VALIDATION OF THE IMO POLAR CODE SURVIVAL TIME REQUIREMENT IN THE ARCTIC

FACTSHEET

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Commercial and research vessel traffic in polar waters continues to rise, intensifying the challenges of responding to maritime emergencies in the harsh Arctic environment. To address these concerns, the United States Coast Guard Research and Development Center evaluated the International Maritime Organization (IMO) Polar Code's "maximum expected time of rescue" (METR) requirement.

KEY TAKEAWAYS

- **Longer Rescue Times Are Possible:** In remote regions or in adverse conditions (e.g., heavy ice, extreme weather, or mass rescue scenarios), actual rescue times can exceed five days.
- **Multi-Agency Collaboration Is Essential:** In large-scale or high-latitude incidents, multiple agencies—including the U.S. Coast Guard, Department of Defense units, local SAR teams, and even vessels of opportunity—are needed to expedite rescue.
- **Guidance for Operational Assessments:** The research highlights the need for clearer, standardized methods to calculate METR during a vessel's Operational Assessment to ensure sufficient lifesaving equipment is on board for polar voyages.

THE POLAR CODE

- The IMO Polar Code requires that lifesaving appliances be functional for the METR, which must be at least five days.
- This study—Verify International Maritime Organization Polar Code Survival Time Requirement: Arctic Search & Rescue Simulation Model—reviewed six Arctic scenarios to test whether five days is sufficient under various operating conditions.
- The scenarios incorporated real-world data on weather, vessel traffic, and US Arctic search and rescue (SAR) resources.

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LESSONS FOR ARCTIC OPERATIONS

- **Identify realistic response times** based on region, season, and the vessel's operational profile.
- **Plan for mass rescue incidents** by ensuring the availability of sufficient lifesaving appliances, cold-weather survival gear, and robust communication systems.
- **Maintain active partnerships** between government agencies, industry, and Arctic communities to improve rescue coordination and asset deployment.

LOOKING AHEAD

The research findings and the subsequent IMO submission offer a roadmap for **enhancing the safety of polar operations**. By refining METR guidelines, promoting interagency cooperation, and encouraging the development of specialized survival equipment, Arctic nations and the shipping industry can mitigate risks for mariners and passengers in extreme environments.