

Date: 14 July 2015

Location: Loitering approximately 25 nautical miles due north of Oliktok Point standing by

Primary Activities: Search and Rescue (SAR) Exercise Completion; 3D Printing

Conditions: 8/10's ice coverage and overcast skies at CGC HEALY position and mostly clear at Oliktok point, the Scan Eagle launch site

Temperatures: Air temperature range 36 - 51 F; water temperature 28 F

Today, the SAR exercise team conducted another response evolution to address the objectives we were unable to explicitly meet yesterday. Not unexpectedly in this region, the exercise again encountered complications and delays. Today was the HEALY's turn to have limited visibility; once that cleared, the ScanEagle experienced data link and sensor malfunctions that the team could not resolve. Therefore, the team exercised their backup plan and utilized the Puma from HEALY to test the utility of integrating a UAS into a response incident. After launch, the Puma used both EO and IR cameras to locate Thermal Oscar and the raft in the water approximately one nautical mile away from the ship.



(Photo courtesy Puma Team)

The Puma was able to relay the coordinates to the test control center on HEALY who vectored the Coast Guard H-60 and the Era Helicopter to the scene. Both helos then deployed rescue swimmers to simulate recovery.



(Photo courtesy BM2 Speicher)

During these evolutions, the Puma remained on station to provide real-time situational awareness for both HEALY as the On-Scene Coordinator (OSC) as well as to shore-side command centers via NOAA's ERMA, which could be shared with essentially any command center. The Puma video stream was viewable live on the internet via a link on the HEALY science network.

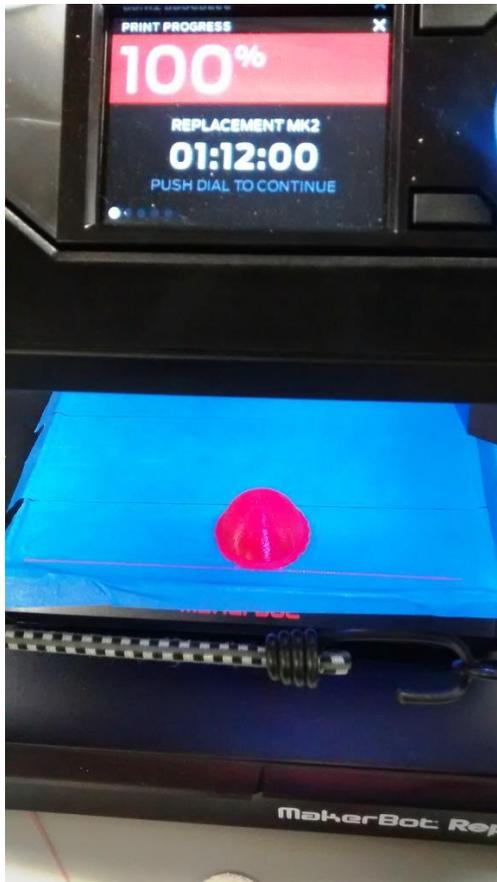




(Photos courtesy Puma Team)

The helos returned to shore, and the exercise concluded with a successful Puma net capture and HEALY recovering the raft and Thermal Oscar. This concluded the Arctic Technology Evaluation 2015 SAR Exercise. The team achieved all objectives, and the successes, lessons learned, and areas for improvement will be captured as part of the after-action report.

The 3D printing team, consisting of the Coast Guard Academy and a DHS S&T intern, has also been active. A part from the HEALY's dishwasher failed. The impact is that the crew would have to spend additional time washing dishes by hand, adding hours to their already full schedule, or consuming additional paper plates that take up trash storage capacity. Although the 3D printing material on board is not designed to handle the high heat inside the dishwasher, the team, to include ship's crew, was able to manufacture a replacement part through trial-and-error and innovative thinking. They have installed the new part and are testing its durability. Even if it fails more frequently than an original part, the team can now print multiple copies until the ship returns to Seaward for a replacement. The 3D printing team is again showing the versatility and applicability of this technology to day-to-day ship operations. More to follow on this technology.



Tomorrow and operationally permitting, the Al Jazeera America film crew plans to conduct another live broadcast from HEALY to their news room in New York for a 20:45 EST national broadcast. The broadcast should include an interview with HEALY commanding officer, CAPT Jason Hamilton.