

CCGS Hudson

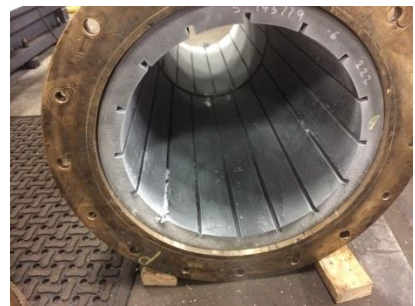
The Hudson is Canada's oldest ship in the federal fleet. It is diesel electric powered science ship, arranged with twin shafts running in dovetailed stave bearings which were also considered to be worn out due to age. Avalon Marine was approached in 2016 about possible options to refurbish propeller shaft bearings. During discussions about the scope of work it became clear that an equally pressing issues onboard was the severely leaking shaft packing glands which were original and also worn out. They were leaking several tonnes of sea water ingress into the ship requiring continuous umping out. Again, since the replacement vessel although already contracted through the National Shipbuilding Program was still a number of years away from delivery, CCG intended to carry out permanent repairs to the stern tubes and at the same time fit new inboard shaft seals.



Avalon Marine completed an engineering and feasibility assessment and made a comprehensive proposal to upgrade the vessel to Thordon XL full form bearings (from the existing staves) and to fit the new Thordon SeaThigor mechanical seals during the same refit. The CCG did entertain a competitive proposal but selected Avalon Marine to engineer and help with implementation of the upgrades. Additionally, the CCG requested a WQP to ensure that they can maximize the life of the new Thordon bearings.

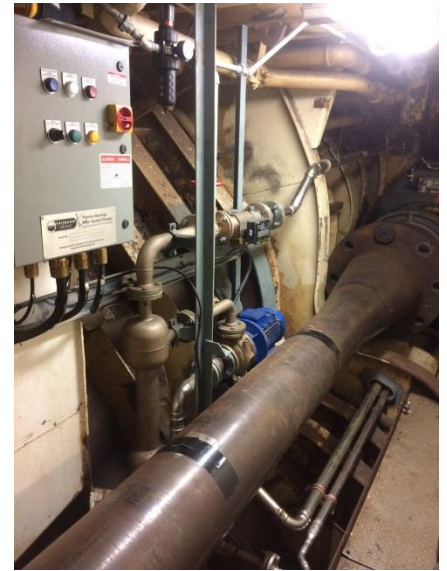
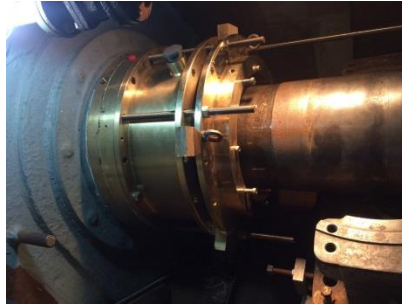
Avalon Marine was awarded the contract to engineer the upgrades, refurbish the existing bearing carriers, supply and install new stern tube bearings and to design a compact WQP and integrate it into the ship.

Additionally, the first commercial sale of the new SeaThigor seal installations awarded to the ship were arranged by Avalon for this project. These new stern tube seals are the culmination of decades of design and development by Thordon Bearings and are designed and manufactured by Thordon Bearings to literally last the life time of a ship.



These photos show the refurbishment of the bronze carriers underway in a machine shop in Dartmouth, NS and fitting of the Thordon XL bearings.

During the 2017 scheduled dry docking and refit period, Avalon refurbished the bronze carriers which had been removed from the ship by the shipyard and fitted them with new Thordon bearings and supported the ship yard to install the WQP. Avalon then commissioned the systems including the emergency water supply to the stern tubes. Although the ship does not have the shaft condition monitoring descriptive note for SCM, it is in compliance with the requirements should CCG decide in the future to proceed with SCM implementation.



These photos show the original shaft packing gland and the new SeaThigor inboard shaft seal during installation. The new Thordon WQP is shown during commissioning fitted very snugly into the starboard shaft tunnel. The main shaft is in the foreground.