COAST GUARD

Clarifying the Application of Guidance for Common Operational Picture Development Would Strengthen Program

Why GAO Did This Study

To facilitate its mission effectiveness and share maritime situational awareness, the Coast Guard developed its COP—a map-based information system shared among its commands. The COP displays vessels, information about those vessels, and the environment surrounding them on interactive digital maps. COP information is shared via computer networks throughout the Coast Guard to assist with operational decisions.

GAO was requested to evaluate the Coast Guard's development of COP-related systems. GAO assessed the extent to which the Coast Guard (1) has made progress in making information included in the COP available to users and any challenges it has encountered in implementing COP-related systems, and (2) followed its approved information technology development guidance when developing new technology.

GAO conducted site visits to six Coast Guard sector commands and five district command centers, based on geography to engage a broad range of COP users, analyzed Coast Guard policies and documents, and interviewed Coast Guard headquarters officials managing the COP's development and implementation.

What GAO Recommends

GAO recommends that the Coast Guard clarify the application of the SDLC for the development of future technology projects. DHS concurred with our recommendation.

View GAO-13-321. For more information, contact Stephen L.Caldwell at (202) 512-9610 or caldwells@gao.gov.

What GAO Found

The U.S. Coast Guard, a component of the Department of Homeland Security, has made progress in developing its Common Operational Picture (COP) by increasing the information in the COP and increasing user access to this information, but the Coast Guard has also faced challenges in developing COP-related systems. The Coast Guard has made progress by adding internal and external data sources that allow for better maritime domain awareness—the effective understanding of anything associated with the global maritime domain that could affect the United States. In addition, the COP has made information from these sources available to more COP users and decision makers throughout the Coast Guard. However, the Coast Guard has also experienced challenges in meeting the COP's goals and implementing systems to display and share COP information. For example, it experienced challenges when it deployed its Enterprise Geographic Information System (EGIS), a tool that did not meet user needs. The challenges Coast Guard personnel experienced with EGIS included system slowness and displays of inaccurate information. Our prior work found similar challenges with other Coast Guard COP-related systems not meeting intended objectives. For example, in February 2012, GAO reported that the intended information-sharing capabilities of the Coast Guard's WatchKeeper software, a major part of the $74 million Interagency Operations Center project, did not meet port partners' needs, in part, because the agency failed to determine these needs.

The Coast Guard has not followed its own information technology development guidance when developing new technology. A recent example occurred in 2012 when the agency did not follow its System Development Life Cycle (SDLC) guidance during its initial development of Coast Guard One View (CG1V), its new planned COP viewer. The SDLC requires documents to be completed during specific phases of product development. The Coast Guard, however, did not follow this process during the early development of CG1V. Specifically, we found in February 2013, 9 months after CG1V had entered into the SDLC that the Coast Guard either had not created certain required documents or had created them outside of the sequence prescribed by the SDLC. For example, the SDLC-required tailoring plan is to provide a clear and concise listing of SDLC process requirements throughout the entire system lifecycle, and facilitates the documentation of calculated deviations from standard SDLC activities, products, roles, and responsibilities from the outset of the project. Though the SDLC clearly states that the tailoring plan is a key first step in the SDLC, for CG1V it was not written until after documents required in the second phase were completed. Coast Guard officials stated that this late completion of the tailoring plan occurred because the Coast Guard's Chief Information Officer had allowed the project to start in the second phase of the SDLC because they believed it was a proven concept. Without key phase one documents, the Coast Guard may have dedicated resources without knowing project costs. In October 2012, Coast Guard officials acknowledged the importance of following the SDLC process and stated their intent to complete the SDLC-required documents. Clarifying the application of the SDLC to new technology development would better position the Coast Guard to maximize the usefulness of the COP.

_____ **United States Government Accountability Office**