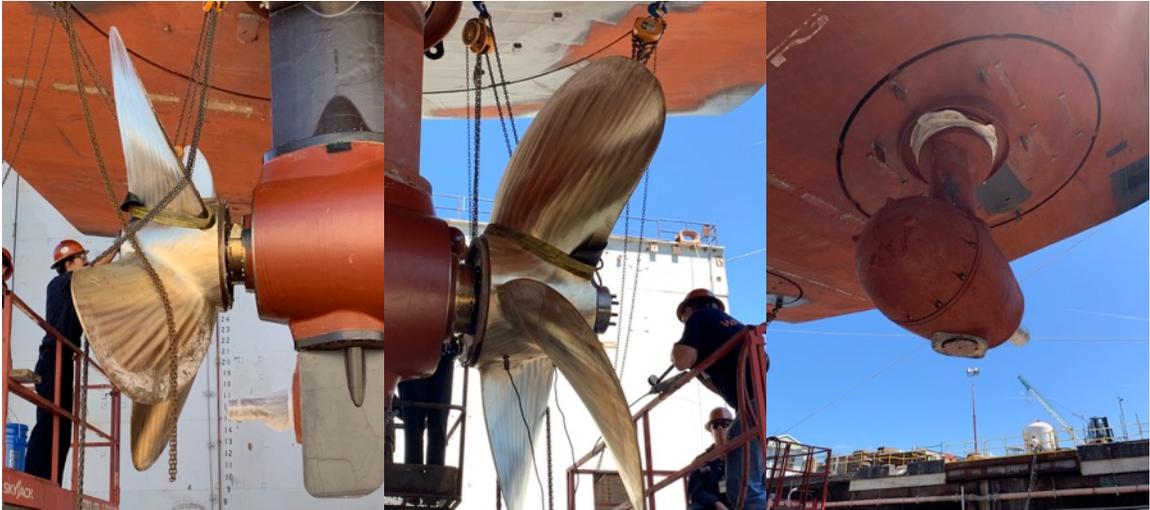
- The Gondola is now welded to the hull with minimal distortion based on optical survey. The gondola is being cleaned and prepped for painting and installation of zincs. This should be completed ahead of schedule allowing for a few extra days to install all the acoustic system transducers.
- The two C32 engines are installed on board and the foundation for the first 3516 is being installed. 3516s will likely be installed over the next week or so.
- The engine skids were modified to facilitate moving the alternators back to replace the fans at a later date.
- The bow thruster and bow thruster mounting assembly were on the dock floor ready to be assembled, which took place on Thursday. Installation of the assembled unit will take place over the next few days. I had hoped to witness this on Wednesday, but it was delayed while pad eyes were all weight tested.
- Fire-main piping is substantially complete, ballast water piping is progressing and the potable water system is mostly complete down to the main deck. Potable water might be a little behind the yard's aggressive schedule due to focusing more on the ballast water piping. The Ballast system manifold is on board and will be installed when the piping under the deck is complete.
- The switchboard room foundations will be installed as soon as the riser boxes are complete. The propulsion transformers are mounted on their foundations and the propulsion motor foundations are in place.
- Steel repair work is progressing quickly in the forward, starboard area of the engineroom and in the potable water tanks.
- Ballast tanks and the sewage tank are being prepared for blasting and cleaning, which will start soon.
- The Starboard Z-Drive lower unit has been replaced and the propeller installed. This unit is essentially done.
- The Port Z-Drive lower unit was found to have bad contact on the gears so it will be removed and returned to Wartsilla for rebuilding and repair at their expense, as it has only been a year since it was last rebuilt. The rebuilt and load tested port spare will be shipped to Vigor and installed. The port propeller was examined at the propeller shop and blessed by ABS after being polished and balanced.

J.M. Prince, contractor support for ONR code 321RM

Attached are some pictures showing highlights of ongoing work.



*Hull with openings for thruster and engine install, one coat of A/C paint*



*Propeller being installed on Starboard Z-Drive*

*Port Z-Drive ready for removal*



*Gondola installed and welded to hull and being prepared for painting*



*Opening for thruster being prepped, new thruster, new thruster hull insert*



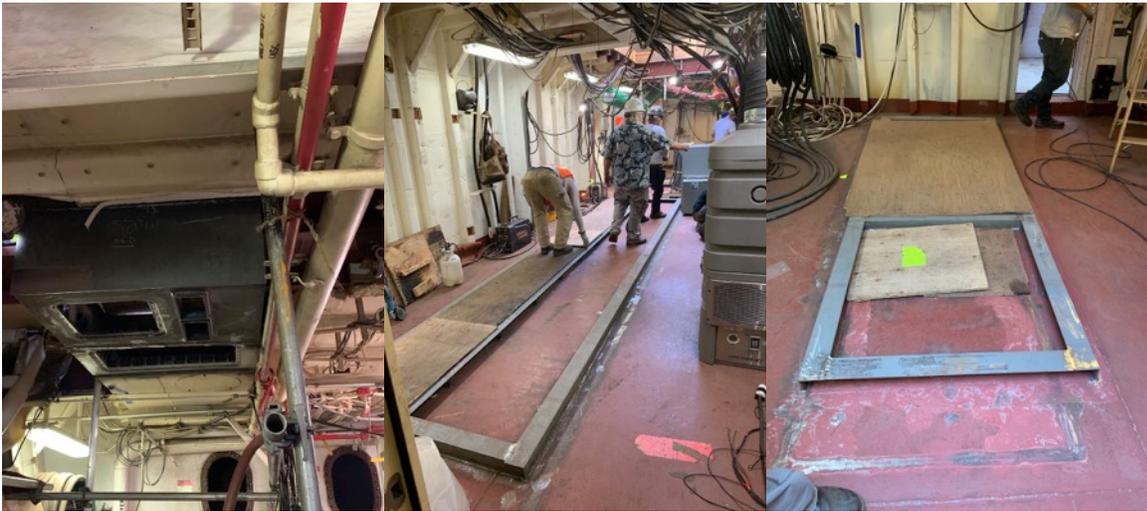
*Paul M. & Gaston ZF Marine Bow Thruster being installed in hull insert (photos Paul M.)*



*C32 installed and foundation for first 3516 being welded in place; 3515 with modified skid*



*Steel Work in forward Starboard area of engineroom & in potable water tank*



*Riser boxes and foundations almost ready for installation of switchboards*



*Ballast Manifold ready for installation; Carrier starboard side chiller unit*



*Shower piping work; New Roxtec fittings for piping pass thru deck and bulkheads*



*Potable water piping; Ballast Water piping to anti-roll tank*



*New External PA speaker; New deck vent for tanks; New lighting fixtures*