



## Northrop Grumman Develops Winterisation Field Upgrade Kits for Vessels Using the Northern Sea Route

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NEW MALDEN, U.K., Sept. 10, 2014 /PRNewswire/ -- Northrop Grumman Corporation (NYSE: NOC) has developed a winterisation field upgrade kit that will extend the low temperature capability of marine navigation equipment and enable ships to operate in the Arctic environment of the polar shipping routes.

The Northrop Grumman logo, consisting of the company name in a bold, blue, sans-serif font, with a blue curved underline beneath it.

These heater kits will enable Marine Navigation Radar Turning Units to be operated in temperatures down below -55 degrees Celsius, in addition to keeping the S-Band and X-Band sensors in the turning units free from ice. Northrop Grumman Sperry Marine has designed them to be attached in the field at or after installation, and they are compatible with all VisionMaster FT (VMFT) radar sensors.

"Ships operating in the Arctic environments are exposed to a number of unique risks and we recognise the need to ensure that our equipment is capable of functioning effectively under the challenges of polar operations," said Jeanne Usher, managing director, Northrop Grumman Sperry Marine. "The winterisation field upgrade kit will allow our VMFT radar sensors to function in these extreme climates and supports our efforts to continually improve the safety of marine navigation."

The winterisation field upgrade kit is approved by the Russian Maritime Register of Shipping and allows the operator to extend the working temperature of any unit. With the opening of the Northern Sea Route and with new regulations for polar navigation coming into force, products will need to meet Safety of Life at Sea (SOLAS) requirements, which specifies that at least one radar be equipped with ice detection capability.

Over the next 30 years, as climate change opens up new polar shipping routes between the Pacific and Atlantic oceans, travel time from Europe to Asia will be cut by 40 percent. With the Northwest Passage being 7,000 km shorter than the current route through the Panama Canal, travel time and fuel costs will be reduced significantly. Northrop Grumman is focusing on improving operations for any vessels or rigs subject to extreme temperatures that will be located on or traversing these routes and required to meet the International Maritime Organization (IMO) Polar Codes.

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SOURCE Northrop Grumman Corporation

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