



Comprehensive Incident Management System Pilot Program

August 18, 2023

Fiscal Year 2021 Report to Congress



**Homeland
Security**

United States Coast Guard

Foreword

August 18, 2023

I am pleased to present the following report, “Comprehensive Incident Management System Pilot Program,” prepared by the U.S. Coast Guard.

This report was compiled in response to House Report 116-458 accompanying the Fiscal Year 2021 Department of Homeland Security Appropriations Act (P.L. 116-260), which directs the Coast Guard to provide a report on the results of the pilot program to evaluate comprehensive maritime incident management systems at one or more ports.



Pursuant to congressional requirements, this report is provided to the following Members of Congress:

The Honorable David Joyce
Chairman, House Appropriations Subcommittee on Homeland Security

The Honorable Henry Cuellar
Ranking Member, House Appropriations Subcommittee on Homeland Security

The Honorable Chris Murphy
Chair, Senate Appropriations Subcommittee on Homeland Security

The Honorable Katie Britt
Ranking Member, Senate Appropriations Subcommittee on Homeland Security

I would be pleased to answer any questions you have, or your staff may contact my Senate Liaison Office at (202) 224-2913 or House Liaison Office at (202) 225-4775

Sincerely,

A handwritten signature in blue ink that reads "L L Fagan".

Linda L. Fagan
Admiral, U.S. Coast Guard
Commandant



Comprehensive Incident Management System Pilot Program

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I. Legislative Requirement

This report was compiled in response to direction in House Report 116-458 accompanying the Fiscal Year 2021 Department of Homeland Security (DHS) Appropriation Act (P.L. 116-260).

House Report 116-458 states:

Comprehensive Incident Management System.—The Committee understands that the Coast Guard currently lacks a unified technology platform for situational awareness, including the status of Coast Guard resources and assets, at U.S. ports. The Committee encourages the Coast Guard to assess the feasibility of conducting a pilot program to evaluate comprehensive maritime incident management systems at one or more ports; report to the Committee on the results of its assessment; and, if warranted, provide a plan and timeline for carrying out such a pilot.

II. Background

Based on lessons learned from the Coast Guard's incident management and response to Hurricanes Harvey and Irma, the Coast Guard identified gaps in its capability to track the status of Coast Guard resources and assets at U.S. ports. These gaps stemmed from the Coast Guard's lack of a unified technology platform for situational awareness. The Coast Guard subsequently examined two technology platforms to meet a need for a better communications platform and live situational awareness. The platforms examined were GeoSuite and Coast Guard One View (CG1V).

GeoSuite, an Army-sponsored, commercial off-the-shelf product, provides increased situational awareness capabilities and opportunities for collaboration with other government agencies (OGA):

- GeoSuite was developed as an information-sharing tool for collaboration with OGAs, which required operating outside of the Coast Guard Information Technology (IT) Network to allow for this external collaboration.
- The Coast Guard's use of GeoSuite was primarily tested in the Gulf of Mexico region.
- GeoSuite did show value as a tool that allowed for information sharing between the Coast Guard and OGAs through a common map.
- It was determined that GeoSuite deployment beyond the Gulf of Mexico region required a significant time and financial investment.

CG1V, an internal Coast Guard system, was developed for tracking Coast Guard resources and assets and providing maritime domain awareness:

- CG1V provided similar capabilities as those provided by GeoSuite.
- Capability development for CG1V is controlled by the Coast Guard.
- CG1V is an enterprise solution for the whole Coast Guard and currently deployed to field units in the Initial Operating Capability phase.
- CG1V created a user-defined, customized workspace that improved data-sharing across the Coast Guard and OGAs.
- CG1V is supported by the Coast Guard Network and ensures the Coast Guard has control of the information being entered into the system.
- Training on CG1V is provided organically through Coast Guard resources.

Coast Guard senior leadership was briefed on these two systems and timelines for implementation. The decision was made to continue with the development and deployment of CG1V due to its ability to manage any type of Coast Guard operation. The CG1V system was prioritized for release to units located in hurricane zones, followed by release to all field units. This important work contributed to the selection of CG1V as the test application for the comprehensive incident management pilot program, which is the subject of this report.

III. Report

Pilot Program

The CG1V system represented a crucial first step in moving the Coast Guard to a single-sign-on, web-based environment to access mission operations and support IT through a common interface. In 2020, CG1V achieved Initial Operating Capability by meeting the requirements to expand its library of available applications, including capabilities to plan and schedule operations, manage current operations, manage vessels and arrivals, manage command workspace (Command Center logs, duty rotations, certifications, etc.), and provide a common map with vessel tracks, multiple data sources, and map overlays (including imported search and rescue patterns). CG1V also allows users to create and maintain their own user-defined virtual workspace by sharing resource, asset, and maritime domain awareness data in a user-friendly workflow to satisfy the needs of Coast Guard Operational Commanders and OGAs at different port locations.

The Coast Guard assessed the feasibility of conducting a pilot program to evaluate comprehensive maritime incident management systems, and in July 2021, the Coast Guard initiated a pilot program to assess CG1V as a comprehensive incident management system that is readily compatible with existing Coast Guard IT systems and infrastructure. The geographically diverse units Sector Los Angeles-Long Beach, California; Sector Upper Mississippi River, Missouri; Sector Lower Mississippi River, Tennessee; and Sector New Orleans, Louisiana, were selected for the 6-month pilot of CG1V.

Below is a summary of the results from the 2021 Pilot:

Sector Los Angeles-Long Beach:

- Fully implemented CG1V as a comprehensive incident management system for all daily briefings and operations. The system fulfilled the following activities:
 - A dynamic view of operations as opposed to static briefing materials.
 - Local user defined map layers for this area of responsibility ranging from OGA information and local facility points of contact. Local map layers were also used to track Coast Guard and OGA resources during large scale incidents.
 - Common Operational Picture and Force Laydown.
 - Weather Overlays.
 - Status of Coast Guard resources and assets.
 - Operational case summaries.

Sectors Upper Mississippi River and Lower Mississippi River:

- Partially implemented CG1V into Command Center operations to manage ongoing cases in this area of responsibility.

Sector New Orleans:

- Fully implemented CG1V for vessel arrivals.
 - Sector New Orleans manages vessel arrivals from the Gulf of Mexico and the Mississippi River. This mission set is dynamic with complex requirements. CG1V proved capable in displaying desired information for Coast Guard command center watchstanders.
- Fully implemented CG1V into Command Center operations to manage response cases in this area of responsibility.
- Created local user defined map layers for this area of responsibility ranging from OGA information, aids to navigation and bridge data, and local facility points of contact. Local map layers were also used to track Coast Guard and OGA resources during large scale incidents.

In addition to the pilot program, the Coast Guard conducted an Operational Analysis (OA) of CG1V. The OA consisted of:

- Interviewing end users for system performance;
- Documenting new capability gaps;
- Developing use cases; and
- Identifying improvements to the system's requirements.

The pilot and OA highlighted areas of improvement for CG1V to reach the desired level of capability to serve as the Coast Guard's next Comprehensive Incident Management System.

Areas of improvement include:

- Training: There is no Coast Guard formalized operator training in place for CG1V.
- Latency Issues: The track data in CG1V has consistent latency issues. In comparison, track data from commercial sites Marine Traffic and Department of Transportation's Sea Vision are current and being utilized by the operators.
- Interoperability: CG1V is only available within the Coast Guard network.
- System Integration: With all Command-and-Control systems, it is desired to make operational management better for the end user.
- Stability: CG1V is unstable at times. Users conveyed situations where CG1V would experience a fatal error crash multiple times during operation. This issue of stability may be attributed to unit-specific connectivity issues and a lack of system operation knowledge.

These areas of improvement from the pilot and 2021 OA have been added to the CG1V Action Items Priority List to assist with prioritization of the identified capability gaps.

IV. Conclusion

This pilot program and analysis demonstrated a clear benefit to operations through improved maritime domain awareness, faster communications, and more accurate documentation. The pilot program and analysis of CG1V provided the Coast Guard lessons learned and areas to improve, to include missing capabilities, network gaps, and reliability issues. In order to realize the full potential of this technology, the Coast Guard will continue to actively pursue a variety of initiatives that provide enhancements to law enforcement, search and rescue, pollution response, and national defense.

Appendix: Abbreviations

Abbreviation	Definition
CG1V	Coast Guard One View
CGGISE	Coast Guard Geographic Information System Enterprise
DHS	Department of Homeland Security
IT	Information Technology
OA	Operational Analysis
OGA	Other Government Agency