Coast Guard Icebreaker Returns Home Following 105-Day Antarctic Trip

SEATTLE – The 150-member crew of the U.S. Coast Guard Cutter Polar Star returned March 11 to their homeport of Seattle following a 105-day deployment to Antarctica in support of Operation Deep Freeze, the Coast Guard Pacific Area said in a release.

Deep Freeze is an annual joint military service mission in support of the National Science Foundation, the lead agency for the United States Antarctic Program. Since 1955, the U.S. Department of Defense and the U.S. Coast Guard have assisted in providing air and maritime support throughout the Antarctic continent.

This year marks the 63rd iteration of the annual operation. The Polar Star crew left Seattle on Nov. 27 for their sixth deployment in as many years and traveled 11,200 nautical miles to Antarctica.

Upon arrival in McMurdo Sound, Antarctica, the Polar Star broke through 16.5 nautical miles of ice, 6 to 10 feet thick, to open a channel to the pier at McMurdo Station. Once the channel was open, the crew refueled Polar Star at McMurdo Station, the United States' main logistics hub in Antarctica. After a three-day port visit to McMurdo, the ship provided a six-hour familiarization cruise to 156 McMurdo station personnel.

On Jan. 30, Polar Star escorted the containership Ocean Giant through the channel, enabling a 10-day offload of 499 containers with 10 million pounds of goods that will resupply McMurdo Station, Amundsen-Scott South Pole Station and other

U.S. field camps for the coming year. The Ocean Giant is an ice strengthened vessel contracted by the U.S. Navy's Military Sealift Command for Operation Deep Freeze.

As in years past, getting the 43-year-old Polar Star to Antarctica was accomplished despite a series of engineering casualties aboard the ship. Commissioned in 1976, the cutter is operating beyond its expected 30-year service life. It is scheduled for a service life extension project starting in 2021.

During the transit to Antarctica, one of the ship's electrical systems began to smoke, causing damage to wiring in an electrical switchboard, and one of the ship's two evaporators used to make drinkable water failed. The electrical switchboard was repaired by the crew, and the ship's evaporator was repaired after parts were received during a port call in Wellington, New Zealand.

The impact from ice operations ruptured the cutter's centerline shaft seal, allowing water to flood into the ship. Icebreaking operations ceased so embarked Coast Guard and Navy divers could enter the water to apply a patch outside the hull so Polar Star's engineers could repair the seal from inside the ship. The engineers donned dry suits and diver's gloves to enter the 30-degree water of the still slowly flooding bilge to make the vital repairs. They used special tools fabricated onboard to fix the leaking shaft seal and resume icebreaking operations.

The Polar Star also experienced shipwide power outages while breaking ice in McMurdo Sound. Crew members spent nine hours shutting down the ship's power plant and rebooting the electrical system to recover from the outages.

On Feb. 10, the crew spent nearly two hours extinguishing a fire in the ship's incinerator room while the ship was about 650 nautical miles north of McMurdo Sound. The fire damaged

the incinerator and some electrical wiring in the room was damaged by firefighting water. There were no injuries or damage to equipment outside the space. Repairs to the incinerator are already scheduled for Polar Star's upcoming in-port maintenance period.

Presently, the U.S. Coast Guard maintains two icebreakers – the Coast Guard Cutter Healy, which is a medium icebreaker, and the Polar Star, the United States' only heavy icebreaker. If a catastrophic event, such as getting stuck in the ice, were to happen to the Healy in the Arctic or to the Polar Star near Antarctica, the U.S. Coast Guard is left without a self-rescue capability.

By contrast, Russia operates more than 50 icebreakers – several of which are nuclear powered.

Reserved for Operation Deep Freeze each year, the Polar Star spends the Southern Hemisphere summer breaking ice near Antarctica, and when the mission is complete, the ship returns annually to dry dock to complete critical maintenance and repairs in preparation for the next Operation Deep Freeze mission. Once out of dry dock, the ship returns to Antarctica, and the cycle repeats.

The Coast Guard has been the sole provider of the nation's polar icebreaking capability since 1965 and is seeking to increase its icebreaking fleet with six new polar icebreakers to ensure continued national presence and access to the Polar Regions.

In the fiscal year 2019 budget, Congress appropriated $655 million to begin construction of a new polar security cutter this year, with another $20 million appropriated for long-lead-time materials to build a second cutter.

In response to the demands of the region, the service is set to release an updated version of its Arctic Strategy, which Coast Guard Commandant Adm. Karl Schultz is scheduled to

discuss March 21 during his annual State of the Coast Guard address.