The Loss of Infrared Imaging for Search and Rescue in the USCG Helicopter Fleet

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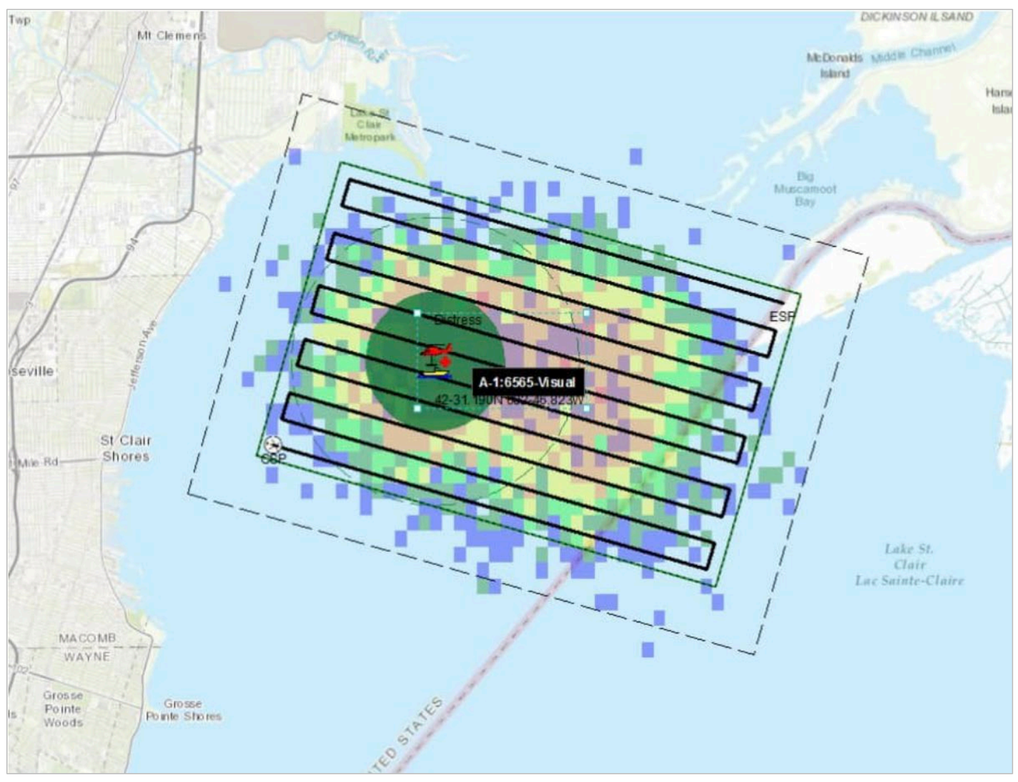
Abstract

On February 19th, 2019 Teledyne/FLIR Corporation initially issued an “End of Life Notification” for the Electro-Optical Sensor System (ESS) utilized by the U.S. Coast Guard due to component and parts obsolescence by 2025. Following the global impacts of the COVID-19 pandemic, Teledyne/FLIR issued an updated "End of Life Notification" in 2022, stating the ESS was no longer supportable effective immediately, three years earlier than expected. This announcement forced the Coast Guard to consolidate its remaining available ESS units to preserve its capability, resulting in its removal from all MH-65 search and rescue (SAR) units that provide maritime SAR coverage for 50% of the U.S. coastline. This case analysis explores how this happened, what acquisition related decisions and processes ultimately contributed to the removal of the ESS without a viable replacement readily available, and potential acquisition policy improvements that can be applied to enhance the Coast Guard’s ability to sustain key capabilities long-term and prevent similar scenarios in the future.

USCG MH-65 and MH-60 with ESS System Equipped



MH-65 Search Pattern from USCG SAROPS Software

Methods: 2-Phase Gap Analysis

Phase 1: Quantitative Analysis of ESS Loss

- Goal: Determine the impacts of removing the ESS on search and rescue efforts to achieve mandated mission requirements by quantifying changes in flight hours and the associated cost implications.
- Execution: Comparative analysis of SAR scenarios with varying search conditions using the USCG's SAROPS planning software, both with and without the ESS installed on the search asset.

Phase 2: Qualitative Analysis of USCG Acquisitions

- Goal: Identify gaps between acquisition policy and procedures and the actual events and decisions that led to eventual removal of the ESS capability.
- Execution: Thematic analysis of interviews with USCG HQ offices responsible for the acquisition and sustainment of the ESS, including CG-711 (Aviation Operations), CG-41 (Aviation Engineering), and CG-931 (Aviation Acquisitions).

Results & Their Impact

- Removal of the ESS has affected search planning requirements.
  - Impact: Adjustments in search flight hours have a direct effect on operational costs.
- Program sustainment responsibilities are delegated to an office outside of the Coast Guard’s acquisition command structure.
  - Impact: Results in poor communication, funding constraints, and capability gaps.
- Recorded history of poor management of major and non-major acquisition programs.
  - Impacts: Hinders long-term strategic planning, negatively impacts annual funding requirements.
- Funding and personnel constraints limit the effectiveness of program management with smaller teams managing several programs, while prioritizing those with immediate fleet impact.
  - Impacts: Management offices focus primarily on current issues, hindering long-term strategic planning. Management offices neglect programs until they enter a critical state.

Image from ESS Onboard USCG MH-65 of Rescue Swimmer

Recommendations

- Central oversight of acquisition/sustainment - improves program management and removes communication barriers
- Establish an acquisitions career field – retains specially trained members in acquisition roles and cultivates an acquisition minded organizational culture.

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