



# Report in Brief

January 8, 2018

## Background

The National Oceanic and Atmospheric Administration (NOAA) Office of Marine and Aviation Operations (OMAO) currently operates 16 ships to conduct hydrographic, oceanographic, atmospheric, and fisheries research.

According to OMAO, its fleet is expected to decline from 16 to 8 active ships between fiscal years (FYs) 2016 and 2028.

The Military Sealift Command (MSC) developed the Shipboard Automated Maintenance Management System (SAMMS) software as its primary tool for preventive maintenance and has used it for over 30 years to maintain its fleet. SAMMS is designed to provide an automated method of tracking ship maintenance and repair requirements and ensuring that the appropriate level of vessel readiness is maintained. SAMMS does this by establishing a schedule of required preventive maintenance actions for each piece of maintainable shipboard equipment and by documenting and tracking equipment maintenance history.

In 1992, NOAA decided to use the SAMMS software to manage equipment maintenance for the four primary onboard ship departments (engineering, deck, steward, and electronic technicians).

## Why We Did This Review

Our objective was to determine whether NOAA OMAO coordinates ship maintenance and repairs of its fleet using SAMMS.

## NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

### NOAA Office of Marine and Aviation Operations Does Not Fully Utilize the Shipboard Automated Maintenance System to Coordinate Ship Maintenance and Repairs

OIG-18-011-A

## WHAT WE FOUND

We found that OMAO does not consistently use SAMMS to coordinate ship maintenance and repairs of its fleet. This occurred because OMAO management did not have sufficient controls in place to effectively monitor and evaluate the performance of SAMMS. We found several issues with NOAA's use of SAMMS:

- *SAMMS has accessibility issues.* Specifically, (1) port engineers generally did not have access to SAMMS; (2) the SAMMS program manager could not access SAMMS for an extended period of time; and (3) shipboard personnel experienced difficulties accessing the system.
- *SAMMS contains inaccurate information.* Specifically, we found SAMMS contains inaccurate (1) ship equipment information, and (2) ship equipment maintenance schedules.
- *SAMMS does not always function as intended.* We reviewed work summary reports from the SAMMS contractor and identified a history of functionality issues with SAMMS.
- *SAMMS funds were used to satisfy other OMAO requirements.* OMAO management told us that, since FY 2011, it budgeted \$1 million annually for SAMMS. However, we found that funds intended for SAMMS were used to satisfy other priorities. For example, SAMMS funds were used to pay for unplanned repairs to ships.

These issues contributed to OMAO personnel using alternative methods and procedures such as emails, spreadsheets, databases, card systems, white boards, and individual knowledge to manage their ship maintenance and repair needs. Based on our audit results, at least \$5 million will be wasted unless several additional actions are taken to ensure that SAMMS is effectively utilized as intended.

## WHAT WE RECOMMEND

We recommend the Director, OMAO and the NOAA Corps

1. initiate action to terminate the interagency agreement with MSC and discontinue using SAMMS; and
2. conduct a comprehensive study to identify a maintenance management system that meets the capabilities necessary to fulfill NOAA ship fleet maintenance requirements.