

## **Paper #7-13**

# **FUTURE U.S. NAVY AND USCG OPERATIONS IN THE ARCTIC**

Prepared for the  
Technology & Operations Subgroup

On March 27, 2015, the National Petroleum Council (NPC) in approving its report, *Arctic Potential: Realizing the Promise of U.S. Arctic Oil and Gas Resources*, also approved the making available of certain materials used in the study process, including detailed, specific subject matter papers prepared or used by the study's Technology & Operations Subgroup. These Topic Papers were working documents that were part of the analyses that led to development of the summary results presented in the report's Executive Summary and Chapters.

**These Topic Papers represent the views and conclusions of the authors. The National Petroleum Council has not endorsed or approved the statements and conclusions contained in these documents, but approved the publication of these materials as part of the study process.**

The NPC believes that these papers will be of interest to the readers of the report and will help them better understand the results. These materials are being made available in the interest of transparency.

The attached paper is one of 46 such working documents used in the study analyses. Appendix D of the final NPC report provides a complete list of the 46 Topic Papers. The full papers can be viewed and downloaded from the report section of the NPC website ([www.npc.org](http://www.npc.org)).

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# Topic Paper

(Prepared for the National Petroleum Council Study on Research to Facilitate Prudent Arctic Development)

<b>7-13</b>	<b>Future U.S. Navy Operations in the Arctic</b>
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<b>SUMMARY</b> This paper describes the U.S. Navy’s Arctic Roadmap and provides support for/ collaboration interest in the following areas: <ul style="list-style-type: none"><li>- Ice characterization aka Environmental Sensor Strategy</li><li>- Basing</li><li>- Search and Rescue (SAR)</li></ul>	

## PURPOSE

This topic paper summarizes the February 2014 United States Navy’s Arctic Roadmap<sup>1</sup>, highlighting the Navy’s preparedness to operate, promote stability and protect national interests in the Arctic Region as well as provide discussion points to further exploration.

## BACKGROUND/ONGOING RESEARCH

The United States Navy, as the maritime component of the Department of Defense, has global leadership responsibilities to provide ready forces for current operations and contingency response in the Arctic Ocean. Navy functions in the Arctic Region are no different from those in other maritime regions; however, it is recognized that the Arctic Region environment makes the execution of many of these functions much more challenging.

In November 2013, the Secretary of Defense published the *Department of Defense Arctic Strategy*, identifying two supporting objectives to the National Strategy:

- Ensure security, support safety, and promote defense cooperation;
- Prepare for a wide range of challenges and contingencies.

The Navy will pursue the following strategic objectives:

- Ensure United States Arctic sovereignty and provide homeland defense;

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<sup>1</sup> [http://www.navy.mil/docs/USN\\_arctic\\_roadmap.pdf](http://www.navy.mil/docs/USN_arctic_roadmap.pdf)

- Provide ready naval forces to respond to crisis and contingencies;
- Preserve freedom of the seas; and
- Promote partnerships within the United States Government and with international allies and partners.

The *U.S. Navy Arctic Roadmap* (February 2014) provides direction to the Navy Commanders, placing particular emphasis on near-term actions necessary to enhance Navy's operational capabilities. In the near-term, the Navy will refine doctrine, operating procedures, and tactics, techniques, and procedures to guide future potential operations in this region. In the mid-term, the Navy will provide support to the Combatant Commanders, United States Coast Guard, and other United States Government agencies. The Navy will continue to develop and enhance cooperative relationships across the Department of Defense and with United States Government agencies, industry, and international allies and partners.

The Arctic Ocean will be increasingly accessible and more broadly used by Arctic and non-Arctic nations seeking the Region's abundant resources and trade routes. Regardless of the degree of accessibility, the Arctic Region will remain a unique and harsh operating environment. Naval operations in the Arctic Ocean, outside the Barents, Bering, and Norwegian Seas, require special training, extreme cold-weather modifications for systems and equipment, and complex logistics support. Given the vast distances and virtually no supporting infrastructure, naval forces without specialized equipment and operational experience face substantial impediments. In areas that are seasonally free of ice, the ability of commercial and military vessels to maneuver will remain significantly hindered due to unpredictable locations and movement of ice formations as well as the inadequate and incomplete nautical charting and aids to navigation in many portions of the Arctic Ocean.

Anticipating the impacts of climate change, the Navy will take deliberate steps to prepare for increased Arctic Ocean operations. As conditions change, the Navy will re-evaluate its preparedness and make targeted investments in Arctic capabilities to hedge against uncertainty and safeguard enduring national interests. By 2020, the Navy will increase the number of personnel trained in Arctic operations, growing expertise in all domains by continuing to participate in exercises, scientific missions, and personnel exchanges in Arctic-like conditions. Additionally, the Navy will refine or develop the necessary strategy, policy, plans, and requirements for the Arctic Region as well as update operating requirements and procedures for personnel, ships, and aircraft to operate in the Region with interagency partners and allies.

Capability and presence will be provided primarily through undersea and air assets, in the near-term, while surface ships will be limited to open water operations. Even in open water conditions, weather factors, including sea ice, must be considered in operational risk assessments. During shoulder seasons, the Navy may employ ice strengthened Military Sealift Command (MSC) ships to conduct Navy missions.

The Navy and Coast Guard have an established history of cooperation and collaboration. The two services will capitalize on this close partnership to protect our Nation's ports and waterways and to promote our maritime security interests. The Coast Guard and Navy are committed to

ensuring safe, secure, and environmentally responsible maritime activity in Arctic Ocean waters and to promoting our other national interests in the Region.

By 2030, the Navy will have the necessary training and personnel to respond to contingencies and emergencies affecting national security. As the Arctic Ocean becomes increasingly ice-free, surface vessels will operate in the expanding open water areas. The Navy will improve its capabilities by participating in increasingly complex exercises and training with regional partners. While primary risks in the mid-term will likely be meeting search and rescue or disaster response mission demands, the Navy may also be called upon to ensure freedom of navigation in Arctic Ocean waters. Transitioning from a capability to provide periodic presence to a capability to operate deliberately for sustained periods, the Navy will work to mitigate the gaps and seams in its Arctic Ocean operations.

## **DISCUSSION/POTENTIAL AREAS OF FURTHER RESEARCH**

Considering the “Roadmap” above, areas that warrant further discussion and coordination include but are not limited to:

- Environmental Sensor Strategy
- Basing
- Search and Rescue (SAR) Coordination with U.S. Coast Guard and Royal Canadian Navy

**Environmental Sensor Strategy.** Accurately characterizing and modeling the Arctic’s dynamic maritime & terrestrial environments will facilitate the success of safe and efficient operations. The coordinated effort of an interagency and industry supported Arctic environmental observation system will provide stakeholders the ability to minimize risk during Surface, Subsurface, Air, Humanitarian Assistance/Disaster Response, and Search and Rescue operations as well as allow the services to design to the environment.

Efforts should consider the research, development, resourcing and sustainment of systems to include; space-based remote sensing, aircraft-driven observations, unattended surface sensors on sea ice, profiling and drifting floats in the ocean, and subsurface autonomous vehicles.

**Basing.** Given the limited base availability in the high North latitudes and the vast area to be covered with little supporting infrastructure, the potential for basing naval air and surface forces will be a consideration. The movement of resources through the air or on the sea across great distances by naval forces trained and equipped to support other United States Government agencies in the Arctic Region may be required. Increased naval presence in both patrol and response aspects may warrant the determination of suitable port facilities on both the Northern Pacific and Northern Atlantic.

**SAR Coordination.** The dynamic Arctic environment, combined with increasing maritime traffic and energy exploration, may increase the probability of a maritime or environmental disaster. Acknowledging the distinctive missions, competencies, and cultures of U.S. sea services, the Coast Guard and Navy will remain ready to support critical and likely missions such as pollution response and SAR; integrated planning efforts with local, state, federal, and native

communities; strengthen interoperability with international partners; and develop processes, procedures, joint training, and exercises to gain operational proficiency. Additionally, the Navy will work with the Royal Canadian Navy to ensure common Arctic Region interests are addressed in a complementary manner.

## **RECOMMENDATION**

Of the discussion points provided, and within the scope of this venue, the Department of Energy's interagency participation in the development of an Arctic environmental observation system provides the most immediate and operationally relevant benefit. Recommend support in the research, development, resourcing and sustainment of an environmental observation system with other agency partners.

In conclusion, naval security and international naval cooperation have always been critical components of United States' Arctic policy. As the Arctic Ocean opens, these components will increase as activity rises. This *Navy Arctic Roadmap* underscores the need to develop strong cooperative partnerships with interagency and international Arctic Region stakeholders. It acknowledges the role climate change plays in energy security, research and science, the economy, fisheries, tourism, the assertion of sovereignty, and other related issues. The Navy will take deliberate steps to anticipate and prepare for Arctic Region operations and address emerging challenges caused by the opening of the Arctic Ocean waters.

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The views presented are those of the author and not necessarily represent the views of DoD. This document has been reviewed for clearance by appropriate security and public affairs offices.