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ACQUISITION RESEARCH

CASE STUDY

Operation Arctic Heat Case and Exercise for Advanced Contingency Contracting

30 April 2012

by

CDR (Ret.) E. Cory Yoder, Senior Lecturer
Graduate School of Business & Public Policy

Naval Postgraduate School

ACQUISITION RESEARCH PROGRAM
GRADUATE SCHOOL OF BUSINESS & PUBLIC POLICY
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About the Author

CDR (Ret.) Cory Yoder is a faculty member of the Naval Postgraduate School's Graduate School of Business and Public Policy (GSBPP). Yoder was originally assigned to NPS in July 2000 while on active duty commission with the Navy, appointed to a civilian lecturer position in June 2004, and promoted to senior lecturer in May 2008. He has performed duties as academic associate (program manager) for the 815 (MBA; a three-year appointment ending July 2005) and currently serves as academic associate for the 835 (MSCM—Master of Science in Contract Management program—with an indefinite appointment). Yoder has strong acquisition and contracting experience, combined with several challenging acquisition, logistics, industrial, headquarter, and combat support operations assignments. Yoder received the Rear Admiral John Jay Schieffelin award for Excellence in Teaching for academic year 2010, presented in June 2011, and was a "Top Five Percent" nominee in academic years 2006, 2007, 2008, and 2009.

In addition to holding the positions of senior lecturer and academic associate at NPS, he has performed in numerous assignments, including, but not limited, to the following:

- Director and chief of logistics, headquarters, Allied Forces Southern Command (AFSOUTH), Naples, Italy (logistics, contracting, finance within NATO)
- Post commander and support group commander, Kosovo Verification Coordination Center (KVCC), Kumanovo (Skopje), Macedonia
- Officer-in-charge, fleet and industrial supply detachment, Long Beach, CA
- Stock control officer, USS *Tarawa* (LHA-1)
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- Naval acquisition and contracting officer (NACO) internship, Naval Regional Contracting Center (NRCC), Washington, DC
- Supply officer, USS *Fanning* (FF-1076)

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- Master of Arts in National Security and Strategic Studies, Naval War College (NWC), Newport, RI
- Master of Science in Management, Naval Postgraduate School, Monterey, CA
- Bachelor of Science in Business Management, Indiana University, Kelley School of Business
- University of Virginia's Darden Graduate School of Business Administration—Business Resource Management (certificate program graduate)

CDR (Ret.) E. Cory Yoder is a Beta Gamma Sigma honor society member with a lifetime appointment, is DAWIA Contract Level III certified, is an active member of the Institute for Supply Management (ISM) with lifetime direct national membership, is a credentialed member of the Humanitarian Research Group, and holds an active TOP SECRET security clearance.[1]

1 See Appendix A for a more complete biography and abbreviated curriculum vita.

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A. Operation Arctic Heat

1. Introduction, Objectives, and Purpose

Operation Arctic Heat is a series of structured case exercises designed to promote and capitalize on graduate-level concepts in the planning and conduct of contingency and expeditionary contracting events. The case exercises utilize the most current strategic, operational, and tactical directives and guidance as their foundations and supporting structure, including, but not limited to, Joint Publication 4-10, Joint Publication 5-0, and Operational Contract Support directives, while capitalizing on advanced graduate pedagogy. The cases are designed to complement briefings and lectures, in-class discussions, and student readings contained in the Naval Postgraduate School's MN3318 Contingency Contracting course, and the Defense Acquisition University's CON234 and

CON334 courses. It is recommended that these cases be utilized after a sound foundation of contingency contracting course work has been completed either within the initial segments of MN3318, or after completing CON234, or both, and utilized in harmony with and concurrent to the MN3318 or CON334 course deliveries. Students should have prior or concurrent briefings/lectures and discussions and other content of the CON 234 contingency contracting course and/or these objectives delivered in MN3318, including, but not limited to the following:

- Types of contingencies—Identify contracting laws, regulations, and procedures unique to various types of contingencies.
- Cross cultural awareness—Recognize cross-cultural behavior patterns and anti-terrorism vulnerabilities and explain their impact on contingency contracting.
- Roles and responsibilities—Identity the key personnel and organization in a contingency, their roles and responsibilities, and required coordination.
- Automated tools—Assess customer requirements and select, justify, and execute the appropriate procurement action. Apply automated procedures to assemble, prepare, and closeout documents, files, and reports.
- Deliberate and crisis action planning—Identify, summarize and discuss the key elements of Deliberate and Crisis Action Planning (defined in Joint Publications 4-10 and 5-0) as they relate to contingency contracting planning.
- Anti-terrorism and security—Recognize anti-terrorism vulnerabilities and explain their impact on contingency contracting.
- Funding contingency operations—Identify and apply the contracting laws, regulations, and procedures for funding operations unique to various types of contingencies.
- Administration, termination, and closeout of contingency contracts—Apply automated and manual procedures, or map specific protocols, to assemble, prepare, and closeout contract documents, files, and reports.

- Ethical business conduct—Exercise and apply ethical business principles in performing the duties of a contingency contracting officer.

B. Meet DAU CON 334 Advanced Contingency Contracting Objectives

The Operation Arctic Heat (OAH) Case and exercise series is structured to meet and/or complement the objectives of the Defense Acquisition University's CON 334 Advanced Contingency Contracting Officer's course, as published course learning/performance objectives and associated enabling learning objectives, as iterated in the following[2]:

- DAU CON 334—LPO 1 & 2: Recognize and defend the most appropriate approaches for a combatant commander in any area of responsibility (AOR) throughout the four phases of a contingency.
- DAU CON 334—LPO 1 & 2, ELO A: Choose the most appropriate resource for the most efficient and effective contingency contracting office operation during all phases of a contingency.
- DAU CON 334—LPO 2, ELO B: Create a brief to the operational commander showing comprehension of the contingency contracting AOR sustainment environment.
- DAU CON 334—LPO 3: Recommend contract support for the warfighter in any given situation.
- DAU CON 334—LPO 3, ELO A: Create a brief overview of the joint operations planning process with focus on Contract Support Integration Plan (CSIP) Annex W of OPORD/OPLAN (operation order and operation plan).
- DAU CON 334—LPO 3, ELO B: Prepare the students for the challenges of current CSIP (Contract Support Integration Plan) development efforts.
- DAU CON 334—LPO 4: Justify the appropriate ethical contracting approach in an AOR contingency situation.

[2] See Appendix B—Numbering follows published DAU CON 334 Course Learning/Performance Objectives and Enabling Learning Objectives obtained and validated January 24, 2012, from http://icatalog.dau.mil/onlinecatalog/courses.aspx?crs_id=1685

- DAU CON 334—LPO 4, ELO A: Determine ethical contingency contracting attributes for a lead CCO.
- DAU CON 334—LPO 4, ELO B: Defend the most effective ethical approach given a contingency contracting scenario.
- DAU CON 334—LPO 5: Choose the most appropriate resource for the most efficient and effective contingency office operation during all phases of a contingency.
- DAU CON 334—LPO 5, ELO A: Evaluate the requirements needed to prepare a Contingency Contracting Support Plan.
- DAU CON 334—LPO 5, ELO B: Prepare an AOR briefing to the combatant commander and discuss how contingency contracting can be a force multiplier to the combatant commander.
- DAU CON 334—LPO 6: Determine the appropriate contractual resolution for a contingency AOR requirement.
- DAU CON 334—LPO 6, ELO A: Explain the role of the JARB (joint acquisition review board).
- DAU CON 334—LPO 6, ELO B: Summarize the flow of the JARB process.
- DAU CON 334—LPO 6, ELO C: Analyze requirement packages to the JARB.
- DAU CON 334—LPO 6, ELO D: Validate requirements packages through the JARB process.
- DAU CON 334—LPO 7: Determine the appropriate contractual resolution for a contingency AOR requirement.
- DAU CON 334—LPO 7, ELO A: Determine the steps required to implement performance-based acquisition (PBA) in a contingency AOR.
- DAU CON 334—LPO 7, ELO B: Defend employing PBA in an AOR during any contingency phase.
- DAU CON 334—LPO 8: Given a situation requiring the need to select the “best value” offer in response to a government requirement, apply the necessary steps in the source selection process.
- DAU CON 334—LPO 8, ELO A: Define the term source selection.

- DAU CON 334—LPO 8, ELO B: Explain the elements of the formal source selection process.
- DAU CON 334—LPO 8, ELO C: Create instructions to offerors and evaluation factors for a best value source selection.
- DAU CON 334—LPO 9: Recommend contract support for the warfighter in any given situation.
- DAU CON 334—LPO 9, ELO A: Examine the options for support available for oversight of contract actions.
- DAU CON 334—LPO 10: Choose the most appropriate resource for the most efficient and effective contingency office operation during all phases of a contingency.
- DAU CON 334—LPO 10, ELO A: Examine the different redeployment possibilities.
- DAU CON 334—LPO 10, ELO B: Determine which processes are the most appropriate per redeployment scenario.
- DAU CON 334—LPO 10, ELO A: Defend a redeployment approach given an AOR.
- DAU CON 334—LPO 11: Recommend contract support for the warfighter in any given situation.
- DAU CON 334—LPO 11, ELO A: Analyze the contingency contracting issues not covered.
- DAU CON 334—LPO 11, ELO B: Propose solutions to contingency challenges identified by various congressional studies.

C. Meet MN3318 Contingency Contracting Advanced Concepts Delivery

The Operation Arctic Heat (OAH) Case will also allow for the assimilation of advanced planning concepts presented in the MN3318 course, including, for example, Phase Zero Operations, the Yoder Three-Tier Model, the Mandatory Pillars for Integrative Success framework, and other advanced tools for the planning and assessment of contingency and expeditionary contracting developed at the Naval Postgraduate School and other institutions.

D. Case Conduct and Execution Objectives

1. Primary Objective

Capitalize and consolidate class lessons in advanced contingency contracting concepts and execution. Include at least the following:

a. Meet and achieve all DAU CON334 objectives, when this case is utilized in conjunction with the MN3318 Contingency Contracting course or with DAU's CON 334 course deliveries.

b. Exercise critical analysis on structuring and executing advanced contracting support strategies.

c. Prepare and present student analysis and recommendations for review by other exercise participants, instructors, and proctors.

d. Allow for greater synergy and student absorption of class readings and presentations through a "hands-on" utilization of advanced concepts.

2. Secondary Objective

Engage in a spirited, competitive exercise with positive incentives and reward for sound conduct and top student team performance.

E. General Guidance and Protocols

1. This case requires all participants to read and follow these instructions implicitly.

2. Students are *not* to communicate any aspect of this case or its content, the buying strategies, operations, or tactics employed with any student(s) outside of their immediate team.

3. Student teams are to create and present deliverables in accordance with instructions contained in each "phase" of the exercise.

4. All teams must properly cite all outside source materials to include web-extractions, communications with subject matter experts, texts, articles, and all other sources in their presentations. No exceptions.

5. For the MN3318 Contingency Contracting course, the case exercise is scheduled for conduct over a five-week (or greater) period of time.

F. Case Sequencing and Delivery Orchestration, Mandatory Pre-Reading and Concurrent Reading and Study

This case should be delivered initially after initial contingency contracting basics. As such, the author recommends the case be delivered and the exercise run in the MN3318 Contingency Contracting course in Session #5 (week five) and beyond. The case replicates five phases of contingency contracting, and is designed to deliver an exercise for out-of-class preparation, and in-class discussion and presentation by the students over a five- (or greater) week period of time for resident and distance learning students in traditional quarter-structured courses, and five days in compressed delivery modality.

The resources identified in the Operation Arctic Heat Case bibliography are mandatory resources to support the lessons and concepts of the case as designed (see Bibliography).

- Joint Effects-Based Contracting and Phase Zero Operations (Instructor provided)
- DoDD 3020.49—Operational Contracting Support (Instructor provided)
- Defense Contingency Contracting Handbook—Chapter IV (Instructor provided)
- Phase Zero Operations for Expeditionary Contracting (Instructor provided; excerpt provided in Appendix C)
- Joint Publication 5-0—Joint Operational Planning
- Joint Publication 4-10—Operational Contract Support
- U.S. Navy Arctic Strategy Objectives, Chief of Naval Operations (CNO Memorandum, Serial N00/100063, May 21, 2010; See Appendix D)
- Arctic Environmental Assessment and Outlook Report in Support of The Navy Arctic Roadmap—Action Item 5.7 (Instructor provided)

- GAO: Coast Guard—Efforts to Identify Arctic Requirements Ongoing (GAO-10-870, September 2010; Instructor provided)
- GAO: Arctic Capabilities—DoD Addressed Many Specified Elements (GAO-12-180, January 2012; Instructor provided)
- CON 334 Slides and Readings (Instructor provided)

The Operation Arctic Heat Case is structured to be delivered in a specific sequence over a period of days or weeks, see Figure 1 on the following page.

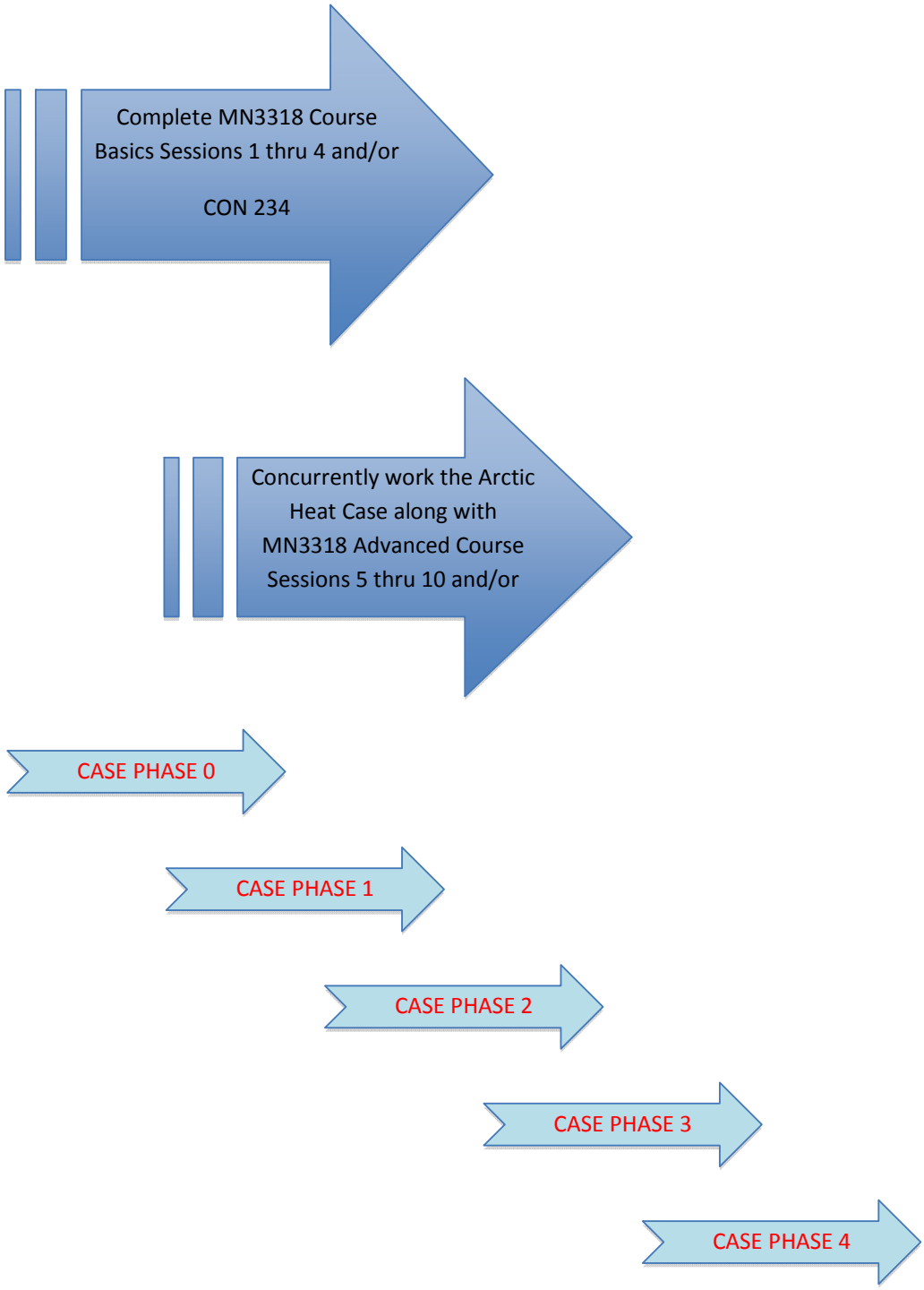

Figure 1. Case Exercise Integration Flow Chart of Major Events in Sequence

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II. Operation Arctic Heat Case Exercise Part II: Case and Exercise Time-Phased Scenarios

A. Operation Arctic Heat Phase Zero: Planning and Shaping

1. Arctic Heat Case—An Exercise Meeting/Exceeding CON 334 Objectives. Phase Zero—Initial Strategy and Planning for Expeditionary Operations

a. Objectives

This phase of Operation Arctic Heat is structured to support the following DAU CON 334 objectives:

- DAU CON 334—LPO 1 & 2: Recognize and defend the most appropriate approaches for a combatant commander in any area of responsibility (AOR) throughout the four phases of a contingency.
- DAU CON 334—LPO 1 & 2, ELO A: Choose the most appropriate resource for the most efficient and effective contingency contracting office operation during all phases of a contingency.

- DAU CON 334—LPO 2, ELO B: Create a brief to the operational commander showing comprehension of the contingency contracting AOR sustainment environment.
- DAU CON 334—LPO 3: Recommend contract support for the warfighter in any given situation.
- DAU CON 334—LPO 3, ELO A: Create a brief overview of the joint operations planning process with focus on Contract Support Integration Plan (CSIP) Annex W of OPORD/OPLAN.
- DAU CON 334—LPO 3, ELO B: Prepare the students for the challenges of current CSIP (Contract Support Integration Plan) development efforts.
- DAU CON 334—LPO 4: Justify the appropriate ethical contracting approach in an AOR contingency situation.
- DAU CON 334—LPO 4, ELO A: Determine ethical contingency contracting attributes for a lead CCO.
- DAU CON 334—LPO 4, ELO B: Defend the most effective ethical approach given a contingency contracting scenario.
- DAU CON 334—LPO 5: Choose the most appropriate resource for the most efficient and effective contingency office operation during all phases of a contingency.
- DAU CON 334—LPO 5, ELO A: Evaluate the requirements needed to prepare a Contingency Contracting Support Plan.
- DAU CON 334—LPO 5, ELO B: Prepare an AOR briefing to the combatant commander and discuss how contingency contracting can be a force multiplier to the combatant commander.
- DAU CON 334—LPO 6, ELO A: Explain the role of the JARB.
- DAU CON 334—LPO 6, ELO B: Summarize the flow of the JARB process.
- DAU CON 334—LPO 7, ELO A: Determine the steps required to implement performance-based acquisition (PBA) in a contingency AOR.
- DAU CON 334—LPO 7, ELO B: Defend employing PBA in an AOR during any contingency phase.

- DAU CON 334—LPO 9: Recommend contract support for the warfighter in any given situation.
- DAU CON 334—LPO 9, ELO A: Examine the options for support available for oversight of contract actions.
- DAU CON 334—LPO 10: Choose the most appropriate resource for the most efficient and effective contingency office operation during all phases of a contingency.
- DAU CON 334—LPO 10, ELO A: Examine the different redeployment possibilities.
- DAU CON 334—LPO 10, ELO B: Determine which processes are the most appropriate per redeployment scenario.
- DAU CON 334—LPO 10, ELO A: Defend a redeployment approach given an AOR.
- DAU CON 334—LPO 11: Recommend contract support for the warfighter in any given situation.
- DAU CON 334—LPO 11, ELO A: Analyze the contingency contracting issues not covered.
- DAU CON 334—LPO 11, ELO B: Propose solutions to contingency challenges identified by various congressional studies.

2. Case Scenario for Phase Zero

a. Background

As part of the DoD, Coast Guard, and Civilian Agency Arctic mission, hereafter called *Multi Agency Arctic Mission* or *MAAM*, a military/civilian environmental monitoring team will be positioned in the Arctic for purposes of conducting important climatic, atmospheric, and oceanic changes occurring in the Arctic regions for an indefinite period of time. The mission will consist of 80 persons, all well screened for this type of operation, along with over 16 tons of sensitive test and observational gear, and 20 tons of habitability support materials. The MAAM will have sustaining provisions for the first 30 days of operations.

The MAAM Commander indicates that most DoD and Coast Guard assets are not available to support this mission in an "organic" manner as would be traditionally accomplished, primarily due to "international concerns" over using military and DHS assets in this sensitive region. Several countries have challenged the mission at the United Nations.

b. Readings (in addition to those in the syllabus and MN3318 lessons)

For an overview of the Arctic mission and the military presence, read the following appendices prior to moving into the case:

c. "The Emerging Arctic Frontier," Admiral Robert J. Papp, Jr., U.S. Coast Guard, U.S. Naval Institute, January 2012. (Appendix E)

1. "Navy Arctic Roadmap," Vice Chief of Naval Operations, Admiral J. W. Greenert, USN, Memorandum for distribution, November 10, 2009. (Appendix F)

2. "Navy Strategic Objectives for the Arctic," Chief of Naval Operations, G. Roughead Memorandum for distribution, May 21, 2010. (Appendix G)

3. "Strategic Planning for Contracting Operations," Bill Long and E. Cory Yoder, Naval Postgraduate School, Working Paper Series, April 2012. (Appendix H)

d. Mission

You have been assigned, along with your teammates, as the Joint Task Force Arctic Support Team Contracting Commander (ASTCC) under the combatant commander's authority for Arctic missions. Your team mission is to create and present key elements and areas of consideration for constructing the MAAM Annex W Operational Contracting Support Plan, given the basic scenario as iterated.

e. Tasking

You, along with your team, have been appointed as the ASTCC commander. You must prepare a briefing to the MAAM commander iterating for Phase Zero, at a minimum, the following:

- Define key elements required to support the MAAM, including, but not limited to, food, shelter, heat, fuel, waste collection and disposal, etc.
- How could the mission expand if tasked to support elements in the "Navy Arctic Roadmap," provided as Appendix F?
- Address the specific DAU CON 334 objectives iterated in this Phase Zero section (iterated previously) and how OPLAN Annex W will address these.
- How should the ASTCC office be established to support the mission?
- How many personnel will you require to support the mission?
- Define and make specific recommendations for establishing a JARB specific to this mission to include the elements of process flows, reporting chains, reviews, etc.
- Create a template Annex W highlighting your key support parameters and design schema. (See Appendix I for Annex W OCS details.)

f. Deliverable

The team will prepare a slide show for submission to the exercise proctor/instructor. The team will present to the class all requirements addressed in the tasking section, including the OPLAN Annex W elements.

g. Evaluation Rubric

1. Teams will create a presentation addressing the objectives, questions, and OPLAN Annex W elements for Phase Zero.
2. Students, led by the instructor, will analyze the presentation for thoroughness and viability, based on their knowledge, so far, in the concepts presented. This is to be an "open forum" dialogue for idea exchanges and critical analysis.

B. Operation Arctic Heat Phase One: Deployment

1. Operation Arctic Heat Case—An Exercise Meeting/Exceeding CON 334 Objectives. Phase One—MAAM Deployed for Arctic for Expeditionary Operations

a. Objectives

This phase of Operation Arctic Heat is structured to support the following DAU CON 334 objectives:

- DAU CON 334—LPO 1 & 2: Recognize and defend the most appropriate approaches for a combatant commander in any area of responsibility (AOR) throughout the four phases of a contingency.
- DAU CON 334—LPO 1 & 2, ELO A: Choose the most appropriate resource for the most efficient and effective contingency contracting office operation during all phases of a contingency.
- DAU CON 334—LPO 2, ELO B: Create a brief to the operational commander showing comprehension of the contingency contracting AOR sustainment environment.

- DAU CON 334—LPO 3: Recommend contract support for the warfighter in any given situation.
- DAU CON 334—LPO 3, ELO A: Create a brief overview of the joint operations planning process with focus on Contract Support Integration Plan (CSIP) Annex W of OPORD/OPLAN.
- DAU CON 334—LPO 3, ELO B: Prepare the students to the challenges of current CSIP (Contract Support Integration Plan) development efforts.
- DAU CON 334—LPO 4, ELO A: Determine ethical contingency contracting attributes for a lead CCO.
- DAU CON 334—LPO 4, ELO B: Defend the most effective ethical approach given a contingency contracting scenario.
- DAU CON 334—LPO 5: Choose the most appropriate resource for the most efficient and effective contingency office operation during all phases of a contingency.
- DAU CON 334—LPO 5, ELO A: Evaluate the requirements needed to prepare a Contingency Contracting Support Plan.
- DAU CON 334—LPO 5, ELO B: Prepare an AOR briefing to the combatant commander and discuss how contingency contracting can be a force multiplier to the combatant commander.
- DAU CON 334—LPO 6: Determine the appropriate contractual resolution for a contingency AOR requirement.
- DAU CON 334—LPO 6, ELO A: Explain the role of the JARB.
- DAU CON 334—LPO 6, ELO B: Summarize the flow of the JARB process.
- DAU CON 334—LPO 6, ELO C: Analyze requirement packages to the JARB.
- DAU CON 334—LPO 6, ELO D: Validate requirements packages through the JARB process.
- DAU CON 334—LPO 7: Determine the appropriate contractual resolution for a contingency AOR requirement.
- DAU CON 334—LPO 7, ELO A: Determine the steps required to implement performance-based acquisition (PBA) in a contingency AOR.

- DAU CON 334—LPO 7, ELO B: Defend employing PBA in an AOR during any contingency phase.
- DAU CON 334—LPO 8: Given a situation requiring the need to select the “best value” offer in response to a government requirement, apply the necessary steps in the source selection process.
- DAU CON 334—LPO 8, ELO A: Define the term *source selection*.
- DAU CON 334—LPO 8, ELO B: Explain the elements of the formal source selection process.
- DAU CON 334—LPO 8, ELO C: Create instructions to offerors and evaluation factors for a best value source selection.
- DAU CON 334—LPO 9: Recommend contract support for the warfighter in any given situation.
- DAU CON 334—LPO 9, ELO A: Examine the options for support available for oversight of contract actions.
- DAU CON 334—LPO 10: Choose the most appropriate resource for the most efficient and effective contingency office operation during all phases of a contingency.
- DAU CON 334—LPO 10, ELO A: Examine the different redeployment possibilities.
- DAU CON 334—LPO 10, ELO B: Determine which processes are the most appropriate per redeployment scenario.
- DAU CON 334—LPO 10, ELO A: Defend a redeployment approach given an AOR.
- DAU CON 334—LPO 11: Recommend contract support for the warfighter in any given situation.
- DAU CON 334—LPO 11, ELO A: Analyze the contingency contracting issues not covered.
- DAU CON 334—LPO 11, ELO B: Propose solutions to contingency challenges identified by various congressional studies.

2. Case Scenario for Phase One

a. Background

As part of the DoD, Coast Guard, and Civilian Agency Arctic mission, the MAAM, a military/civilian environmental monitoring team, is flown into position in the Arctic for purposes of conducting important climatic, atmospheric, and oceanic changes occurring in the Arctic regions for an indefinite period of time. The MAAM mission advance team, consisting of 10 support and operational specialists, was flown in over a three-week period.

As indicated in the prior phase, the MAAM commander indicates that most DoD and Coast Guard assets are not available to support this mission in an "organic" manner as would be traditionally accomplished, primarily due to "international concerns" over using military and DHS assets in this sensitive region. Several countries have challenged this research mission at the United Nations, claiming that it is an effort by the United States at claiming valuable oil reserves, and securing shipping lanes for the sole use of the Unites States and western countries.

Figure 2. Arctic Regional Players Issue Concerns
(Bakervailmaps, 2012)

The main body support team, scheduled to come in Phase Two, several weeks after the advanced team, will consist of 80 persons, all well screened for this type of operation, along with over 16 tons of sensitive test and observational gear, and 20 tons of habitability support materials. The MAAM will have sustaining provisions for the first 30 days of operations. The MAAM advance team quickly realize that several key support requirements are erroneously omitted from their organic gear package. They provided a list of critical items required for contracted support in the requirements list, as shown in Figure 3.

Emergent Requirements List – MAAM Phase 1
1. Generators (Six Each) 1500 KW, Diesel, with maintenance kit (filters, etc.)
2. Three-Strand High Voltage Cable (3000 ft.)
3. Fiber Optic Cables for Cold Weather Ops (3000 ft.)
4. Anti-freeze, Arctic Temp Zone, (200 gl.)
5. Motor Oil, 0-20 SAE – with Anti-Gel (120 liters)
6. Ten-Tec RX-340 Receiver (2 Each)
7. Ten-Tec RX-331 Black Box (2 Each)

Figure 3. Emergent Requirements From Phase One

b. Readings (in addition to those in the syllabus and MN3318 lessons)

Students must read all lesson material from MN3318 Contingency Contracting course—sessions 5 and 6, plus the following:

1. DoDD 3020.49: Operational Contract Support (Appendix I)
2. Joint Publication 4-10: Operational Contract Support, 2010 (Provided separately)

c. Mission

You have been assigned, along with your teammates, as the Joint Task Force Arctic Support Team Contracting Commander (ASTCC) under the combatant commander's authority for Arctic missions. Your team mission is to create and present key elements and areas of consideration for constructing the MAAM Annex W Operational Contracting Support Plan, given the basic scenario as iterated.

d. Tasking

You, along with your team, have been appointed as the ASTCC commander. You must prepare a briefing to the MAAM commander iterating for Phase One—Deployment, at a minimum, the following:

- Define key elements required to support the MAAM, including, but not limited to, food, shelter, heat, fuel, waste collection and disposal, etc.
- Address the specific DAU CON 334 objectives iterated in this Phase One section (iterated previously and in instructor-provided materials) and how your plan addresses these.
- Determine if the ASTCC office that you created in Phase Zero is able to support this mission into Phase One. What, if any, changes will you make?
- Define and describe the ASTCC office flow processes needed to provide the requested support from the mission requirements in Phase One.
- How many personnel will you require to support this specific mission?
- Define process flows and decision points for the JARB specific to this mission to include all major elements of process flows, reporting chains, reviews, etc.
- Analyze and revise your contracting support schema to include the most likely support items for this phase of the operation, and a contracting plan for support.
- Determine and explain any required updates to your Annex W Operational Contract Support Plan based on new information.

e. Deliverable

The team will prepare a slide show for submission to the exercise proctor/instructor. The team will present to the class all requirements addressed in the tasking section above, including the OPLAN Annex W elements.

f. Evaluation Rubric

1. Teams will create a presentation addressing the objectives, questions, and OPLAN Annex W elements for Phase One, incorporating new information for this phase.

2. Students, led by the instructor, will analyze the presentation for thoroughness and viability, based on their knowledge, so far, in the concepts presented. This is to be an "open forum" dialogue for idea exchanges and critical analysis.

C. Operation Arctic Heat Phase Two: Buildup

1. Arctic Heat Case—An Exercise Meeting/Exceeding CON 334 Objectives. Phase Two—Build Up—MAAM Main Research Group Deployed for Arctic for Expeditionary Operations, Additional Follow-on Teams Arriving and Operating in Theater

a. Objectives

This phase of Operation Arctic Heat is structured to support the following DAU CON 334 objectives:

DAU CON 334—LPO 1 & 2: Recognize and defend the most appropriate approaches for a combatant commander in any area of responsibility (AOR) throughout the four phases of a contingency.

- DAU CON 334—LPO 1 & 2, ELO A: Choose the most appropriate resource for the most efficient and effective contingency contracting office operation during all phases of a contingency.
- DAU CON 334—LPO 2, ELO B: Create a brief to the operational commander showing comprehension of the contingency contracting AOR sustainment environment.
- DAU CON 334—LPO 3: Recommend contract support for the warfighter in any given situation.
- DAU CON 334—LPO 3, ELO A: Create a brief overview of the joint operations planning process with focus on Contract Support Integration Plan (CSIP) Annex W of OPORD/OPLAN.
- DAU CON 334—LPO 3, ELO B: Prepare the students for the challenges of current CSIP (Contract Support Integration Plan) development efforts.
- DAU CON 334—LPO 4, ELO A: Determine ethical contingency contracting attributes for a lead CCO.
- DAU CON 334—LPO 4, ELO B: Defend the most effective ethical approach given a contingency contracting scenario.
- DAU CON 334—LPO 5: Choose the most appropriate resource for the most efficient and effective contingency office operation during all phases of a contingency.
- DAU CON 334—LPO 5, ELO A: Evaluate the requirements needed to prepare a Contingency Contracting Support Plan.
- DAU CON 334—LPO 5, ELO B: Prepare an AOR briefing to the combatant commander and discuss how contingency contracting can be a force multiplier to the combatant commander.
- DAU CON 334—LPO 6: Determine the appropriate contractual resolution for a contingency AOR requirement.
- DAU CON 334—LPO 6, ELO A: Explain the role of the JARB.

- DAU CON 334—LPO 6, ELO B: Summarize the flow of the JARB process.
- DAU CON 334—LPO 6, ELO C: Analyze requirement packages to the JARB.
- DAU CON 334—LPO 6, ELO D: Validate requirements packages through the JARB process.
- DAU CON 334—LPO 7: Determine the appropriate contractual resolution for a contingency AOR requirement.
- DAU CON 334—LPO 7, ELO A: Determine the steps required to implement performance-based acquisition (PBA) in a contingency AOR.
- DAU CON 334—LPO 7, ELO B: Defend employing PBA in an AOR during any contingency phase.
- DAU CON 334—LPO 8: Given a situation requiring the need to select the "best value" offer in response to a government requirement, apply the necessary steps in the source selection process.
- DAU CON 334—LPO 8, ELO A: Define the term *source selection*.
- DAU CON 334—LPO 8, ELO B: Explain the elements of the formal source selection process.
- DAU CON 334—LPO 8, ELO C: Create instructions to offerors and evaluation factors for a best value source selection.
- DAU CON 334—LPO 9: Recommend contract support for the warfighter in any given situation.
- DAU CON 334—LPO 9, ELO A: Examine the options for support available for oversight of contract actions.
- DAU CON 334—LPO 10: Choose the most appropriate resource for the most efficient and effective contingency office operation during all phases of a contingency.
- DAU CON 334—LPO 10, ELO A: Examine the different redeployment possibilities.
- DAU CON 334—LPO 10, ELO B: Determine which processes are the most appropriate per redeployment scenario.

- DAU CON 334—LPO 10, ELO A: Defend a redeployment approach given an AOR.
- DAU CON 334—LPO 11: Recommend contract support for the warfighter in any given situation.
- DAU CON 334—LPO 11, ELO A: Analyze the contingency contracting issues not covered.
- DAU CON 334—LPO 11, ELO B: Propose solutions to contingency challenges identified by various congressional studies.

2. Case Scenario for Phase Two

a. Background

As part of the DoD, Coast Guard, and Civilian Agency Arctic mission, the MAAM, a military/civilian environmental monitoring team, is flown into position in the Arctic for purposes of conducting important climatic, atmospheric, and oceanic changes occurring in the Arctic regions for an indefinite period of time. The MAAM mission team was flown in over a three-week period.

As indicated in the prior phase, The MAAM commander indicates that most DoD and Coast Guard assets are not available to support this mission in an "organic" manner as would be traditionally accomplished, primarily due to "international concerns" over using military and DHS assets in this sensitive region. Several countries have challenged this research mission at the United Nations, claiming that it is an effort by the United States at claiming valuable oil reserves, and securing shipping lanes for the sole use of the Unites States and western countries.

The supported team consists of 80 persons, all well screened for this type of operation, along with over 16 tons of sensitive test and observational gear, and 20 tons of habitability support materials. The buildup 80-person MAAM has sustaining provisions for the first 15 days of operations. The MAAM quickly realize that several key support requirements are erroneously omitted from their organic gear package. They provide a list of critical items required for contracted support in the requirements list contained in Figure 4.

	Emergent Requirements – Phase 2
	1. **Icom IC-R8500-32K** government receiver (8 Each) (Universal Radio) 2. Additional Arctic Food Provisions for 80 Pax – 90 days support total 3. AH-7000 Antennas – (8 Each) (Universal Radio) 4. Medical Emergency Kits (10 Each) (Arctic Row) 5. Tarps (50 ft. x 6 ft. rolls – 10 Each) USAID Specification.

Figure 4. Emergent Requirements for Phase Two

The MAAM has issued an OPORD Warning Order indicating that area tensions are rising regarding the free use of sea-lanes and mineral rights in the operations area. Additional U.S. and NATO forces are on alert and/or in transit. Your support team is also "on alert" for upcoming changes in supporting and supported unit data, and potential mission changes. Additionally, you must plan for the ongoing support of this team in OPLAN Annex W.

b. Readings (in addition to those in the syllabus and MN3318 lessons)

Students must read all lesson material from MN3318 Contingency Contracting course—sessions 5 and 6, plus the following:

1. "The Arctic Circle: Development and Risk," http://www.ndu.edu/CTNSP/docUploaded/TFX_**Arctic**%20Summary.pdf extracted 18 April, 2012. (Appendix J)

c. Mission

You have been assigned, along with your teammates, as the Joint Task Force Arctic Support Team Contracting Commander (ASTCC) under the combatant commander's authority for Arctic missions. Your team mission is to create and present key elements and areas of consideration for constructing the

MAAM Annex W Operational Contracting Support Plan, given the basic scenario as iterated above.

Figure 5. Joint Arctic Expeditionary Team—Norwegian, U.S., and British Researchers, 2011
(Dailymail.co.uk, 2011)

d. Tasking

You, along with your team, have been appointed as the ASTCC commander. You must prepare a briefing to the MAAM commander iterating for Phase Two—Buildup, at a minimum, the following:

- Define key elements required to support the MAAM, including, but not limited to, food, shelter, heat, fuel, waste collection and disposal, etc.
- Address the specific DAU CON 334 objectives iterated in this Phase Two section (iterated previously and in instructor-provided materials) and how your plan addresses these.
- Determine if the ASTCC office that you created in Phase Zero and Phase One are able to support this mission into Phase Two. What, if any, changes will you make for Phase Two?

- Define and describe the ASTCC office flow processes needed to provide the requested support from the mission requirements in Phase Two.
- How many personnel will you require to support this specific mission?
- Define process flows and decision points for the JARB specific to this mission to include all major elements of process flows, reporting chains, reviews, etc.
- Analyze and revise your contracting support schema to include the most likely support items for this type phase of the operation, and contracting plan for support.
- Determine and explain any required updates to your Annex W Operational Contract Support Plan based on new information.

e. Deliverable

The team will prepare a slide show for submission to the exercise proctor/instructor. The team will present to the class all requirements addressed in the tasking section above, including the OPLAN Annex W elements.

f. Evaluation Rubric

1. Teams will create a presentation addressing the objectives, questions, and OPLAN Annex W elements for Phase One, incorporating new information for this phase.
2. Students, led by the instructor, will analyze the presentation for thoroughness and viability, based on their knowledge, so far, in the concepts presented. This is to be an “open forum” dialogue for idea exchanges and critical analysis.

D. Operation Arctic Heat Phase Three: Sustainment

1. Arctic Heat Case—An Exercise Meeting/Exceeding CON 334 Objectives. Phase Three—Sustainment—MAAM EXPANDED RESEARCH GROUP in Full Operation for Arctic for Expeditions

a. Objectives

This phase of Operation Arctic Heat is structured to support the following DAU CON 334 objectives:

- DAU CON 334—LPO 1 & 2: Recognize and defend the most appropriate approaches for a combatant commander in any area of responsibility (AOR) throughout the four phases of a contingency.
- DAU CON 334—LPO 1 & 2, ELO A: Choose the most appropriate resource for the most efficient and effective contingency contracting office operation during all phases of a contingency.
- DAU CON 334—LPO 2, ELO B: Create a brief to the operational commander showing comprehension of the contingency contracting AOR sustainment environment.

- DAU CON 334—LPO 3: Recommend contract support for the warfighter in any given situation.
- DAU CON 334—LPO 3, ELO A: Create a brief overview of the joint operations planning process with focus on Contract Support Integration Plan (CSIP) Annex W of OPORD/OPLAN.
- DAU CON 334—LPO 3, ELO B: Prepare the students to the challenges of current CSIP (Contract Support Integration Plan) development efforts.
- DAU CON 334—LPO 4, ELO A: Determine ethical contingency contracting attributes for a lead CCO.
- DAU CON 334—LPO 4, ELO B: Defend the most effective ethical approach given a contingency contracting scenario.
- DAU CON 334—LPO 5: Choose the most appropriate resource for the most efficient and effective contingency office operation during all phases of a contingency.
- DAU CON 334—LPO 5, ELO A: Evaluate the requirements needed to prepare a Contingency Contracting Support Plan.
- DAU CON 334—LPO 5, ELO B: Prepare an AOR briefing to the combatant commander and discuss how contingency contracting can be a force multiplier to the combatant commander.
- DAU CON 334—LPO 6: Determine the appropriate contractual resolution for a contingency AOR requirement.
- DAU CON 334—LPO 6, ELO A: Explain the role of the JARB.
- DAU CON 334—LPO 6, ELO B: Summarize the flow of the JARB process.
- DAU CON 334—LPO 6, ELO C: Analyze requirement packages to the JARB.
- DAU CON 334—LPO 6, ELO D: Validate requirements packages through the JARB process.
- DAU CON 334—LPO 7: Determine the appropriate contractual resolution for a contingency AOR requirement.
- DAU CON 334—LPO 7, ELO A: Determine the steps required to implement performance-based acquisition (PBA) in a contingency AOR.

- DAU CON 334—LPO 7, ELO B: Defend employing PBA in an AOR during any contingency phase.
- DAU CON 334—LPO 8: Given a situation requiring the need to select the “best value” offer in response to a government requirement, apply the necessary steps in the source selection process.
- DAU CON 334—LPO 8, ELO A: Define the term *source selection*.
- DAU CON 334—LPO 8, ELO B: Explain the elements of the formal source selection process.
- DAU CON 334—LPO 8, ELO C: Create instructions to offerors and evaluation factors for a best value source selection.
- DAU CON 334—LPO 9: Recommend contract support for the warfighter in any given situation.
- DAU CON 334—LPO 9, ELO A: Examine the options for support available for oversight of contract actions.
- DAU CON 334—LPO 10: Choose the most appropriate resource for the most efficient and effective contingency office operation during all phases of a contingency.
- DAU CON 334—LPO 10, ELO A: Examine the different redeployment possibilities.
- DAU CON 334—LPO 10, ELO B: Determine which processes are the most appropriate per redeployment scenario.
- DAU CON 334—LPO 10, ELO A: Defend a redeployment approach given an AOR.
- DAU CON 334—LPO 11: Recommend contract support for the warfighter in any given situation.
- DAU CON 334—LPO 11, ELO A: Analyze the contingency contracting issues not covered.
- DAU CON 334—LPO 11, ELO B: Propose solutions to contingency challenges identified by various congressional studies.

2. Case Scenario for Phase Three

a. Background

The MAAM has successfully completed the Buildup—Phase Two. Things are going well; your team's plans so far, have been successful. Now the mission is entering Phase Three—Sustainment.

Early this A.M., the MAAM commander indicates that expanded international military forces are entering the joint operations to support the expedition, and to provide greater stability in the Arctic region. Your mission team is expanding operations, and will now assist in supporting a much larger international team of 250 personnel and gear that will be deployed in the U.S., Canadian, and Danish declared territories. Several nations are expressing claims on Arctic resources and maritime territories, see figure 6.

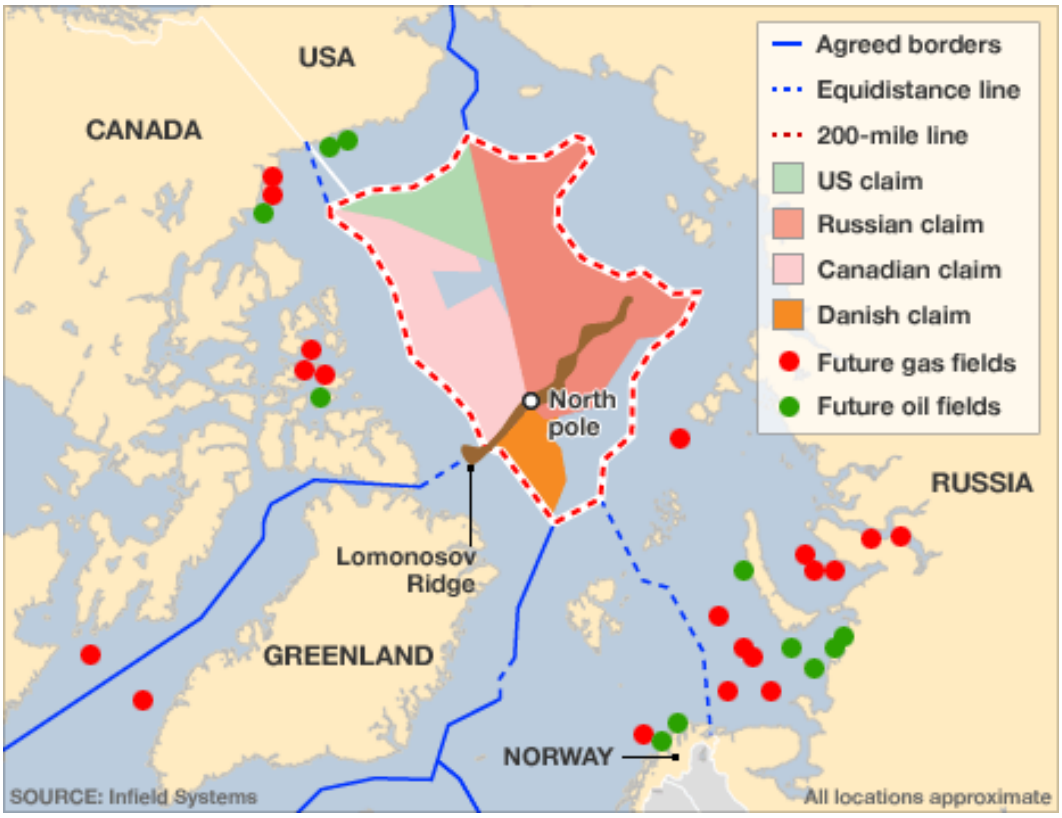

Figure 6. Expanding Claims on Arctic Resources
(Infield Systems, 2011)

In prior phases, the MAAM commander indicated that most DoD and Coast Guard assets were not available to support this mission, primarily due to "international concerns" over using military and DHS assets in this sensitive region. In this phase, Phase Three, tensions in the region have escalated, necessitating the use of military assets to protect the sea-lanes and international interests, and for the safety and protection of the deployed expedition. Prior restrictions on DoD, DHS, and NATO assets are lifted, and are now established in the region. The U.S. Navy has expanded Arctic Operations (see Figure 7).

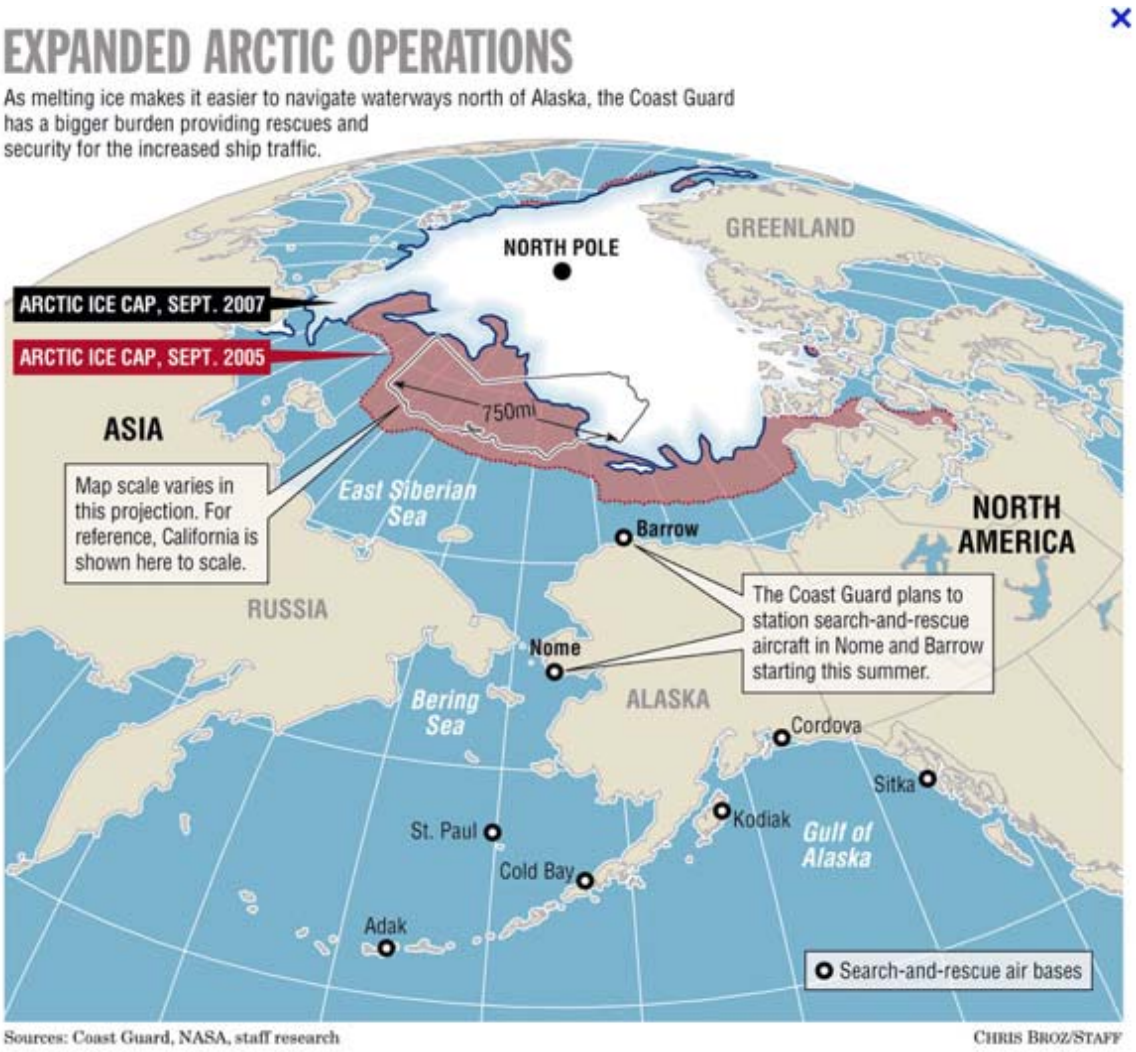

Figure 7. Expanded Arctic Operations
(U.S. Coast Guard, NASA, 2011)

The expedition team still consists of 80 persons. Based on your executed Annex W from Phase Two, they are very well supported. However, since more DoD operations are being conducted, the MAAM commander has requested that your team establish contract logistics support for military units through Lockheed-Martin, in an estimated $2 billion contract. The mission commander wants the OPLAN Annex W to be revised to include support to the 80-person expedition, plus the award of the $2 billion Lockheed contract, which will be awarded and managed by your team. You are requested to establish a contract similar to the already awarded Lockheed Antarctic contract (described in "Lockheed Martin Wins Contract Worth Up to $2 Billion to Support the U.S. Antarctic Program," shown in Appendix K).

b. Readings (in addition to those in the syllabus and MN3318 lessons)

For an overview of the Arctic mission and the military presence, read the following appendices and/or provided readings prior to moving into Phase Three of this case.

1. Department of Defense, Report to Congress on Arctic Operations and the Northwest Passage, Office of the Under Secretary of Defense—Policy, May 2011. (Provided separately)

2. "Lockheed Martin Wins Contract Worth Up to $2 Billion to Support the U.S. Antarctic Program," Lockheed Martin, February 2011. (Appendix K)

3. "Canada Opens Arctic to NATO and Massive Weapons Buildup," Rick Rozoff, Global Research, 2010. (Appendix L)

c. Mission

You have been assigned, along with your teammates, as the Joint Task Force Arctic Support Team Contracting Commander (ASTCC) under the combatant commander's authority for Arctic missions. Your team mission is to create and present key elements and areas of consideration for constructing the MAAM Annex W Operational Contracting Support Plan, given the basic scenario as iterated and all information to date.

d. Tasking

You, along with your team, have been appointed as the ASTCC commander. You must prepare a briefing to the MAAM commander iterating for Phase Three—Sustainment, at a minimum, the following:

- Define key elements required to support the MAAM, including, but not limited to, food, shelter, heat, fuel, waste collection and disposal, etc.
- Address the specific DAU CON 334 objectives iterated in this Phase One section (iterated previously and in instructor-provided materials) and how your plan addresses these.
- Determine if the ASTCC office that you created in Phases Zero through Two are able to support this mission into Phase Three. What, if any, changes will you make?
- Define and describe the ASTCC office flow processes needed to provide the requested support from the mission requirements in Phase One.
- How many personnel will you require to support this specific mission?
- Define process flows and decision points for the JARB specific to this mission to include all major elements of process flows, reporting chains, reviews, etc.
- How will the new $2 billion requirement be handled? Will JARB come into play? What protocols will be required to solicit, award, and manage this contract?
- Analyze and revise your contracting support schema to include the most likely support items for this phase of the operation, and a contracting plan for support.
- Determine and explain any required updates to your Annex W Operational Contract Support Plan based on new information.

e. Deliverable

The team will prepare a slide show for submission to the exercise proctor/instructor. The team will present to the class all requirements addressed in the tasking section above, including the OPLAN Annex W elements.

f. Evaluation Rubric

1. Teams will create a presentation addressing the objectives, questions, and OPLAN Annex W elements for Phase One, incorporating new information for this phase.

2. Students, led by the instructor, will analyze the presentation for thoroughness and viability, based on their knowledge, so far, in the concepts presented. This is to be an "open forum" dialogue for idea exchanges and critical analysis.

E. Operation Arctic Heat Phase Four: Termination And ReDeployment

1. Arctic Heat Case—An Exercise Meeting/Exceeding CON 334 Objectives. Phase Four—Termination and Redeployment—MAAM Expanded Research Group Re-Deployed, Leaving 15-person Team in-place for Continued Expeditionary Operations

a. Objectives

This phase of Operation Arctic Heat is structured to support the following DAU CON 334 objectives:

DAU CON 334—LPO 1 & 2: Recognize and defend the most appropriate approaches for a combatant commander in any area of responsibility (AOR) throughout the four phases of a contingency.

- DAU CON 334—LPO 1 & 2, ELO A: Choose the most appropriate resource for the most efficient and effective contingency contracting office operation during all phases of a contingency.
- DAU CON 334—LPO 2, ELO B: Create a brief to the operational commander showing comprehension of the contingency contracting AOR sustainment environment.
- DAU CON 334—LPO 3: Recommend contract support for the warfighter in any given situation.
- DAU CON 334—LPO 3, ELO A: Create a brief overview of the joint operations planning process with focus on Contract Support Integration Plan (CSIP) Annex W of OPORD/OPLAN.
- DAU CON 334—LPO 3, ELO B: Prepare the students for the challenges of current CSIP (Contract Support Integration Plan) development efforts.
- DAU CON 334—LPO 4, ELO A: Determine ethical contingency contracting attributes for a lead CCO.
- DAU CON 334—LPO 4, ELO B: Defend the most effective ethical approach given a contingency contracting scenario.
- DAU CON 334—LPO 5: Choose the most appropriate resource for the most efficient and effective contingency office operation during all phases of a contingency.
- DAU CON 334—LPO 5, ELO A: Evaluate the requirements needed to prepare a Contingency Contracting Support Plan.
- DAU CON 334—LPO 5, ELO B: Prepare an AOR briefing to the combatant commander and discuss how contingency contracting can be a force multiplier to the combatant commander.
- DAU CON 334—LPO 6: Determine the appropriate contractual resolution for a contingency AOR requirement.
- DAU CON 334—LPO 6, ELO A: Explain the role of the JARB.

- DAU CON 334—LPO 6, ELO B: Summarize the flow of the JARB process.
- DAU CON 334—LPO 6, ELO C: Analyze requirement packages to the JARB.
- DAU CON 334—LPO 6, ELO D: Validate requirements packages through the JARB process.
- DAU CON 334—LPO 7: Determine the appropriate contractual resolution for a contingency AOR requirement.
- DAU CON 334—LPO 7, ELO A: Determine the steps required to implement performance-based acquisition (PBA) in a contingency AOR.
- DAU CON 334—LPO 7, ELO B: Defend employing PBA in an AOR during any contingency phase.
- DAU CON 334—LPO 8: Given a situation requiring the need to select the "best value" offer in response to a government requirement, apply the necessary steps in the source selection process.
- DAU CON 334—LPO 8, ELO A: Define the term *source selection*.
- DAU CON 334—LPO 8, ELO B: Explain the elements of the formal source selection process.
- DAU CON 334—LPO 8, ELO C: Create instructions to offerors and evaluation factors for a best value source selection.
- DAU CON 334—LPO 9: Recommend contract support for the warfighter in any given situation.
- DAU CON 334—LPO 9, ELO A: Examine the options for support available for oversight of contract actions.
- DAU CON 334—LPO 10: Choose the most appropriate resource for the most efficient and effective contingency office operation during all phases of a contingency.
- DAU CON 334—LPO 10, ELO A: Examine the different redeployment possibilities.
- DAU CON 334—LPO 10, ELO B: Determine which processes are the most appropriate per redeployment scenario.

- DAU CON 334—LPO 10, ELO A: Defend a redeployment approach given an AOR.
- DAU CON 334—LPO 11: Recommend contract support for the warfighter in any given situation.
- DAU CON 334—LPO 11, ELO A: Analyze the contingency contracting issues not covered.
- DAU CON 334—LPO 11, ELO B: Propose solutions to contingency challenges identified by various congressional studies.

2. Case Scenario for Phase Four

a. Background

Your team has been up and supporting Arctic operations for 15 months. The combatant commander indicates that a majority of the expeditionary team will be heading home. The U.S. Navy will pick up most of the logistics and contracting support from here on. However, they want to transfer management of the Phase Three Lockheed contract under U.S. Navy funding and control, with no interruption in service provision. Additionally, your team has been asked to establish an environmental remediation contract to restore six remote Arctic sites back to pristine condition. The ASTCC team must review and make disposition of all non-essential contracts, ensure that the teams are supported throughout the draw-down and redeployment, award the new environmental contract, make recommendations and conduct the transfer of the Lockheed support contract, and make disposition recommendations for all contracts in place.

b. Readings (in addition to those in the syllabus and MN3318 lessons)

For an overview of the Arctic mission and the military presence, read the following appendices and/or provided readings prior to moving into Phase Three of this case.

1. Read Air Force FAR Supplement (AFFARS), Section CC-502-4, available at http://www.farmaster.com/farmaster/data/idx/Affar/9305020004.htm and provided as Appendix M.

c. Mission

You have been assigned, along with your teammates, as the Joint Task Force Arctic Support Team Contracting Commander (ASTCC) under the combatant commander's authority for Arctic missions. Your team mission is to create and present key elements and areas of consideration for constructing the MAAM Annex W Operational Contracting Support Plan, given the basic scenario as iterated.

d. Tasking

You, along with your team, have been appointed as the ASTCC commander. You must prepare a briefing to the MAAM commander iterating for Phase Four—Termination and Redeployment, at a minimum, the following:

- Define key elements required to support the MAAM, including, but not limited to, food, shelter, heat, fuel, waste collection and disposal, etc.
- Address the specific DAU CON 334 objectives iterated in this Phase One section (iterated previously and in instructor-provided materials) and how your plan addresses these.
- Determine if the ASTCC office that you created in Phase Zero and subsequent phases will be able to support this mission into Phase Four. What, if any, changes will you make?
- Define and describe the ASTCC office flow processes needed to provide the requested support from mission requirements in Phase Four.
- How many personnel will you require to support this specific mission?
- Define process flows and decision points for the JARB specific to this mission to include all major elements of process flows, reporting chains, reviews, etc.
- Will any special provisions be required for the unique requirements related to contract closeout? If so, what are they?

- Analyze and revise your contracting support schema to include the most likely support items for this phase of the operation, and a contracting plan for support.
- Determine and explain any required updates to your Annex W Operational Contract Support Plan based on new information.

e. Deliverable

The team will prepare a slide show for submission to the exercise proctor/instructor. The team will present to the class all requirements addressed in the tasking section above, including the OPLAN Annex W elements.

f. Evaluation Rubric

1. Teams will create a presentation addressing the objectives, questions, and OPLAN Annex W elements for Phase One, incorporating new information for this phase.
2. Students, led by the instructor, will analyze the presentation for thoroughness and viability, based on their knowledge, so far, in the concepts presented. This is to be an "open forum" dialogue for idea exchanges and critical analysis.

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Appendix A. Author's Biography

NAVAL POSTGRADUATE SCHOOL

CDR (Ret.) E. CORY YODER
SENIOR LECTURER, GRADUATE SCHOOL OF BUSINESS AND PUBLIC POLICY

BIOGRAPHY & ABBREVIATED CURRICULUM VITA
SPRING 2012

CDR (Ret.) Cory Yoder is a faculty member of the Naval Postgraduate School's Graduate School of Business and Public Policy (GSBPP). Yoder was originally assigned to NPS in July 2000 while on active duty commission with the Navy, appointed to a civilian lecturer position in June 2004, and promoted to senior lecturer in May 2008. He has performed duties as academic associate (program manager) for the 815 (MBA; three-year appointment ending July 2005) and currently serves as academic associate for the 835 (MSCM—Master of Science in Contract Management program—with an indefinite appointment). Yoder has strong acquisition and contracting experience, combined with several challenging acquisition, logistics, industrial, headquarter, and combat support operations assignments. Yoder received the Rear Admiral John Jay Schieffelin award for Excellence in Teaching for academic year 2010, presented in June 2011, and was a "Top Five Percent" nominee in academic years 2006, 2007, 2008, and 2009.

In addition to holding the positions of senior lecturer and academic associate at NPS, he has performed in numerous assignments, including, but not limited to, the following:

- Director and chief of logistics, headquarters, Allied Forces Southern Command (AFSOUTH), Naples, Italy (logistics, contracting, finance within NATO)
- Post commander and support group commander, Kosovo Verification Coordination Center (KVCC), Kumanovo (Skopje), Macedonia
- Officer-in-charge, fleet and industrial supply detachment, Long Beach, CA
- Stock control officer, USS *Tarawa* (LHA-1)
- Aviation and surface stores officer, USS *TARAWA* (LHA-1)
- Naval acquisition and contracting officer (NACO) internship, Naval Regional Contracting Center (NRCC), Washington, DC
- Supply officer, USS *Fanning* (FF-1076)

CDR (Ret.) Yoder holds the following degrees:

- Master of Arts in National Security and Strategic Studies, Naval War College (NWC), Newport, RI
- Master of Science in Management, Naval Postgraduate School, Monterey, CA
- Bachelor of Science in Business Management, Indiana University, Kelley School of Business
- University of Virginia's Darden Graduate School of Business Administration—Business Resource Management (certificate program graduate)

CDR (Ret.) E. Cory Yoder is a Beta Gamma Sigma honor society member with a lifetime appointment, is DAWIA Contract Level III certified, is an active member of the Institute for Supply

Management (ISM) with lifetime direct national membership, a credentialed member of the Humanitarian Research Group, and holds an active TOP SECRET security clearance.

CDR (Ret.) Yoder has recently presented at the following conferences/symposiums/events:

- **Congressional Commission on Wartime Contracting (Testimony, May and August 2010; Reports, February 2011 and August 2011):**
  - Delivered research-based testimony to the Congressional Committee on Wartime Contracting in Iraq and Afghanistan (CWCIA)
  - "Phase Zero Operations" (NPS-CM-10-160) concepts appear in CWCIA Interim Report II, dated February 24, 2011, and in the CWCIA *Transforming Wartime Contracting—Final Report to Congress*, dated August 2011.
- **NATO Building Integrity Conference 2011 (February 23–24, 2011):**
  - Keynote speaker and expert session presenter
  - Expert Session Number 2—Best Practices and Lessons Learned
    - Presented "Phase Zero Operations for Contingency and Expeditionary Contracting—Keys to Fully Integrating Contracting Into Operational Planning and Execution" (NPS-CM-10-160), Yoder, August 2010
  - Expert Session Number 3—Training and Education for Acquisition, Procurement, and Contracting in Defense Institutions—Turning Policy Into Practice
    - Presented "Analysis of Contemporary Contingency Contracting Educational Resources" (NPS-CM-10-169), Allen, Morris, and Plys, (Advisors: Yoder and Rendon), November 2010
- **Acquisition Research Symposium—8th Annual ARP Symposium, May 2011:**
  - Panel Number 22—Acquisition and Logistics in Support of Disaster Relief and Homeland Security
    - Presented "When Disaster Strikes: Is Logistics and Contracting Support Ready?"
    - Published short paper with Dr. Aruna Apte, "When Disaster Strikes: Is Logistics and Contracting Support Ready?" in *Proceedings of the Eighth Annual Acquisition Research Symposium* (NPS-AM-11-018), April 2011

CDR (Ret.) "Yoder has recently been published or cited in the following publications, amongst others:..

- ***Does it Really Take 15 Years to Evaluate the Efficacy of Reform?*** E. Cory Yoder and Dr. Timothy G. Hawkins, Contract Management Magazine, October 2011
- ***Patriots for Profit—Dr. Thomas Bruneau, Stanford University Press, August, 2011***, Chapter contributor with citation—contract management and oversight
- ***When Disaster Strikes: Is Logistics and Contracting Support Ready?*** Dr. Aruna Apte and E. Cory Yoder, March 30, 2011, paper published and presented at the 2011 Acquisition Research Symposium, Monterey, CA
- ***Air Force Contingency Contracting—Reachback and Other Opportunities for Improvement,*** RAND TR862 (RAND Corporation paid editorial consultant, with cited acknowledgement in the report), RAND Corp, 2011
- ***Phase Zero Operations for Contingency and Expeditionary Contracting—Keys to Fully Integrating Contracting Into Operational Planning and Execution***, E. Cory Yoder, NPS Acquisition Research Sponsored Report (NPS-CM-10-160), August 2, 2010
- ***Defense Contingency Contracting Handbook***, E. Cory Yoder et al., AFMLA, June 2010
- ***Contingency Contracting—A Joint Handbook for the 21st Century***, E. Cory Yoder et al., AFMLA, December 2008

- ***Contracting Out Government Procurement Functions: An Analysis*** (NPS-CM-07-105), E. Cory Yoder and Dr. David V. Lamm, presented at the Acquisition Research Symposium, Monterey, CA, May 2008)
- ***Capitalizing on Commercial Item Designation Provisions of FAR 13.5; Getting the Most From Limited Resources*** (NPS-AM-06-049), E. Cory Yoder, 2006
- ***Engagement versus Disengagement: How Structural & Commercially-Based Regulatory Changes Have Increased Government Risks in Federal Acquisitions*** (NPS-AM-05-001)

Publications resulting from CDR (Ret.) Yoder's *Engagement Versus Disengagement* NPS Working Paper include the following:

  - Published in the peer reviewed Journal of Public Procurement (JOPP), December 2007, Volume 7, Issue #2.
  - The Project on Government Oversight (POGO) has published this work as a "white paper" retaining its NPS branding. POGO is a nationally recognized leader in government acquisition oversight and policy analysis, and provides testimony on key topics to the Congress.
  - Referenced and cited in the Report of the Commission on Army Acquisition and Program Management in Expeditionary Operations, Dr. Jacques Gansler, Chairman, former Deputy Under Secretary of Defense (Acquisition, Technology, & Logistics [AT&L]), October 31, 2007
  - Referenced and cited in the Report of the Defense Science Board Task Force on Management and Oversight in Acquisition Organizations, USD(AT&L), Washington, DC, March 2005

- ***Yoder Three-Tier Model for Optimal Planning and Execution of Contingency Contracting*** (NPS-AM-05-002)

Publications resulting from CDR (Ret.) Yoder's *Three-Tier Model* NPS Working Paper include the following:

  - Referenced and cited in the Report of the Commission on Army Acquisition and Program Management in Expeditionary Operations, Dr. Jacques Gansler, Chairman, former Deputy Under Secretary of Defense (Acquisition, Technology, & Logistics), October 31, 2007
  - Referenced and cited in the July 2006 *Special Inspector General Report for Iraq Reconstruction: Lessons in Contracting and Procurement*, Office of the Special Inspector General for Iraq Reconstruction, 2006
  - Presented at the 2005 Acquisition Research Symposium, Monterey, CA, and included in the *Proceedings of the Second Annual Acquisition Research Symposium*, Acquisition Research: The Foundation for Innovation, May 2005
  - Published (excerpts), as "Contingency Contracting Operations—Achieving Better Results," in the *Army AL&T Magazine*, January–February 2004 edition.

CDR (Ret.) Yoder has recently advised MBA and/or sponsored projects including, but not limited to, the following:

- ***Analysis of Navy Joint Contingency Contracting***, MBA Joint Applied Project, Curt R. LaRose and Michael J. Garcia. Advisors: E. Cory Yoder, Bryan Lundgren and Dr. Doug Brinkley, December 2011.
- ***Thesis: Shoot, Move, Communicate, Purchase: How United States Special Forces Can Better Employ Money as a Weapons System***, Ryan Yamaki-Taylor—Defense Analysis. Advisors: E. Cory Yoder and Dr. Anna Simons, December 2011.

- ***Analysis of United States Air Forces' Central Government Purchase Card Reach-Back Viability***, MBA Joint Applied Project, Jason R. Ackiss and V. Pavan Balaji. Advisors: E. Cory Yoder and Dr. Aruna Apte, December 2011.
- ***Green Acquisition Gap Analysis of the United States Air Force Operational Contracting Organizations***, MBA Joint Applied Project, Amanda L. DeLancey, Caitlin E. Harris, and Andrew J. Ramsey. Advisors: E. Cory Yoder and Max Kidalov, JD, December 2011.
- ***Procurement Integrity in Contingency Operations: A Case Study of Army Contracting Officer Corruption in Operations Iraqi and Enduring Freedom Utilizing Occupational Fraud Theory***, MBA Joint Applied Project, Amanda H. Flint. Advisors: E. Cory Yoder and Max Kidalov, JD, December 2011.
- ***Best Value Analysis of Movement Strategies for Carrier Air Wing Five (CVW-5) from Iwakuni to Yokosuka, Japan***, MBA Joint Applied Project, Shawn Coleman, Gentry Debord, and Justin Hodge. Advisors: Dr. Keebom Kang and E. Cory Yoder, December 2011.
- ***Analysis of the Office of Management and Budget, Office of Federal Procurement Policy for In-Sourcing—Work Reserved for Performance by Federal Government Employees***, MSCM Joint Project, James G. Moreno, Danielle M. Moyer, and Audrey W. Rischbieter. Advisors: E. Cory Yoder and Dr. Thomas Bruneau (Civil–Military Affairs), December 2011.

Appendix B. DAU CON 334 Course Learning/Performance Objectives and Enabling Objectives[3]

DEFENSE ACQUISITION UNIVERSITY
CON 334 - Advanced Contingency Contracting Officer's Course

091216

Course Learning/Performance Objectives followed by its enabling learning objectives on separate lines if specified.

1	**Recognize and defend the most appropriate approaches for a CoCo in any AOR throughout the four phases of a contingency.**
	Choose the most appropriate resource for the most efficient and effective contingency office operation during all phases of a contingency.
2	**Recognize and defend the most appropriate approaches for a CoCo in any AOR throughout the four phases of a contingency.**
	Choose the most appropriate resource for the most efficient and effective contingency office operation during all phases of a contingency.
	Create a brief to Operational Commander showing comprehension of the Contingency Contracting AOR Sustainment Environment.
3	**Recommend contract support for the Warfigher in any given situation.**
	Create a brief overview of the joint operations planning process with focus on Contract Support Integration Plan (CSIP) Annex W of OPORD/OPLAN
	Prepare the students to the challenges of current CSIP (Contract Support Integration Plan) development efforts.
4	**Justify tha appropriate ethical contracting approach in an AOR contingency situation**
	Determine ethical contingency contracting attributes for a Lead CCO.
	Defend the most effective ethical approach given a contingency contracting scenario.
5	**Choose the most appropriate resource for the most efficient and effective contingency office operation during all phases of a contingency.**
	Evaluate the requirements needed to prepare Contingency Contract Support Plan.
	Prepare an AOR briefing to Combatant Commander and discuss how contingency contracting can be a force multiplier to the Combatant Commander.
6	**Determine the appropriate contractual resolution for a contingency AOR requirement.**
	Explain the role of the JARB.
	Summarize the flow of the JARB process.
	Analyze requirement packages to the JARB.
	Validate requirements packages through JARB process.
7	**Determine the appropriate contractual resolution for a contingency AOR requirement.**
	Determine the steps required to implement PBA in a Contingency AOR.
	Defend employing PBA in an AOR during any contingency phase.
8	**Given a situation requiring the need to select the Best Value offer in response to a Government requirement, apply the necessary steps in the source selection process.**
	Define the term "Source Selection."
	Explain the elements of the formal source selection process.
	Create instructions to offerors and evaluation factors for a best value source selection.
9	**Recommend contract support for the Warfigher in any given situation.**
	Examine the options for support available for oversight of contract actions
10	**Choose the most appropriate resource for the most efficient and effective contingency office operation during all phases of a contingency.**
	Examine the different redeployment possibilities.
	Determine which processes are the most appropriate per redeployment scenario.
	Defend a redeployment approach given an AOR.
11	**Recommend contract support for the Warfigher in any given situation.**
	Analyze the Contingency Contracting issues not covered.
	Propose solutions to Contingency challenges identified by various Congressional studies.

[3] Obtained and validated April 26, 2012, from http://icatalog.dau.mil/onlinecatalog/courses.aspx?crs_id=1685

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Appendix C. Phase Zero Operations

Phase Zero Operations (PZO)—Strategic and Integrative Planning for Contingency and Expeditionary Operations (Excerpt)

25 April 2012

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Phase Zero Operations the Three-Tier Model (TTM) – Credentialed Contract Planners Integrated with Operations Planners

The Three-tier Model (TTM) was published to address the challenges inherent in contracting in complex military operations. The TTM is a credential-based personnel hierarchy for contracting officers and planning staff that optimizes the integrative planning, coordination, and execution required for contingency and expeditionary operations at the tactical, operational, and strategic levels of the organization. The model is based on two primary premises: First, mission optimization occurs only with well-credentialed contracting planners and executors. Second, optimized stakeholder integration, including, for example, operational commanders, supporting units and NGOs and PVOs, can only be accomplished by utilizing well-credentialed participants in the planning and execution phases (Yoder, 2011).

The three-tier model has specific personnel credentials in three primary areas: 1) training and education, 2) certification (such as Defense Acquisition Workforce Improvement Act – Defense Acquisition University Contracting levels, security clearance requirements, etc.) and, 3) experience. The three tiers are described in the following paragraphs.

Tier one—the ordering officer, is the lowest level. This contracting level has several identifying attributes. They reside within the tactical level of military hierarchy, and are the most prevalent contracting personnel within most formal military and civilian organizations. Tier One personnel are junior civilians and military. They operate at the tactical and unit levels and as such, perform no integrative planning at the operational and strategic levels. Tier One personnel place basic orders and conduct simple transactions. In the broadest terms, there is little stakeholder integration being initiated or managed at this level. However, this lowest level is absolutely essential because it represents where a majority of "in the field" contracting actions are conducted. As this is the tactical level of the

enterprise, particular importance at tier one is standardized training—emphasizing protocols, ethical conduct, management, control, and oversight.

In the middle of the hierarchy is tier two—the leveraging contracting officer (LCO). Tier two personnel require enhanced credentials. These personnel conduct complex contracting transactions and leverage local economy assets and they are at the operational level. Tier two personnel may perform all functions of tier one personnel, but with increased credential, scope, and responsibilities. The TTM calls for tier two personnel to be mid-level civilians, mid-grade officers, or credentialed senior enlisted. They can be integrated into planning and local operations—performing some integrative planning at the tactical and operational levels—and they can perform some liaison functions with broader stakeholders. Their main mission is to optimize local operations in harmony with strategic guidance. Since tier two at the operational level of the organization, the protocols, ethical conduct, management, control and oversight, complex negotiations, and broader business acumen in complex military contracting must be developed.

The highest and most crucial tier in the TTM is tier three—the integrated planner and executor (IPE). This tier is at the strategic level of military and civilian organizations. The IPE is a flag officer or senior civilian position. It calls for the highest credentials to include, but not be limited to, Joint Professional Military Education (JPME I & II), Defense Acquisition Workforce Improvement Act (DAWIA) Contracting Level III certification and warrant (or international equivalent), a graduate degree or higher, and experience in operations and contracting gained through experiential tours or assignments (Yoder, 2010).

Figure 1 highlights the key aspects of the IPE position (Yoder, 2011).

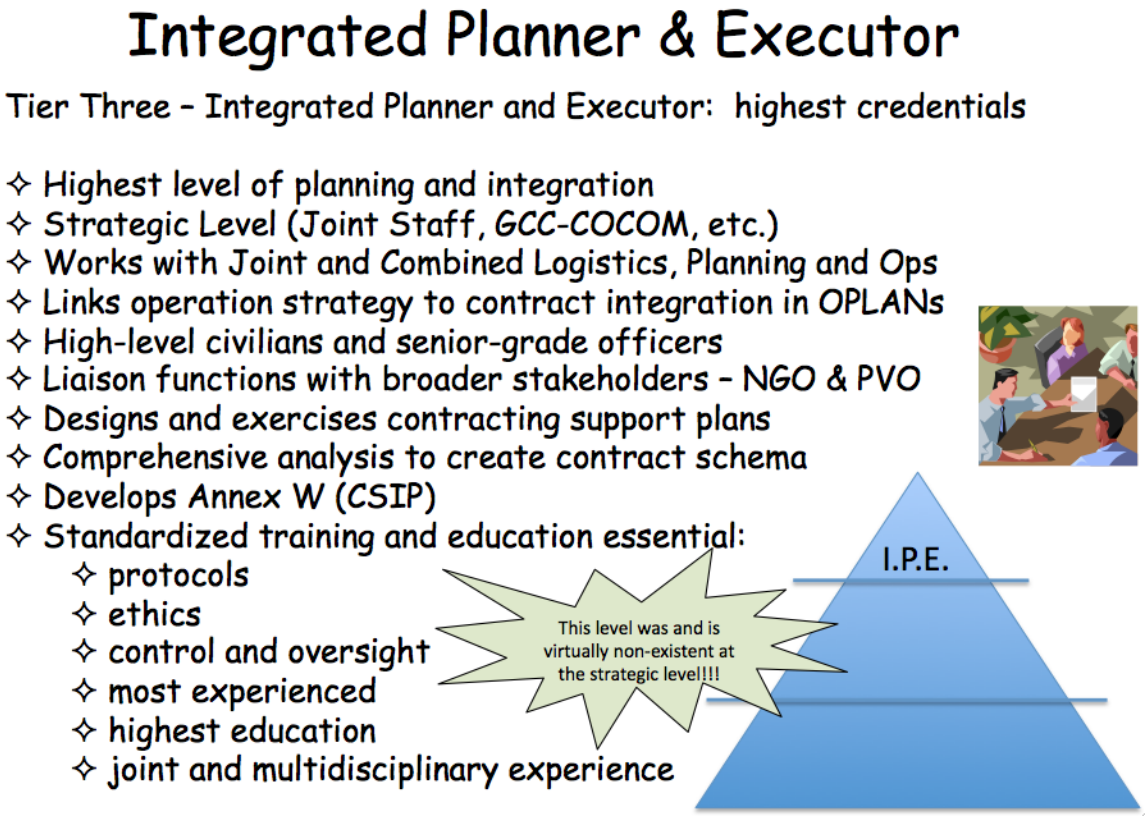

Figure 1. TTM—Tier Three—Integrated Planner & Executor

The IPE must be strategically positioned within the organization to achieve the highest levels of integrative planning. The IPE primary mission is creating and validating a comprehensive contracting plan, Annex W, to complement all elements of the OPLAN. Ideally, the IPE position should be placed within the Joint Staff, at GCC-COCOM, and at the highest operational and planning staffs within each Service branch.

The IPE will create and validate the Operational Contract Support (OCS) plan, Annex W, in all key geographic combatant command (GCC) CONPLANs and OPLANs. Because of the complexity and magnitude of the tasks involved in creating and validating comprehensive plans, the IPE requires a supporting staff and subordinate expertise in key strategic and analytical areas, such as OPLAN analysis, logistics assessments, contracting, and similar professional disciplines.

Of note, most organizations do not have a dedicated contracting IPE (by any moniker) within their organizational structure. Traditionally, the joint logistics

(J-4) organizations have embedded contracting officers. However, the contracting positions within J-4, or within traditional logistics organizations, have been utilized as adjunct positions to the broader logistics functional planning. Additionally, the relatively low military rank, and lack of seniority of the contracting positions within J-4 staffs, most often they lack the both the credential and the clout to effectively execute the requirements proposed for the IPE.

Despite DoD service components lacking an IPE at the strategic level, the National Defense Authorization Act of 2008 (NDAA 2008) has made significant impact at addressing credentialed personnel shortfalls at the strategic level. The NDAA 2008 authorized and established the Joint Contingency Acquisition Support Office, JCASO, directed by a military one-star. JCASO has a staff of thirty-six personnel expressly to provide IPE strategic level assistance in operational contract support to GCCs (MacLaren, 2012).

Will the DoD and military service components embrace the TTM and particularly the IPE function established by the NDAA 2008 as the JCASO? Currently, JCASO has not been empowered to compel GCC or service components to utilize their operational contract support development functions. Rather, they are an advisory group that must "sell" its capabilities to improve mission support through integrative planning (MacLaren, 2012). Only time and sound metric analysis will prove whether or not the JCASO is effective at creating the needed Operational Contract Support Annex W's mandated and needed for key GCC OPLANs.

What specifically will the IPE position accomplish – what, exactly, will the IPE achieve? If the warfighters are to embrace operational contract support, they must understand what essential functions the IPE achieves, and how those functions will yield benefits.

Phase Zero—Planning, Exercise, and Rehearsal

Phase Zero, generally known in GCC planning arenas as the shaping phase, is adopted by the Operational Contract Support contracting community as the planning and exercising phase. Traditional military jargon defines Phase Zero as "shaping." The authors contends that Phase Zero in the integrative strategic planning arena is the advance planning, exercising, and rehearsal of robust contracting support plans designed to complement the GCC OPLAN. Realistically, they the contracting community and the warfighter have the same vision for phase zero -- get the plans in place, rehearse, validate, and update them to reflect realities. In essence, Phase Zero contract planning, and the creation of OPLAN Annex W, became ***mandatory*** under the 2008 Defense Authorization Act (GAO, 2011). The authorization and supporting guidance under Joint Publication 4-10—*Operational Contract Support*—requires all GCCs create Annex W for OPLANS, representing the embodiment of phase zero integrative planning (CJCS, 2008). However, despite the mandate, and what is particularly disconcerting, is that the General Accountability Office recently determined that only four out of 39 OPLANS requiring comprehensive Annex W integration plans actually had them (GAO, 2011). Admiral MacLaren, Director, JCASO, indicates that there is significant work ahead to get all the GCC OPLAN Annex W support plans in place and exercised (MacLaren, 2012).

Ultimately, each OPLAN and CONPLAN will have an Annex W, fully drafted, exercised, rehearsed, analyzed and revised. The doctrinal framework published in Joint Publication 5-0 – Joint Operation Planning – along with Joint Publication 4-10 – Operational Contract Support, is key for design and integration of contracting into OPLANs. The objective is to embed and synchronize the OCS plan with all elements of the OPLAN to meet commander's intent. Properly constructed Annex W plans must include elements such as, but not limited to, personnel/organizational structures and authorities, business protocols, including special statutory and regulatory provisions under declared contingencies, scheme of operations, synchronization with the battle plan, oversight,

management and auditing, personnel regulations and provisions, spend analysis integration, synchronization with broader strategic objectives, and metrics for assessment of the efficiencies and effectiveness of embedded plans and actions (Yoder, 2011).

To ensure the efficacy of the integrated Annex W plan, the IPE must act as a strategic liaison with key stakeholders. Analytical assessments of the Annex W plan may utilize strength, weakness, opportunity, threat (SWOT) and capability gap analysis techniques. The SWOT method allows the IPE to evaluate the Strengths, Weaknesses/Limitations, Opportunities, and Threats, and ultimately the potential efficacy of the OPLAN's integrated contracting plan. The capability gap analysis determines the support and provisioning gaps in the OPLAN that may be addressed through contracted support.

Phase Zero and Mandatory Pillars for Strategic Contracting Integration

As defined previously, phase zero is the planning, exercising, and rehearsal phase of military operations—properly establishing and vetting the contracting plan prior to an actual event or crisis. In order to function effectively within the established and existing military Adaptive Planning and Execution System (APEX) framework, the IPE and associated functions must be designed within the three main pillars—personnel, platforms, and protocols. Failure to integrate contracting with all of the three primary pillars will result in sub-optimization or outright contract support and/or mission failure.

The first pillar—personnel— should be addressed by implementing the TTM and particularly the IPE. The second pillar—platforms—is addressed by integrating contracting throughout all phases of military operations and into the existing warfighters' platforms for planning and execution, the Adaptive Planning and Execution System, or APEX, which was formerly known as JOPES. Additionally, it must be embedded with other APEX complementary platforms such as the Time Phased Force Deployment Data (TPFDD) system. The third pillar—protocols—represents the existing or desirable set of rules and

procedures, including sound business, planning, and military doctrine, that govern the planning and execution of the contracting plan within the broader OPLAN. Figure 2 highlights the three pillars and associated elements.

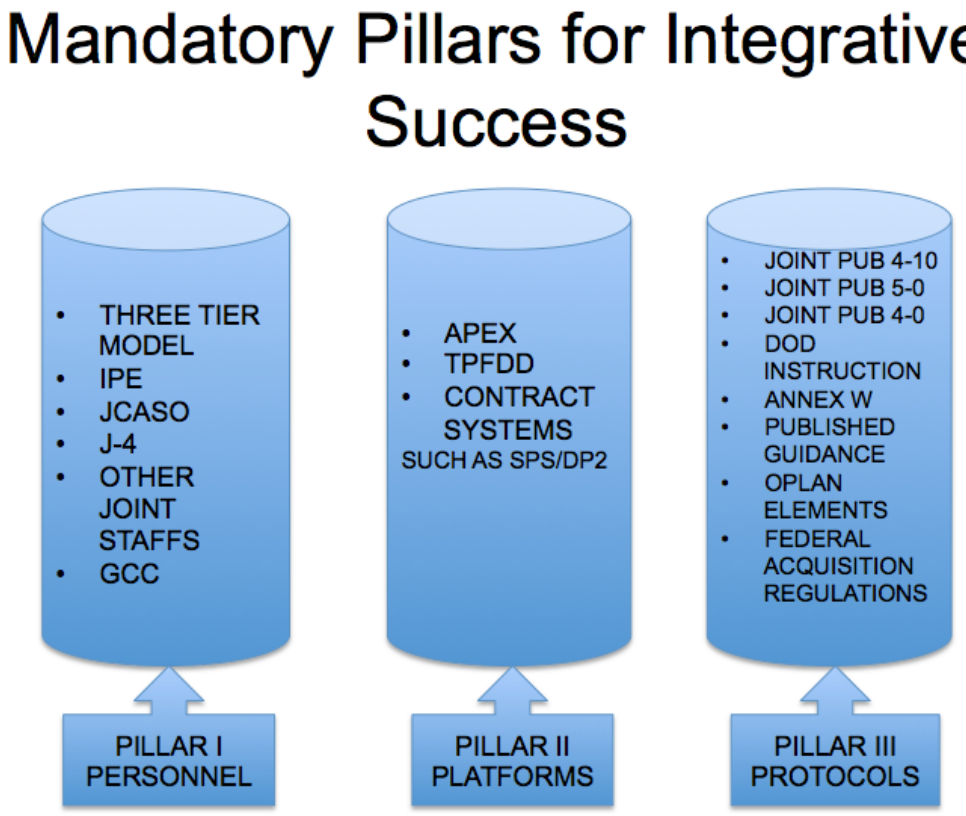

Figure 2. Mandatory Pillars for Integrative Success

Protocols include, but are not limited to, the strategic planning guidance established by the GCC, strategic purchasing guidance and mandates, Joint Publications 4-10 Operational Contract Support, 5-0 Joint Operational Planning, 4-0 Joint Logistics and others doctrinal publications, along with the mandates for constructing and implementing Annex W for each unique OPLAN. Additionally, the acquisition and contracting specific laws, regulations, and guidance must be utilized including, but not limited to, the Federal Acquisition Regulation (FAR, 2012).

IPE within Joint Strategic Planning, APEX Products and Annex W

Joint strategic planning products include, but are not limited to, GCC estimates, base plans, concept plans, operational plans, warning orders, planning orders, alert orders, operation orders, execute orders, fragmentary orders, and deployment orders along with all annexes including the newly mandated Annex W—operational contract support plan. These products are alien to most contracting and acquisition professionals, because traditionally, contracting and acquisition personnel have not played a key role in the production or management of these critical documents. In fact, as stated previously, GAO recently conducted an audit of 39 OPLANS that required an integrated Annex W and found only three had been produced (GAO, 2010).

It is clear, given the defined content of Annex W, that contracting at the strategic IPE level must be included in all phases of planning and in the production of key APEX products. Annex W must include all of the key elements for mission success, and address the three mandatory pillars for integrative success – personnel, platforms, and protocols. The integrated Annex W must include, at a minimum, those elements deemed essential for mission accomplishment, while addressing cost and affordability within the overall OPLAN. The contents include, but are not limited to the following list:

- Mission Statement—from the OPLAN or OPORD
- Primary and Secondary Customers
- Anticipated requirements (in relative time-phase)
- Forces deploying in sequence and duration
- Operational locations
- Lead Service
- Organization structure: HCA, Joint Acquisition Review Board (JARB), etc.
- Supported and supporting relationships
- Command and control relationships

• Procedures for appointing, training, and employing FOOs (Field Ordering Officers), CORs (Contacting Officer Representatives), Disbursing Agents, GPC (Government Purchase Card) holders
• Procedures for defining, validating, processing, and satisfying customer requirements
• Procedures for budgeting receipt of supplies/services and payments to vendors
• Procedures for closing out contracting operations and redeployment
• Supplies and services anticipated locally, local customs, laws, taxes, SOFA, Host Nation Support, Acquisition Cross Service Agreements (ACSA), vendor base, etc.
• Infrastructure, office location, security measures, kits, etc.
• Security requirements and procedures for contracting and contractor personnel
• Standards of Support—processing times, turn-around-time, PALT, and reporting
• Specific statutory/regulatory constraints or exemptions, special authorities, and programs
• Relief in Place/Transfer of Authority
• Contractor restrictions (movement, basing, etc. time-phase specific)
• Guidance on transferring LOGCAP support to theater support contracts by function and/or phase of the operation
• Special Authorities and Programs (CERP–COIN)
• Post-Contract Award Actions (management, closeout, de-obligation, etc.)
• Contractor support, civil augmentation programs (CAP)
• Mandated solicitation and contract provisions
• Human trafficking mandates, indemnity, and MEJA provisions (Yoder, 2010)

Without a comprehensive planning capability, most missions will be negatively affected. It is clear that the IPE, properly positioned within the planning community, can better create and assess the Annex W capabilities

within the three main pillars—personnel, platforms, and protocols—allowing for future success.

Conclusions

To date, contracting has not been fully integrated into military planning and execution. Some significant strides have been made to better assimilate contracting at the strategic level, including Dr. Jacques Gansler's report, *Urgent Reform Required* (Gansler, 2007), and the recently published doctrine contained in Joint Publication 4-10—*Operational Contract Support* (CJCS, 2008). However, despite the push towards better integration, including the newly formed JCASO, the Department of Defense (DoD) still lacks a manifest comprehensive planning and executing capability, as evidenced most recently in the final report of the Commission on Wartime Contracting (CWCIA, 2011).

The lack of planning and sound contract integration at the strategic level leads to loss of efficiencies, lack of effectiveness, and in many cases, outright fraud of the executing participants as highlighted in the Commission on Wartime Contracting report (CWCIA, 2011). The functions of the IPE and mandates for *Operational Contract Support*, including generating a thoroughly vetted Annex W, are so massive that the Services have recently contracted out, or outsourced, some of the requirement (Yoder, 2011). However, outsourcing this critical function may only make matters worse, in that key decisions will be left in the prevue of non-government personnel—including decisions of further contracting.

The authors contend that the best means to accomplish integration into existing war planning systems is by congressionally mandating, authorizing and funding (via appropriation) the IPE positions at the flag and senior executive service (SES) levels within Service structure, such as at the JCASO. The authors recommend that JCASO have more authority within GCC and Service staffs – particularly to establish, monitor, and manage Annex W within for GCC and Services within APEX framework. This will require greater engagement authorities that currently exist. This represents the level of bona-fide commitment to solve a long-standing problem that, without correction, will

continue to fester and plague service chiefs, military commanders, Congress, and the taxpayers. Implementing phase zero planning through sound public policy, congressional authorization and funding, and the Services' commitment to fully integrate contracting within the three pillars—personnel, platforms, and protocols is the proactive move towards success.

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Appendix D. U.S. Navy Arctic Strategy Objectives, Chief of Naval Operations

DEPARTMENT OF THE NAVY
CHIEF OF NAVAL OPERATIONS
2000 NAVY PENTAGON
WASHINGTON DC 20350-2000

5000
Ser N00/10D0063
21 May 10

MEMORANDUM FOR DISTRIBUTION

From: Chief of Naval Operations

Subj: NAVY STRATEGIC OBJECTIVES FOR THE ARCTIC

Ref: (a) Navy Arctic Roadmap

Encl: (1) Strategic Objectives for the U.S. Navy in the Arctic Region

1. The Strategic Objectives for the U.S. Navy in the Arctic Region are provided in enclosure (1). This document defines the Navy's desired end state as a safe, stable, and secure region where U.S. national and maritime interests are safeguarded and the homeland is protected, and specifies the objectives required to achieve this end.

2. Per reference (a), these strategic objectives shall be reviewed and updated following promulgation of each Quadrennial Defense Review or as required.

G. ROUGHEAD
Admiral, U.S. Navy

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Strategic Objectives for the U.S. Navy in the Arctic Region

Purpose

To establish the Navy's strategic objectives in the Arctic region in support of the *U.S. Navy Arctic Roadmap*[i]. The Navy's desired end state is a safe, stable and secure Arctic region where U.S. national and maritime interests are safeguarded and the homeland is protected. Navy's strategic objectives for the Arctic region will guide its follow-on examination of ways and means to achieve the end state.

Introduction

The changing Arctic environment presents significant opportunities for the United States and the U.S. Navy. The Arctic Ocean is experiencing record lows in sea ice and the region is warming twice as fast as the rest of the globe. While uncertainty exists in projections for the extent of Arctic sea ice, the current scientific consensus indicates the Arctic will experience ice-diminished summers beginning sometime in the 2030s. As a result, commercial shipping, resource development, research, tourism, environmental interests, and strategic focus in the region are projected to reach new levels of activity.

While these developments offer new opportunities for maritime security cooperation, they also present potential sources of competition and conflict for access and natural resources. In order to develop a comprehensive and coordinated approach to the challenges posed in the Arctic region, Navy established Task Force Climate Change (TFCC). TFCC has developed the Navy Arctic Roadmap to guide Navy policy, investments, and action regarding the Arctic region.

Policy Guidance

National policy on the Arctic region is set forth in National Security Presidential Directive (NSPD) 66 / Homeland Security Presidential Directive (HSPD) 25, *Arctic Region Policy*.[ii] It notes that: "The United States has broad and fundamental national security interests in the Arctic region and is prepared to operate either independently or in conjunction with other states to safeguard these interests." It also specifically calls out freedom of navigation as a top national priority, linking the rights and responsibilities relating to navigation and overflight in the Arctic region with our ability to exercise these rights throughout the world. While no new naval missions are specified in the national Arctic policy, the scope of naval operations in a future, ice-diminished Arctic region is very likely to increase.

The 2010 *Quadrennial Defense Review* (QDR)[iii] "brings fresh focus to the importance of preventing and deterring conflict by working with and through allies and partners, along with better integration with civilian agencies and organizations." The 2010 QDR report establishes DoD's strategic approach to energy and climate change given their potentially significant role in the future security environment. The two most applicable DoD-wide objectives from the 2010 QDR for balancing Navy's resources and strategic risks in the Arctic region are: 1) preventing and deterring conflict; and 2) preparing to defeat adversaries and succeeding in a wide range of

contingencies. Navy's strategic objectives in the Arctic directly support these DoD-wide objectives.

In addition, the 2008 *National Defense Strategy* (NDS)[iv] describes the overarching goals and strategy for the Department of Defense (DoD) and provides a foundation for DoD strategic guidance. Navy's objectives in the Arctic are informed by the NDS objectives to: 1) defend the homeland; 2) promote security; 3) deter conflict; and 4) win our nation's wars.

Finally, *A Cooperative Strategy for 21st Century Seapower* (CS21)[v] is the unified maritime strategy for the Navy, Marine Corps, and Coast Guard. It identifies the opening of the Arctic as an opportunity for growth and a potential source of competition and conflict. The strategic imperatives and core capabilities from the Maritime Strategy apply equally to the entire maritime domain– and the Arctic is primarily a maritime domain. The relevant objectives for Navy forces in the Arctic are to: 1) contribute to homeland defense in depth; 2) foster and sustain cooperative relationships; and 3) prevent or contain local disruptions before they impact the global system.

Navy's Strategic Objectives

The Navy's desired end state is a safe, stable and secure arctic region where U.S. national and maritime interests are safeguarded and the homeland is protected.

Based on the national and DoD-wide objectives described above, the Navy's desired end state is a safe, stable and secure Arctic region where U.S. national and maritime interests are safeguarded and the homeland is protected. In order to best achieve this end state, Navy must enhance cooperative relationships with other services, U.S. government agencies, foreign partners and allies; and ensure Navy forces are both capable and ready to meet future requirements in the region.

The Navy strategic objectives to achieve the desired end state include:

I. *Contribute to safety, stability, and security in the region.* Establishing and maintaining security at sea is essential to mitigating a multitude of threats, including conflicts over resources, territorial boundaries, or excessive maritime claims. Preventing or countering these threats protects our homeland, enhances regional stability, and helps to secure freedom of navigation for the benefit of all nations. The Navy and Coast Guard, with their different authorities, missions and responsibilities, face different requirements and timelines in the Arctic. The immediate needs in the Arctic region, Icebreaking, Search and Rescue, Marine Environmental Protection, Living Marine Resources/Law Enforcement, Marine Safety, and Waterways Management, are primarily Coast Guard missions. However, close cooperation and collaboration based on established agreements[1] will facilitate future success.

[1] Operation of Icebreakers MOA; National Fleet Policy; Department of Defense Support to the United States Coast Guard for Maritime Homeland Security MOA; Inclusion of the U.S. Coast Guard in Support of Maritime Homeland Defense MOA; Use of U.S. Coast Guard Capabilities and Resources in Support of the National Military Strategy MOA.

Clearly identified maritime security responsibilities detailed in international, national, and DoD documents (e.g. the Unified Command Plan (UCP)), deliberate communications of intentions and actions, and effective legal and regulatory structures accepted and enforced by all Arctic nations are examples of desired effects for this objective.

II. *Safeguard U.S. maritime interests in the region.* Access to the global commons and freedom of navigation are top national priorities. Preserving access and freedom of navigation in the Arctic region supports Navy's ability to exercise these rights throughout the world, especially in strategic straits. We cannot view the Arctic in isolation; the application of international law in the Arctic establishes precedent germane to all the world's oceans, straits, and sea lanes.

While the Arctic is a unique operating environment, it does not necessarily require a new treaty regime or system of governance. Customary international law, as codified in the United Nations Convention on the Law of the Sea (UNCLOS), provides the appropriate legal framework for responsible cooperative development, use, and preservation of the Arctic. The U.S. accession to UNCLOS will enable and enhance Navy's ability to protect our maritime interests worldwide.

Desired effects for this objective include U.S. accession to UNCLOS, freedom of navigation for all, suitable weather forecasting and navigation information, and sustainable development that balances economic, energy, and environmental concerns.

III. *Protect the American people, our critical infrastructure, and key resources.* Navy's national security responsibilities in the Arctic are similar to those in any other maritime domain and are clearly articulated in the guiding policy documents and legal frameworks detailed above. Although the potential for conflict in the Arctic is low, Navy's core responsibility is to defend the United States from attack upon its territory at home and to secure its interests abroad.

Desired effects for this Navy objective include deterring or swiftly defeating threats to the U.S. interests and our homeland from state or non-state actors. Not only does the Navy need to be prepared to operate in the Arctic, it must be capable of supporting civil authorities in the event of an attack or natural disaster.

IV. *Strengthen existing and foster new cooperative relationships in the region.* Expanded cooperative relationships with the other Arctic nations to responsibly exercise sovereign rights and jurisdiction are essential to successfully addressing complex issues in an uncertain future. The best way to achieve security is to encourage peaceful change within the international system - Navy seeks to achieve this within cooperative relationships, not adversarial ones. Building and maintaining relationships with allies and international partners will contribute to the security and stability of the region. These relationships must be fostered and consistently reinforced over time to promote mutual respect and understanding.

Desired effects for this objective include increased cooperation between Navy and other services, and a continued strong relationship or increased cooperative relationship between the U.S. and the other member states of the Arctic Council.

V. *Ensure Navy forces are capable and ready.* Arctic-related security discussions should focus on addressing the consequences of increased human activity and the necessity to acquire the right capabilities at the right cost at the right time to meet national requirements for the region. While Navy has operated in the Arctic on a limited basis for decades, expanded capabilities or capacities may be required.

Navy must continue being the dominant, ready naval force across all maritime missions with appropriate force structure and strategic laydown, balancing limited resources with ever-expanding requirements. Navy's Task Force Climate Change is carefully reviewing these issues as they potentially represent a considerable commitment of funds during a resource-challenged time.

The desired effects for this objective include determining, developing, and maintaining the proper skill sets, training, experience, and capabilities required to operate effectively in Arctic conditions.

Way Ahead

These strategic objectives for the Arctic region are the Navy Arctic Roadmap's first deliverable and shall be reviewed and updated following each QDR or as required. They are intentionally focused on "ends" – the ways and means to achieve these ends will be analyzed and determined in the execution of all subsequent actions from the Roadmap in the following focus areas:

-*Strategy, Policy, Missions, and Plans:* Providing actionable direction to operational staffs to achieve the Navy's strategic objectives.

-*Operations and Training:* Developing competency in accomplishing Arctic missions assigned by combatant commanders.

-*Investments:* Providing weapon, platform, sensor and C4ISR capabilities, installations, and facilities required to implement Navy, DoD, and National policy regarding the changing Arctic region.

-*Strategic Communications and Outreach:* Informing internal and external organizations as well as the media, public, government, interagency, and international audiences regarding Navy's strategies, policies, investments, intentions, and actions regarding the changing Arctic.

Source Documents

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[i] *U.S. Navy Arctic Roadmap*, October 2009.

[ii] *Arctic Region Policy*, National Security Presidential Directive (NSPD)-66 / Homeland Security Presidential Directive (HSPD)-25, January 2009.

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Appendix E. "The Emerging Arctic Frontier," Admiral Robert J. Papp Jr., U.S. Coast Guard, U.S. Naval Institute, January 2012

Published on *U.S. Naval Institute* (http://www.usni.org)

The Emerging Arctic Frontier

By Admiral Robert J. Papp Jr., U.S. Coast Guard
Created *2012-01-31 12:41*

The world may seem to be growing smaller, but its seas are growing bigger—particularly in the great North, where a widening water-highway beckons both with resources and challenges.

As a maritime nation, the United States relies on the sea for our prosperity, trade, transportation, and security. We are also an Arctic nation. The Arctic region—the Barents, Beaufort, and Chukchi seas and the Arctic Ocean—is the emerging maritime frontier, vital to our national interests, economy and security.[1] [1]

The Arctic Ocean, in the northern region of the Arctic Circle, is changing from a solid expanse of inaccessible ice fields into a growing navigable sea, attracting increased human activity and unlocking access to vast economic potential and energy resources. In the 35 years since I first saw Kotzebue, Alaska, on the Chukchi Sea as a junior officer, the sea ice has receded from the coast so much that when I returned last year the coastal area was ice-free. The shipping, oil-and-gas, and tourism industries continue to expand with the promise of opportunity and fortune in previously inaccessible areas. Experts estimate that in another 25 years the Arctic Ocean could be ice-free during the summer months.[2] [1]

This change from "hard" to "soft" water, growing economic interests and energy demands, and increasing use of the seas for maritime activities by commercial, native, and recreational users demands a persistent, capable U.S. Coast Guard presence in the Arctic region. Our mandate to protect people on the sea, protect people from threats delivered by sea, and protect the sea itself applies in the Arctic equally as in the Atlantic and Pacific oceans and Gulf of Mexico and Caribbean Sea.

The difference is that in the rest of the maritime domain, we have an established presence of shore-based forces, small boats, cutters, and aircraft supported by permanent infrastructure and significant operating experience. Although the Coast Guard has operated in southern Alaska, the Gulf of Alaska, and Bering Sea for much of our history, in the higher latitudes we have little infrastructure and limited operating experience, other than icebreaking. Historically, such capabilities were not needed. Year-round ice, extreme weather, and the vast distances to logistical support, prevented all but icebreakers or ice-strengthened ships from operating there. As a result, commercial enterprise on any significant scale was nonexistent. But the Arctic is emerging as the new maritime frontier, and the Coast Guard is challenged in responding to the current and emerging demands.

Resource-Rich Realm

The economic promise of oil and gas production in the Arctic is increasingly attractive as supply of energy resources from traditional sources will struggle to meet demand without significant price increases. The Arctic today holds potentially 90 billion barrels of oil, 1.6 trillion cubic feet of natural gas, and 44 billion barrels of natural gas liquids, 84 percent of which is expected to be found in offshore areas. This is estimated to be 15 percent of the world's undiscovered oil reserves and 30 percent of natural gas reserves. Oil companies are bidding hundreds of millions of dollars to lease U.S. mineral rights in these waters and continue to invest in developing commercial infrastructure in preparation for exploration and production, and readiness to respond to potential oil spills or other emergencies.[3] [1] In August, the Department of the Interior granted Royal Dutch Shell conditional approval to begin drilling exploratory wells in the Beaufort Sea north of Alaska starting next summer. ConocoPhillips may begin drilling in the Chukchi Sea in the next few years. Also, Russia has announced plans for two oil giants to begin drilling as early as 2015, and Canada has granted exploration permits for Arctic drilling.[4] [1]

The fisheries and seafood industry in the southern Arctic region (the Bering Sea and Gulf of Alaska) sustains thousands of jobs and annually produces approximately 1.8 million metric tons' worth of catch valued at more than $1.3 billion.[5] [1] Although subsistence-hunting has occurred in the higher latitudes for centuries, as waters warm, fish and other commercial stocks may migrate north, luring the commercial fishing industry with them.

As the Arctic Ocean becomes increasingly navigable it will offer new routes for global maritime trade from Russia and Europe to Asia and the Americas, saving substantial transit time and fuel costs from traditional trade routes. In summer 2011, two Neste oil tankers transited the Northeast Passage from Murmansk to the Pacific Ocean and onward to South Korea, and Russian Prime Minister Vladimir V. Putin pledged to turn it into an important shipping route.[6] [1]

Resolving an Old Liability on the Rule of Law

Because of these opportunities and the clamor of activities they bring, a legally certain and predictable set of rights and obligations addressing activity in the Arctic is paramount. The United States must be part of such a legal regime to protect and advance our security and economic interests.

In particular, for the past several years there has been a race by countries other than the United States to file internationally recognized claims on the maritime regions and seabeds of the Arctic. Alaska has more than 1,000 miles of coastline above the Arctic Circle on the Beaufort and Chukchi seas.[7] [1] Our territorial waters extend 12 nautical miles from the coast, and the exclusive economic zone extends to 200 nautical miles from shore (just as along the rest of the U.S. coastline). That's more than 200,000 square miles of water over which the Coast Guard has jurisdiction.

Below the surface, the United States also may assert sovereign rights over natural resources on its continental shelf out to 200 nautical miles. However, with accession to the Law of the Sea Convention, the United States has the potential to exercise additional sovereign rights over resources on an extended outer continental shelf, which might reach as far as 600 nautical miles into the Arctic from the Alaskan coast. Last summer, the Coast Guard cutter USCGC *Healy* (WAGB-20) was under way in the Arctic Ocean, working with the Canadian icebreaker *Louis S. St-Laurent* to continue efforts to map the extent of the continental shelf.

The United States is not a party to the Law of the Sea Convention. While this country stands by, other nations are moving ahead in perfecting rights over resources on an extended continental shelf. Russia, Canada, Denmark (through Greenland), and Norway—also Arctic nations—have filed extended continental-shelf claims under the Law of the Sea Convention that would give them exclusive rights to oil and gas resources

on that shelf. They are making their case publicly in the media, in construction of vessels to patrol these waters, and in infrastructure along their Arctic coastline. Even China, which has no land-mass connectivity with the Arctic Ocean, has raised interest by conducting research in the region and building icebreakers.[8] [1] The United States should accede to the Law of the Sea Convention without delay to protect our national security interests: sovereignty, economy, and energy.

Arctic Responsibility

Wherever human activity thrives, government has a responsibility to uphold the rule of law and ensure the safety and security of the people. The Coast Guard is responsible for performing this mission on the nation's waters, as we have done in parts of Alaska over our 221-year history.

Coast Guard operations in the Arctic region are not new. Nearly 150 years ago, we were the federal presence in the "District of Alaska," administering justice, settling disputes, providing medical care, enforcing sovereignty, and rescuing people in distress. Our heritage is filled with passages of Coast Guardsmen who braved the sea and ice in sailing ships and early steam ships to rescue mariners, quash illegal poaching, and explore the great North. World War II ushered in the service's first icebreakers. In 1957, three Coast Guard cutters made headlines by becoming the first American vessels to circumnavigate the North American continent through the Northwest Passage. That mission was in support of an early Arctic imperative to establish the Distant Early Warning Line radar stations to detect ballistic-missile launches targeting the United States during the Cold War.

The Coast Guard presence in southern Alaska, the Bering Sea, and Gulf of Alaska continues to be persistent and capable, matching the major population and economic concentrations and focus of maritime activities. The 17th Coast Guard District is responsible for directing the service's operations in Alaska with:

• two sectors

• two air stations

• twelve permanently stationed cutters and normally one major cutter forward-deployed from another area

- three small-boat stations
- six marine safety units or detachments
- one regional-fisheries training center
- five other major mission-support commands.[9] [1]

We ensure maritime safety, security, and stewardship in the region by conducting search and rescue, fisheries enforcement, inspection and certification of ships and marine facilities to ensure compliance with U.S. and international safety and security laws and regulations, and preventing and responding to oil spills and other water pollution.

The Coast Guard strengthens U.S. leadership in the Arctic region by relying on effective partnerships with other federal, state, local, and tribal governments and industry members. We are working with other federal partners within the Department of Homeland Security, the military services and combatant commanders within the Department of Defense, the National Oceanic and Atmospheric Administration, and the Bureau of Safety and Environmental Enforcement within the departments of Interior, State, and Justice to achieve unity of effort within the interagency team at the port and regional level. And we rely on cooperation from international partners, be they permanent close allies such as Canada or our maritime counterparts in Russia and China, with whom we are developing ties.

Although we have lived and served in southern Alaska for most of the Coast Guard's existence, our access to and operations in northern Alaska on the North Slope have been only temporary and occasional, with no permanent infrastructure or operating forces along the Beaufort or Chukchi seas. There are no deepwater ports there.

However, the acceleration of human activity in the northern Arctic region, the opening of the seas, and the inevitable increase in maritime activity mean increased risk: of maritime accidents, oil spills, illegal fishing and harvesting of other natural resources from U.S. waters, and threats to U.S. sovereignty. Those growing risks—inevitable with growth of human activity—demand the Coast Guard's attention and commitment to meet our responsibilities to the nation.

Preparing to Lead

Our first challenge is simply to better understand the Arctic operating

environment and its risks, including knowing which Coast Guard capabilities and operations will be needed to meet our mission requirements. Operating in the Arctic region presents challenges to personnel, equipment, and tactics. What would be normal cutter, boat, or aircraft operations almost anywhere else become more risky and complex. The climate can be one of extremes many months of the year, with continuous sub-zero temperatures and more hurricane-force storms each year than in the Caribbean. It's hard on equipment: Industrial fluids freeze, metal becomes brittle, and electronic parts fail. It's also hard on people, who must acclimate to exaggerated daylight and darkness, harsh weather conditions, limited services, and isolation from family.

One of the most significant challenges is the lack of Coast Guard infrastructure in key locations along the northern Alaskan coastline that will be needed to sustain even basic shore-based operations. Today we rely on partner agencies and industry to support any sustained operations. Cutters, aircraft, boats, vehicles, and people require constant mission support and logistics. We are already exploring requirements to establish temporary forward-operating bases on the North Slope to support shore-based operations, enabling temporary crews and equipment to deploy to support a specific operation, and then return to home station when complete.

We have been improving our understanding by increasing operations. We conduct regular Arctic Domain Awareness flights by long-range maritime-patrol aircraft along the North Slope and over the Arctic Ocean, assessing aircraft endurance and performance and monitoring maritime activity. Since 2008, we have conducted Operation Arctic Crossroads, deploying personnel, boats, and aircraft to small villages on the Arctic coast such as Barrow, Kotzebue, and Nome. While there, we test boats for usability at these high latitudes and conduct flight operations. We also work closely with the Army and Air National Guard and the Public Health Service to provide medical, dental, and veterinary care to outlying villages. In return, we learn from their expertise about living and operating in this environment. These services invest in deepening our partnerships with and understanding of local peoples.

Next, we must prepare by ensuring that Coast Guard men and women have the policy, doctrine, and training to operate safely and effectively in the northern Arctic region. We have relearned fundamental lessons in recent years about the need to be prepared when taking on new operational challenges. We will train personnel beyond qualification to proficiency to live and work for extended periods in the extreme cold and

other harsh conditions there. We will ensure cutters, aircraft, boats, deployable specialized forces, and mission-support personnel have the equipment, training, and support they require to succeed.

Finally, we are working closely with other key federal partners to lead the interagency effort in the Arctic. The Coast Guard has significant experience and success with speaking the interagency language, bridging the traditional divides between military and law enforcement at the federal level, and synchronizing efforts between federal, state, local, tribal, and private-sector stakeholders. Simultaneously a military service, a law-enforcement and regulatory agency, and an intelligence-community member that is part of the Department of Homeland Security, the Coast Guard is in a unique position to exercise leadership in this emerging maritime frontier.

Prevention and Response

Coast Guard missions rely on the twin pillars of prevention and response. We will take actions to prevent maritime safety, security, and pollution incidents in the Arctic. In our regulatory role, we are working with the Department of the Interior to review oil-spill response plans and preparedness by the oil-and-gas and maritime industries prior to exploration activities, especially on the outer continental shelf. We are taking the lessons from the 2010 *Deepwater Horizon* disaster to ensure that type of incident does not happen again, especially in the Arctic. We regulate U.S. mariners and inspect vessel- and facility-security plans. When a marine casualty does occur, we will investigate and take appropriate action to prevent it from happening again.

As a law-enforcement agency, we will provide security in the ports, coastal areas, and exclusive economic zone to enforce U.S. laws governing fisheries and pollution, while ensuring the security of lawfully permitted activities, including energy exploration, in the region. We will deploy cutters, boats, aircraft, and deployable specialized forces —maritime safety-and-security teams, strike teams, dive teams—when the mission demands.

As a military service, we will enforce U.S sovereignty where necessary, ensuring freedom of navigation and maritime homeland security. The *Healy*—our only operational icebreaker—and other ice-strengthened cutters will patrol where they can safely operate to provide persistent presence on the high seas and maritime approaches to the United States.

We are developing and will execute starting summer 2012 an Arctic Maritime Campaign with the objective of establishing a path forward for the Coast Guard to meet our responsibilities to the nation in the Arctic. This campaign will:

• define the required mission activities for the Coast Guard in the northern Arctic region

• determine capabilities (personnel, equipment, facilities) necessary to plan, execute, and support operations there

• identify available resources for the mission and resource gaps

• fully prepare our service and Coast Guard personnel to safely and effectively operate there.

Initially, the Arctic Maritime Campaign will be a Coast Guard plan for service operations in coordination with other partners—a basic first step for any mission. From there, we will work to improve interagency coordination as activities and operations increase.

My years at sea taught me many life lessons; chief among those is vigilance, the art of keeping a weather eye on emerging challenges so that the service can adequately prepare and take early and effective action to prevent and respond to trouble. As I scan the horizon, one area demanding our immediate attention is the Arctic. America is a maritime nation and an Arctic nation. We must recognize this reality and act accordingly. The Coast Guard is working to do its part. For more than 221 years, we have overseen the safety, security, and stewardship of our nation's waters. Our challenge today is to ensure we are prepared with a Coast Guard capable and ready to meet our responsibilities in the emerging maritime frontier of the Arctic.

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Admiral Papp is Commandant of the Coast Guard.

Icebreaker essential to resolve Nome fuel crisis

As this article went to print, the Coast Guard cutter Healy (left) had just cleared a path through hundreds of miles of Arctic ice to allow the commercial tanker Renda to deliver gasoline and diesel fuel to Nome, Alaska, which is currently inaccessible by road. The fuel will replenish Nome's scarce supplies and sustain the residents through the winter freeze. The situation arose after a regularly scheduled shipment was delayed in November by severe storms in the Bering Strait. The Healy was completing a scheduled science mission when it diverted to assist. The Coast Guard is responsible for providing U.S. domestic and polar icebreaking capability.

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By Admiral Robert J. Papp Jr., U.S. Coast Guard
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 The Coast Guard Commandant assesses the opportunities and challenges presented by a navigable Arctic Ocean.
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Appendix F. "Navy Arctic Roadmap," Vice Chief of Naval Operations, Admiral J. W. Greenert, USN, Memorandum for Distribution, November 2009[4]

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MEMORANDUM FOR DISTRIBUTION

Subj: NAVY ARCTIC ROADMAP

Encl: (1) Navy Arctic Roadmap

1. Scientific evidence indicates that the Earth's climate is changing, and the most rapid changes are occurring in the Arctic. Because the Arctic is primarily a maritime environment, the Navy must consider the changing Arctic in developing future policy, strategy, force structure, and investment.

2. During the Chief of Naval Operations (CNO) Executive Board on 15 May 2009, CNO directed the establishment of Task Force Climate Change (TFCC) and the development of an Arctic roadmap for the Navy. Enclosure (1) provides a holistic, chronological list of Navy action items, strategic objectives, and desired effects regarding the Arctic for Fiscal Years (FY) 2010-2014.

3. The Navy Arctic Roadmap will remain in effect until promulgation of the next Quadrennial Defense Review (QDR) report in FY-14, when the roadmap will be reviewed and revised to incorporate QDR guidance.

J. W. GREENERT
Admiral, U.S. Navy

Distribution:
OPNAV (OJAG Code 10, QDR, N22, N31, N43/TFE, N45, N46, N51, N6F, N81, N8F, N84, N85, N86, N87, N88)
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OSD QDR Integration Office
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[4] Excerpt: Memorandum and pp. 7–25 with paragraph conclusion from p. 26.

4. Navy Arctic Roadmap

4.1 Strategy, Policy, Missions, and Plans

Desired Effect: The Navy is engaged in strong cooperative partnerships that preserve a safe, stable and secure Arctic region.

Roadmap Objective 1.1: To identify Navy's strategic objectives in the Arctic region and provide recommendations to operational staffs to achieve these objectives.

Action Item 1.1 Determine *Navy Strategic Objectives and Restrictions in the Arctic Region.*

Description: TFCC, with applicable Navy Component Commands (NCCs) and Combatant Commands (COCOMs), will analyze National, Joint, and Service strategies and policies, determine the desired end-state and strategic objectives for Navy, and translate these into measurable effects. TFCC will also identify undesired side-effects and unintended consequences in the Arctic region, expressing these results-without-side-effects as Navy goals for the Arctic region. These goals shall be reviewed and updated with this roadmap following each Quadrennial Defense Review (QDR). Applicable references will include but not be limited to:

- The U.S. Arctic Region Policy (NSPD-66/HSPD-25)
- National Strategy for Maritime Security (NSMS)
- National Defense Strategy (NDS)
- QDR Report
- Guidance for Development of the Force (GDF)
- Guidance for Employment of Forces (GEF)
- Navy Operating Concept (NOC)
- *A Cooperative Strategy for 21st Century Seapower*

Navy Arctic strategic objectives will be submitted for inclusion in subsequent versions of these documents, as applicable. TFCC will coordinate directly with USCG, and with the interagency community through the Maritime Security Interagency Policy Committee, to ensure Navy's strategic objectives are consistent with the U.S. Government's desired outcome in the Arctic region.

Lead: OPNAV N51
Support: OPNAV N31, N52, USFF, PACOM/CPF, NORTHCOM, EUCOM
Suspense: Q2, FY10

Action Item 1.2 Describe the strategic environment.

Description: TFCC will characterize the current and probable strategic environment in the Arctic region based on its predicted physical and political environment, and key stakeholders' interests in the region. This assessment will be reviewed and updated with this roadmap following each Quadrennial Defense Review (QDR). Additional elements of this assessment will include, but not be limited to:

- Current and predicted threats in order to determine the most dangerous and most likely threats in the Arctic region in 2010, 2015, and 2025.
- Focus on threats to U.S. national security, although threats to maritime safety and security may also be considered.
- Identify the relevant actors concurrent to the forecast timeframe.
- Determine incentives and motivations for each actor

Lead: OPNAV N2/N6C2
Support: ONI, NMIC, USFF, PACOM/CPF, NORTHCOM, EUCOM
Suspense: Q2, FY10

Action Item 1.3 Conduct *mission analyses*.

Description: Based on the Navy goals for the Arctic region and the results of the threat assessment, TFCC, with applicable Navy Component Commands (NCCs) and Combatant Commands (COCOMs), will conduct a thorough mission analysis in order to determine best courses of action to achieve Navy's strategic objectives in the Arctic region. Continuing to utilize the fundamentals of game theory, this analysis will consider the interdependencies between actors and actions in the Arctic and how incentives and decisions are influenced by other actors' decisions. This mission analysis shall be reviewed and updated with this roadmap following each Quadrennial Defense Review (QDR). Specific attention will be given to the following missions highlighted in the National Arctic Policy and CS21:

- Maritime Security
- Search and Rescue
- Humanitarian Assistance/Disaster Response (HA/DR)
- Defense Support of Civil Authorities (DSCA)
- Maritime Domain Awareness
- Strategic Sealift by the Naval Fleet Auxiliary Force (NFAF)
- Strategic Deterrence
- Ballistic Missile Defense

Lead: OPNAV N00X
Support: OPNAV N51, N31, USFF, PACOM/CPF, EUCOM, NORTHCOM, Naval War College (NWC)
Suspense: Q2, FY10

Action Item 1.4 Develop a five-year *Strategic Implementation Plan* (SIP) to achieve Navy's Strategies and Policies in the Arctic region for FY11-15.

Description: The *Navy Arctic Strategic Implementation Plan (NASIP)* will translate strategy and policy into action. This plan will be updated with this Arctic Roadmap every four years following the QDR, and include but not be limited to the following:

- Look forward and reason backwards, using the strategic environment description and mission analysis in *Action Items 1.2 & 2.3*.
- Anticipate other actors' actions or reactions and determine the implications for potential courses of action.
- Incorporate input from applicable Navy Component Commands (NCCs) and Combatant Commands (COCOMs) and translate Navy Whole Goals in the Arctic Region into a results-based list of specified actions
- Based on scientific facts, make actionable recommendations to operational staffs to achieve the desired strategic objectives.
- Inform and direct capability analysis and decisions.
- Inform future strategy and policy development including, but not limited to, updates to the U.S. Arctic Region Policy (NSPD-66/HSPD-25), National Strategy for Maritime Security (NSMS), National Defense Strategy (NDS), QDR, Guidance for the Employment of Forces (GEF), Navy Operating Concept (NOC), and *A Cooperative Strategy for 21st Century Seapower*.
- Include coordinating and collaborative efforts with USCG, and with the interagency community through the Maritime Security Interagency Policy Committee, to ensure consistency with the U.S. Government's desired outcome in the Arctic region and the actions of other Departments and Agencies.
- Incorporate NCC and COCOM input to ensure alignment among Navy stakeholders in the region.

Lead: OPNAV N51
Support: TFCC NCCCO, USFF, USCG, NOAA, ONR, OPNAV OJAG Code 10
Suspense: Q4, FY10

Action Item 1.5 Propose additional studies and research regarding Arctic security.

Description: TFCC will identify potential topics and areas for further research or study and recommend these to appropriate organizations, including but not limited to:

- Interagency Arctic Research Policy Committee
- Commission on Ocean Policy
- Office of Naval Research (ONR)
- National Science Foundation (NSF)
- Naval Post Graduate School (NPS)
- Naval War College (NWC)
- National Defense University's Institute of National Strategic Studies
- National Intelligence Council (NIC)
- Center for Naval Analyses (CNA)
- Center for New American Security (CNAS)
- Naval Studies Board (NSB)
- National Ice Center
- National Academy of Science (NAS)
- Naval Facilities Engineering Service Center (NAVFAC ESC)
- Commander Naval Installations Command (CNIC)

Lead: OPNAV N51
Support: OPNAV N2/N6, N31, N81, OJAG Code 10
Suspense: Q4, FY10

Action Item 1.6 Beginning for FY14, and biennially each POM year thereafter, consider required Navy Arctic capabilities in developing the Navy Strategic Plan.

Description: Navy Arctic requirements will be considered during the development of the Navy Strategic Plan using the following :

- Navy Strategic Objectives for the Arctic (*Action Item 1.1*)
- Arctic mission analysis and strategic environment descriptions (*Action Items 1.2 & 1.3*)
- Arctic-related CBA's (*Action Items 3.2 & 5.2*)
- Arctic Environmental Assessment & Outlook Reports (*Action Item 5.8*)

Lead: OPNAV N3/5
Support: OPNAV N31, N51, N2/6, TFCC NCCCO
Suspense: Q4, FY11

Roadmap Objective 1.2: Promote a safe, stable, and secure Arctic region by strengthening existing and fostering new cooperative relationships.

Action Item 1.7 Develop a Navy position on COCOM responsibilities in the Arctic for the Unified Command Plan (UCP).

Description: Currently, COCOM responsibility for the Arctic region is divided between U.S. EUCOM, U.S. NORTHCOM, and U.S. PACOM. TFCC will develop a recommended Navy position on COCOM responsibilities in the Arctic

based on the desired end-state(s) and recommended courses of action to achieve them. TFCC will review these responsibilities as necessary.

Action: OPNAV N51
Support: OPNAV N31, N2/N6, USFF, PACOM/CPF, EUCOM
Suspense: Q3, FY10

Action Item 1.8 Expand cooperative partnerships with Joint, interagency, and international Arctic Stakeholders.

Description: Navy partnerships in the Arctic region will provide capability and contribute to achieving the Navy's objectives and desired effects in the region. The process to develop and strengthen these partnerships will include:

- Evaluate existing agreements with the USCG, U.S. Air Force, U.S. Army, foreign militaries, and foreign government agencies/organizations (e.g. Canadian Coast Guard) that operate in the Arctic.
- Initiate discussions with the USCG, U.S. Air Force, U.S. Army, and foreign militaries to expand existing, or form new agreements concerning interoperability and collaborative efforts in the Arctic. Topic areas will include operations, training, and common investments to achieve economies of scale. Every attempt will be made to leverage existing venues (e.g. USN-USCG Staff Talks).
- Formalize new or revised agreements with the USCG, U.S. Air Force, U.S. Army, and foreign militaries concerning interoperability and collaborative efforts in the Arctic.

Lead: OPNAV N3/5
Support: OPNAV N51, OJAG Code 10, USFF, EUCOM, PACOM/CPF, NORTHCOM
Suspense: Q2, FY10 – Evaluate existing agreements
Q4, FY10 – Initiate discussions
Q1, FY12 – Formalize new or revised agreements
Q1, FY12 – Implement new agreements

Action Item 1.9 As applicable, provide support for U.S. accession to the United Nations Convention on the Law of the Sea (UNCLOS).

Description: TFCC will provide support for U.S. accession to UNCLOS as applicable to Navy's interests in the Arctic. Key aspects of this support will include, but not be limited to:

- Expression of Navy interest in the areas for which UNCLOS provides effective governance: freedom of navigation, treaty vs. customary law, environmental laws, and extended continental shelf claims.
- Development of talking points, information papers, or briefings for senior Navy leadership and Congressional staffs as requested.

- Expression of the related message that the Navy is committed to being responsible stewards of the environment. While being committed to conducting military readiness activities in an environmentally sound manner, the Navy is opposed to any framework which unreasonably restricts or prevents our ability to train and operate effectively.

Lead: OPNAV OJAG Code 10
Support: OPNAV N31, N51, N52, N2/N6,
Suspense: Ongoing/As requested

4.2 Operations and Training

Desired Effect: The Navy is a capable and active contributor to a safe, stable, and secure Arctic region.

Roadmap Objective 2: Develop competency in accomplishing Arctic missions assigned by combatant commanders.

Action Item 2.1 Conduct a *Fleet Readiness Assessment* for operating in the Arctic.

Description: A *Fleet Readiness Assessment* will identify current capabilities and limitations for operating in the Arctic environment. Suitability of current doctrine, such as ATP-17 (Navy Arctic Manual) will be evaluated, and consideration will be given to anticipated requirements based on mission and strategic environment assessments performed in *Action Items 1.2 & 1.3* of this roadmap. Specific attention will be given to the following:

- Strategic Sealift
- Maritime Security
- Search and Rescue
- Humanitarian Assistance/Disaster Response (HA/DR)
- Defense Support of Civil Authorities (DSCA)
- Maritime Domain Awareness (MDA)
- Strategic Sealift by the Naval Fleet Auxiliary Force (NFAF)
- Strategic Deterrence
- Ballistic Missile Defense
- C4ISR
- Integration with USCG capabilities

Lead: USFF
Support: TFCC NCCCO, OPNAV N31, N51, N2/N6, ONI, NMIC, USCG
Suspense: Q3, FY10

Action Item 2.2 Continue participation in periodic Arctic exercises and operations, and evaluate feasibility and requirement to expand these activities.

Description: The Navy has frequently participated in exercises, training events, and operations in the Arctic region including the state of Alaska. Continuing this participation will support the strategic objectives of this roadmap to develop Navy competency in the region and substantially contribute to a safe, secure, and stable region. By coordinating with the Arctic combatant commanders and the USCG, the Navy will consider engagement in the following periodic events and operations:

- ICEX-11, ICEX-13
- Arctic Edge (Formerly Northern Edge)
- Northern Eagle
- Innovative Readiness Training (IRT) initiatives under Alaska Command
- HA/DR
- DSCA (e.g. support to Exxon Valdez oil spill)
- Limited Objective Experiment (LOE) 7 (NORTHCOM lead)
- Arctic Care
- Arctic Crossroads

Lead: USFF
Support: PACOM/CPF, EUCOM, ONR, COMSUBFOR, ASL, COMSECONDFLT, COMTHIRDFLT, CNMOC, USCG
Suspense: FY10-14 (Ongoing)

Action Item 2.3 Increase the number of observers sent to, and hosted from the Arctic nation navies, and document knowledge gained from these exchanges into Navy Lessons Learned.

Description: COMSECONDFLT recently gained valuable lessons learned by observing the Canadian Navy's Operation NANOOK 2009. Increasing this practice and reciprocal opportunities for our foreign counterparts will yield more knowledge and understanding that will ensure safe and effective engagement in the Arctic. Knowledge gained from these exchanges will be included in Navy Lessons Learned.

Lead: USFF
Support: NORTHCOM, ALCOM, PACOM/CPF, EUCOM, ONR, COMSUBFOR, ASL, COMSECONDFLT, COMTHIRDFLT, CNMOC, OPNAV OJAG Code 10
Suspense: Q1, FY11

4.3 Investments

Desired Effect: The Navy has the right weapons, platforms, sensors, C4ISR capability, and installations and facilities at the right time and cost to meet combatant commander requirements in the Arctic region

Roadmap Objective 3: Provide weapon, platform, sensor and C4ISR capability, and installations and facilities required to implement Navy, DOD, and National policy regarding the changing Arctic region

Action Item 3.1 Monitor Polar MILSATCOM implementation.

Description: Navy will review the annual submission of the USAF Enhanced Polar Program for polar MILSATCOM and advocate continued funding. Sustainment of this program and development of a replacement in POM-12 is critical to Navy operations in the Arctic.

Lead: OPNAV N2/N6
Support: None
Suspense: Q4, FY10-FY14 (Annually)

Action Item 3.2 Initiate a *Capabilities Based Assessment* (CBA) for Naval Arctic capabilities.

Description: This assessment will be performed in accordance with JCIDS guidance in CJCSI 3170.01G and will include, but not be limited to the following:

- Assessment of current and required capability to execute undersea warfare, expeditionary warfare, strike warfare, strategic sealift, regional security cooperation, HA/DR, and DSCA.
- Assessment of current and required C4ISR capability.
- Assessment of current and required infrastructure, installations, and facilities in the region.
- Leveraging results from the studies and environmental assessment in *Action Items 3.2 & 5.7* of the roadmap, and the mission analysis and description of the strategic environment identified in *Action Items 1.2 & 1.3* of the roadmap.
- Assessment of the potential for leveraging Joint, interagency, and international partnerships addressed in *Action Item 1.8* of this roadmap.
- Potential for Joint, international, and interagency investments to find efficiencies and/or economies of scale

Lead: TFCC NCCCO
Support: OPNAV N2/N6C5, N31, N45, N46, N51, N8F, N81, N85, N86, N87, N88, USFF, USCG, CAN, NAVFAC ESC, CNIC
Suspense: Q1, FY11

Action Item 3.3 Identify *Arctic Capability Science and Technology (S&T) Needs* to assist with the development of required Naval capability for operating in the Arctic.

Description: TFCC will maintain a standing list of *Arctic Capability Science and Technology Needs* to annually inform Arctic science and research organizations

so that they may improve the Navy's capability for operating in the Arctic environment. These needs will be determined from the CBA conducted in *Action Item 3.2*, outreach to the scientific and academic community, and engagement with combatant commanders and the Fleet concerning Arctic requirements. Specific areas to address will include, but not be limited to:

- Undersea Warfare
- Expeditionary Warfare
- Strike Warfare
- Strategic Sealift
- Regional Security Cooperation
- HA/DR
- DSCA
- C4ISR
- Infrastructure

Lead: ONR
Support: OPNAV N8F, N81, N85, N86, N87, N31, N51, TFCC NCCCO, USCG, USFF
Suspense: Q2, FY11 (Annually)

Action Item 3.4 Investigate C4ISR interoperability with the U.S. Coast Guard.

Description: In anticipation of increased Joint USN-USCG operations in the region, this effort will assess to what extent the two services can communicate, exchange ISR data, and share C2 data. Capability gaps, and potential solutions to improve Arctic C4ISR interoperability between the services will also be identified. The overall objective of this effort will be to identify ways to improve sharing common MDA of the region to enhance interoperability.

Lead: OPNAV N2/N6
Support: OPNAV N31, N51, N81, N85, N86, N87, N88, ONI, NMIC, PEO C4I, TFCC NCCCO
Suspense: Q2, FY11

Action Item 3.5 Beginning with POM-14 and biennially each POM year thereafter, assess the Navy Strategic Plan's guidance, if any, relating to warfare capability in the Arctic, and address these requirements in Sponsor Program Proposals.

Description: If required, Sponsor Program Proposals will include recommendations relating to the Navy's Arctic capability gaps identified in the CBA in *Action Item 3.2* and will include, but not be limited to:

- Science and technology (S&T) needs from *Action Item 3.3*
- Research and development (R&D) requirements
- Leveraging Joint, interagency and international partnerships evaluated in

Action Item 1.8 of the roadmap to find efficiencies and/or economies of scale

Lead: OPNAV N2/N6, N4, N8F, N80
Support: OPNAV N81, N85, N86, N87, N88, N31, N51, TFCC NCCCO, NAVFAC
ESC, CNIC, USFF, USCG
Suspense: Q1, FY12

4.4 Strategic Communications and Outreach

Desired Effect: The media, public, government, DOD, and interagency, and international community believe the Navy is contributing to a safe, secure, and stable Arctic region

Roadmap Objective 4: To inform the media, public, government, Defense, and inter-agency, and international audiences regarding the Navy's policy, strategy, investments, intentions, and actions regarding the changing Arctic.

Action Item 4.1 Develop a Navy Arctic Strategic Communications Plan (SCP) for FY10-14.

Description: The Navy Arctic SCP for FY10-14 will provide a framework for how the Navy discusses the Arctic in the public and media, and will define the targeted audiences, organizations, venues, and milestones for communicating Navy action and outreach with regard to the Arctic. These will include but are not limited to:

- CHINFO Rhumblines
- Navy News
- Navy Times
- Stars and Stripes
- Naval Institute *Proceedings*
- Navy League's *Seapower* Magazine
- Social media venues (e.g. Facebook)
- Alaska Public Radio Network
- National Public Radio
- Military Channel
- Weather Channel
- Major US Newspapers
- Local & regional Alaska radio stations & newspapers

The SCP will be reviewed and updated every two years or as required by the Director, TFCC.

Lead: TFCC NCCCO
Support: OPNAV N51, CHINFO, MSC

Suspense: Q1, FY10

Action Item 4.2 Develop a Navy Arctic Outreach & Engagement Plan for FY10-14.

Description: The Navy Arctic Outreach & Engagement Plan will identify organizations the Navy will inform, be informed by, and partner with for achieving the objectives and desired effects of this roadmap. This outreach and engagement plan will be reviewed and updated every two years or as required by the Director, TFCC. Elements of this plan will include, but not be limited to:

- Socializing and requesting OSD designate TFCC as the Department of Defense (DOD) Executive Agent for the Arctic
- Providing DOD assets with *Arctic Environmental Assessment Reports* (*Action Item 5.7* of the roadmap), other TFCC products, and information and reports concerning the Arctic DOD, scientific, media, interagency, and international sources. These DOD assets will include but not be limited to:
  - NORTHCOM
  - EUCOM
  - PACOM
  - USFF
  - COMSECONDFLT, COMTHIRDFLT, COMSEVENTHFLT
  - COMSUBFOR
  - COMNAVSURFOR
  - COMNAVAIRFOR
  - OSD
  - CJCS
  - USAF Director of Weather
  - Arctic Submarine Lab (ASL)
  - Commander, Naval Meteorology and Oceanography Command
  - Office of Naval Intelligence (ONI)
- Establishing and maintaining consistent outreach with, and providing information related to the Navy Arctic Roadmap to U.S. government and interagency organizations involved in the Arctic. These organizations will include but not be limited to:
  - White House Office of Science and Technology Policy (OSTP), Council on Environmental Quality (CEQ)
  - Commission on Ocean Policy
  - Department of State's Arctic Policy Group
  - Department of Energy
  - NOAA
  - U.S. Coast Guard
  - NASA
  - USGS
  - National Geospatial Intelligence Agency (NGA)
- Establishing and maintaining consistent outreach with, and providing information related to the Navy Arctic Roadmap to scientific, research and

academic organizations involved in the Arctic. These organizations will include but not be limited to:

- National Science Foundation (NSF)
- National Academy of Science
- National Research Council
- U.S. Arctic Research Commission
- Naval Post Graduate School
- Naval War College
- National Defense University
- Office of Naval Research (ONR)
- Strategic Environmental Research and Development Program (SERDP)
- U.S. Army Corps of Engineers (USACE) Cold Regions Research Lab (CRREL)
- University of Washington's Applied Physics Lab Polar Science Center
- University of Colorado, Boulder
- University of California, Los Angeles
- Pennsylvania State University
- Wood Hole Oceanographic Institution
- University of Alaska, Fairbanks' International Arctic Research Center
- University of New Hampshire
- NASA's Jet Propulsion Laboratory
- NOAA's National Snow and Ice Data Center, National Climatic Data Center, National Weather Service, National Ocean Service, Climate Program Office, and Pacific Marine Environmental Laboratory
- Consortium for Ocean Leadership
- National Ice Center

- Establishing and maintaining consistent outreach with, and providing information related to the Navy Arctic Roadmap to international offices, agencies, governments, and militaries involved in the Arctic. These will include but not be limited to:
  - Canadian Navy
  - Royal Navy
  - UK Hydrographic Office
  - Russian Navy
  - Danish Navy
  - Norwegian Navy
  - International Ice Patrol
  - Japanese Maritime Self Defense Force (JMSDF)
  - Icelandic Coast Guard
  - Canadian Coast Guard
  - Russian Border Guard
- Establishing and maintaining consistent outreach with, and providing information related to the Navy Arctic Roadmap to indigenous peoples

within the state of Alaska. This will include adherence to relevant executive orders and legislation relating to consultation to Native American and Native Alaskan tribes and regional cooperations.

- Establishing and maintaining consistent outreach with, and providing information related to the Navy Arctic Roadmap to organizations within industry that will be working and investing in the Arctic region.

Lead: TFCC NCCCO
Support: CHINFO, ONR, NOAA, USCG. OPNAV OJAG Code 10
Suspense: Q1, FY10

4.5 Environmental Assessment and Prediction

Desired Effect: The Navy understands the changes and projections for the Arctic environment, specifically when and to what extent ice will recede allowing for increased maritime access to the Arctic.

Roadmap Objective 5: To provide Navy leadership and decision makers a comprehensive understanding of the current and predicted Arctic physical environment on tactical, operational, and strategic scales in time and space. The science-based timeline developed through this focus area will inform accomplishment of the action items and objectives within the other focus areas of this roadmap.

Action Item 5.1 Contribute to the development and implementation of the National Ocean Policy

Description: The White House Council on Environmental Quality (CEQ) is leading a National Ocean Policy Task Force that will deliver a National Ocean Policy which will include a framework for Marine Spatial Planning in the Arctic in December 2009. Navy contribution through the Office of the Secretary of Defense (OSD), Joint Chiefs of Staff (JCS), and Department of the Navy (DoN) will ensure the Navy's equities and strategic concerns regarding the Arctic are represented in both the final policy document, and in the implementation of that document.

Lead: OPNAV N45, TFCC NCCCO, OJAG Code 10
Support: None
Suspense: FY10-14 (Ongoing)

Action Item 5.2 Initiate a *Capabilities Based Assessment* (CBA) of the Navy's Arctic observing, mapping, and environmental prediction capabilities in the Arctic.

Description: This assessment will be performed in accordance with Joint Capability Integration and Development System (JCIDS) guidance in CJCS 3170.01G. It will evaluate the Navy's capability and requirements to observe the physical environment in the Arctic region, to include hydrographic, atmospheric,

oceanographic, and ice data, and will recommend future investments. This CBA also will evaluate the Navy's capability to predict air-ocean-ice conditions on tactical (hours-days), operational (days-weeks), and strategic (months-decades) scales. Specific emphasis will be placed on new capabilities that current technology may provide to reduce uncertainty in 10-30 year predictions of arctic ice coverage. Current and programmed systems will be assessed, and future investments will be recommended. This CBA will include, but not be limited to, the following elements:

- Assessment of previous or ongoing studies regarding the Arctic, climate change, and national security such as:
  - CNA, National *Security and the Threat of Climate Change* (2007)
  - Center for New American Security (CNAS), *Uncharted Waters: The U.S. Navy and Navigating Climate Change* (2008)
  - National Intelligence Council, *National Intelligence Assessment on the National Security Implications of Global Climate Change to 2030* (2008)
  - CNA, *Impact of Climate Change on Naval Operations in the Arctic* (2009)
  - CNA, *Global Climate Change and State Stability* (2009)
  - Pew Center on Global Climate Change, *National Security Implications of Global Climate Change* (2009)
  - OSD QDR, *Assessment of DOD infrastructure vulnerability* (ongoing)
  - GAO, *Survey of Federal Government Efforts to Adapt to a Changing Climate* (ongoing)
  - Strategic Environmental Research and Development Program (SERDP), *Climate Change Planning for Military Installations* (ongoing)
  - Naval Studies Board, *National Security Implications of Climate Change on U.S. Naval Forces* (ongoing)
- Assessment of existing and programmed DOD, interagency, and international observation programs, processes, and organizations for meeting Navy requirements:
  - National Ocean Policy
  - T-AGS multi-mission survey ships
  - National Ice Center
  - Study of Environmental Arctic Change (SEARCH)
  - Arctic Observing Network (AON)
  - Sustained Arctic Observing Network (SAON)
  - International Arctic Buoy Program
  - Space based monitoring (e.g. RADARSAT)
  - Extended Continental Shelf (ECS) Task Force and related efforts
  - Science Exercise (SCICEX) Science Accommodation Missions (SAMs)
  - National Ocean Partnership Program (NOPP efforts)

- Russian-America Long Term Census of the Arctic (RUSALCA)
- NOAA Arctic Program
- Tiksi Arctic Observatory
- APL-UW Polar Science Center experimentation
- APL-UW Arctic glider surveys
- University of Alaska, Fairbanks International Arctic Research Center
- University of Washington, Applied Physics Laboratory's Polar Science Center
- Woods Hole Oceanographic Institute
- U.S. Army Corps of Engineers Cold Weather Research and Engineering Laboratory
- Naval Facilities Engineering Service Center

- Assessment of FY09 validation and verification of numerical weather prediction capability
- Assessment of current and required architecture and computational capacity
- Evaluation of the potential for developing a coupled, air-ocean-ice, single-km resolution, non-hydrostatic prediction capability suitable for the Arctic region
- Potential for leveraging interagency partnerships with NOAA, DOE, NASA, and the National Ocean Partnership Program
- Potential for leveraging international partnerships

Lead: OPNAV N2/N6
Support: OPNAV N81, TFCC NCCCO, USFF, CNMOC, ONR
Suspense: Q1, FY11

Action Item 5.3 Continue SCICEX accommodation missions (SAMs).

Description: SCICEXs have provided the scientific community with data important to our understanding of the Arctic environment and predicting future changes. When operational requirements permit, SAMs will be conducted according to the Science Plans agreed to by the SCICEX Science Advisory and Interagency Committees.

Lead: COMSUBFOR
Support: USFF, OPNAV N87, ONR, ASL, NSF, LDEO, NSIDC, CRREL
Suspense: FY10-14 (Ongoing)

Action Item 5.4 Identify *Science and Technology Needs for Arctic Assessment and Prediction.*

Description: TFCC will maintain a standing list of science and technology needs for Arctic assessment and prediction to annually inform Arctic science and research organizations so that they may improve the Navy's understanding of the

current and predicted Arctic environment. These needs will be determined from the CBA conducted in *Action Item 5.2*, outreach to the scientific and academic community, and engagement with combatant commanders and the Fleet concerning Arctic requirements. Specific areas to address will include, but not be limited to:

- Hydrography
- Oceanography
- Ice Extent and Dynamics
- Meteorology
- Climate
- Geology and geophysics and engineering (foundation) properties of seafloor and substrates

Lead: ONR
Support: OPNAV N2/N6, TFCC NCCCO, NOAA, USFF, CNMOC
Suspense: Q4, FY10-14

Action Item 5.5 Develop cooperative partnerships for environmental observation and mapping with interagency and international Arctic stakeholders.

Description: Navy partnerships in the Arctic region will provide capability and contribute to achieving the Assessment and Prediction Objective and Desired Effects in this roadmap. The process to develop and strengthen these partnerships will include:

- Evaluate existing agreements with Arctic stakeholders, including but not limited to:
  - USCG
  - NOAA
  - NGA
  - U.S. Army Corps of Engineers Cold Regions Research and Engineering Laboratory (CRREL)
  - Interagency Arctic Research Policy Committee
  - U.S. Arctic Research Commission
  - National Science Foundation (regarding SERCH and AON)
  - Department of State (regarding SAON)
  - Hydrographic offices of the UK, Japan, and the Arctic Council Member States
  - Meteorological offices of the UK, Japan, and the Arctic Council Member States
  - Canadian Ice Service
  - Industry
- Initiate discussions with the Arctic stakeholders to expand existing, or form new agreements concerning collaborative efforts for environmental observation and mapping in the Arctic. Every attempt will be made to

leverage existing forums (e.g. quarterly Navy, NOAA, USAF Tri-Agency lunch). Topic areas will include but not be limited to:
    - Hydrographic, oceanographic, and meteorological data exchange
    - Joint investments to achieve economies of scale.
    - Cooperative hydrographic surveys in the Bering Strait choke points, logistic ports of debarkation, and in Fleet Arctic Operating areas to ensure safe navigation of Fleet (surface and subsurface) units operating in the region.
    - Become an active member of the proposed Arctic Hydrographic Commission.
- Formalize new or revised agreements with the Arctic environmental stakeholders.

Lead: TFCC NCCCO
Support: USFF, CNMOC, ONR, NOAA, USCG, OJAG Code 10
Suspense: Q2, FY10 – Evaluate existing agreements
Q4, FY10 – Initiate discussions
Q1, FY12 – Formalize new or revised agreements
Q1, FY12 – Implement new agreements

Action Item 5.6 Establish an interagency partnership to develop and implement a Next Generation Numerical Environmental Prediction (NEP) capability for coupled air-ocean-ice modeling.

Description: Environmental prediction capabilities exist, and are being programmed across DOD and the interagency community. Establishing a permanent partnership to synchronize these efforts towards a common goal of improving global environmental assessment and prediction will improve the Navy's understanding of the current, and projected Arctic environment – thereby achieving the Assessment and Prediction Objective and Desired Effects in this roadmap. The process to develop this partnership will include:

- Evaluate existing agreements with environmental prediction stakeholders, including but not limited to:
    - NOAA
    - NASA
    - Department of Energy and its subordinate national laboratories
    - USAF
    - US Group on Earth Observations
- Initiate discussions with these stakeholders to form a new collaboration agreement on environmental prediction. Every attempt will be made to leverage existing venues (e.g. quarterly Navy, NOAA, USAF Tri-Agency Lunch). Topic areas will include but not be limited to:
    - Leveraging existing programmed efforts (e.g. the National Unified Operational Prediction Capability – NUOPC)
    - Exploiting each agency's unique areas of expertise (e.g. data

assimilation for the Navy)
    - Reducing redundancy in research, development, and investment.
- Formalize the new agreement and begin implementation

Lead: TFCC NCCCO
Support: USFF, CNMOC, ONR, NOAA, USCG
Suspense: Q2, FY10 – Evaluate existing agreements
Q4, FY10 – Initiate discussions
Q1, FY12 – Formalize new or revised agreements
Q1, FY12 – Implement new agreements

Action Item 5.7 Beginning in FY10 for POM-14, and biennially each POM year thereafter, produce an *Arctic Environmental Assessment and Outlook Report* to inform Navy policy, strategy, and investment decisions.

Description: This biennial report will provide a comprehensive assessment of the state of the Arctic environment, including the oceanography, hydrography, meteorology, fisheries, ice-extent, and climatic trends. Also included will be projections based upon the latest scientific studies, research, and modeling efforts regarding future Arctic environmental conditions, with particular emphasis on the time-frame in which ice extent and thickness will allow for trans-Arctic shipping and significant increases in intra-Arctic shipping resource extraction, and eco-tourism.

Lead: TFCC NCCCO
Support: ONR, CNMOC, NPS
Suspense: Q4, FY10

Action Item 5.8 Beginning with POM-14 and biennially each POM year thereafter, assess the Navy Strategic Plan's requirements, if any, relating to Navy environmental observation, mapping, and numerical environmental prediction capability in the Arctic, and address these requirements in recommendations to Sponsor Program Proposals.

Description: If required, Sponsor Program Proposal recommendations relating to the Navy environmental observation, mapping, and numerical environmental prediction capability gaps will be based upon the CBA in *Action Item 5.2* and will include, but not be limited to:

- Science and technology (S&T) needs from *Action Item 5.3.*
- Research and development (R&D) requirements
- Leveraging Joint, interagency, and international partnerships evaluated in *Action Itesm 5.5 & 5.6* to find efficiencies and/or economies of scale
- Application of unmanned systems for observation and mapping

Lead: TFCC NCCCO
Support: USFF, CNMOC, ONR

Suspense: Q1, FY12

Action Item 5.9 Evaluate the re-establishment of ONR's High Latitude Program.

Description: In the past, ONR's High Latitude Program coordinated mission-driven science to address national security needs through scientific data gathering in the Arctic. ONR's High Latitude Program was a proven and effective funding agency that provided a wealth of knowledge to the Navy and the nation. Re-establishing this program, with emphasis on support to research of sea ice thickness using Navy submarines, will lead to improved understanding and prediction of Arctic ice extent and the timeline for increasing access in the Arctic.

Lead: ONR
Support: USFF, CNMOC, TFCC NCCCO
Suspense: Q4, FY11

Action Item 5.10 Initiate *Environmental Planning Documentation* for the Arctic region.

Description: The Navy's Director of Environmental Readiness (OPNAV N45) is coordinating the completion of a phased, comprehensive approach to environmental planning for Navy military readiness and scientific research activities at sea. This documentation is required by the Secretary of the Navy and regulations contained in Executive Order (EO) 12114 Environmental Effects Abroad of Major Federal Actions, the Marine Mammal Protection Act (MMPA), the Endangered Species Act (ESA), and the National Environmental Policy Act. Documentation for the Arctic region will cover at sea Fleet Training, and as practicable Acquisition-related research, development, test, and evaluation (RDT&E) activities sponsored by program executive offices (PEO), environmental effects of new systems that reach Initial Operating Capability (IOC), and ONR-sponsored science and technology activities.

Lead: USFF/CNMOC
Support: OPNAV N45, N31, ONR, NAVAIR, NAVSEA
Suspense: Q2, FY12

Action Item 5.11 Increase operations of unmanned systems for Arctic data collection, monitoring, and research.

Description: Using capabilities from the Naval Oceanography Program's Littoral Battlespace Sensing, Fusion, and Integration (LBSF&I) program, assets from the Commander, Naval Meteorology and Oceanography Command (CNMOC) will increase the temporal and spatial coverage of Arctic data collection, monitoring, and research in order to improve nautical charts, atmospheric and ocean models, estimates of ice extent and thickness, and climate change indicators. Specific capabilities will include, but not be limited to:

- Gliders systematically deployed to map oceanographic conditions
- Unmanned underwater vehicles (UUVs) for oceanographic and hydrographic data collection
- Buoys to collect atmospheric and ice-related data
- Evaluation of the potential for collecting atmospheric and ice-related data using unmanned aerial systems (UASs)

Lead: USFF/CNMOC
Support: OPNAV N86, N87, N2/N6, TFCC NCCCO, NOAA
Suspense: Q1, FY13

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Appendix G. "Navy Strategic Objectives for the Arctic," Chief of Naval Operations, G. Roughead Memorandum for Distribution, May 21, 2010

DEPARTMENT OF THE NAVY
CHIEF OF NAVAL OPERATIONS
2000 NAVY PENTAGON
WASHINGTON DC 20350-2000

5000
Ser N00/ 1D0063
21 May 10

MEMORANDUM FOR DISTRIBUTION

From: Chief of Naval Operations

Subj: NAVY STRATEGIC OBJECTIVES FOR THE ARCTIC

Ref: (a) Navy Arctic Roadmap

Encl: (1) Strategic Objectives for the U.S. Navy in the Arctic Region

1. The Strategic Objectives for the U.S. Navy in the Arctic Region are provided in enclosure (1). This document defines the Navy's desired end state as a safe, stable, and secure region where U.S. national and maritime interests are safeguarded and the homeland is protected, and specifies the objectives required to achieve this end.

2. Per reference (a), these strategic objectives shall be reviewed and updated following promulgation of each Quadrennial Defense Review or as required.

G. ROUGHEAD
Admiral, U.S. Navy

Distribution:
OJAG
DNS
OPNAV (N2/N6FC, N2/N6F, N31, N43, N45, N46, N51, N52, N81, N8F, N84, N85, N86, N87, N88, Task Force Energy, Task Force Climate Change)
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NAVFAC ESC WASHINGTON DC
NAVICECEN

Strategic Objectives for the U.S. Navy in the Arctic Region

Purpose

To establish the Navy's strategic objectives in the Arctic region in support of the *U.S. Navy Arctic Roadmap*[i]. The Navy's desired end state is a safe, stable and secure Arctic region where U.S. national and maritime interests are safeguarded and the homeland is protected. Navy's strategic objectives for the Arctic region will guide its follow-on examination of ways and means to achieve the end state.

Introduction

The changing Arctic environment presents significant opportunities for the United States and the U.S. Navy. The Arctic Ocean is experiencing record lows in sea ice and the region is warming twice as fast as the rest of the globe. While uncertainty exists in projections for the extent of Arctic sea ice, the current scientific consensus indicates the Arctic will experience ice-diminished summers beginning sometime in the 2030s. As a result, commercial shipping, resource development, research, tourism, environmental interests, and strategic focus in the region are projected to reach new levels of activity.

While these developments offer new opportunities for maritime security cooperation, they also present potential sources of competition and conflict for access and natural resources. In order to develop a comprehensive and coordinated approach to the challenges posed in the Arctic region, Navy established Task Force Climate Change (TFCC). TFCC has developed the Navy Arctic Roadmap to guide Navy policy, investments, and action regarding the Arctic region.

Policy Guidance

National policy on the Arctic region is set forth in National Security Presidential Directive (NSPD) 66 / Homeland Security Presidential Directive (HSPD) 25, *Arctic Region Policy*.[ii] It notes that: "The United States has broad and fundamental national security interests in the Arctic region and is prepared to operate either independently or in conjunction with other states to safeguard these interests." It also specifically calls out freedom of navigation as a top national priority, linking the rights and responsibilities relating to navigation and overflight in the Arctic region with our ability to exercise these rights throughout the world. While no new naval missions are specified in the national Arctic policy, the scope of naval operations in a future, ice-diminished Arctic region is very likely to increase.

The 2010 *Quadrennial Defense Review* (QDR)[iii] "brings fresh focus to the importance of preventing and deterring conflict by working with and through allies and partners, along with better integration with civilian agencies and organizations." The 2010 QDR report establishes DoD's strategic approach to energy and climate change given their potentially significant role in the future security environment. The two most applicable DoD-wide objectives from the 2010 QDR for balancing Navy's resources and strategic risks in the Arctic region are: 1) preventing and deterring conflict; and 2) preparing to defeat adversaries and succeeding in a wide range of

contingencies. Navy's strategic objectives in the Arctic directly support these DoD-wide objectives.

In addition, the 2008 *National Defense Strategy* (NDS)[iv] describes the overarching goals and strategy for the Department of Defense (DoD) and provides a foundation for DoD strategic guidance. Navy's objectives in the Arctic are informed by the NDS objectives to: 1) defend the homeland; 2) promote security; 3) deter conflict; and 4) win our nation's wars.

Finally, *A Cooperative Strategy for 21st Century Seapower* (CS21)[v] is the unified maritime strategy for the Navy, Marine Corps, and Coast Guard. It identifies the opening of the Arctic as an opportunity for growth and a potential source of competition and conflict. The strategic imperatives and core capabilities from the Maritime Strategy apply equally to the entire maritime domain– and the Arctic is primarily a maritime domain. The relevant objectives for Navy forces in the Arctic are to: 1) contribute to homeland defense in depth; 2) foster and sustain cooperative relationships; and 3) prevent or contain local disruptions before they impact the global system.

Navy's Strategic Objectives

The Navy's desired end state is a safe, stable and secure arctic region where U.S. national and maritime interests are safeguarded and the homeland is protected.

Based on the national and DoD-wide objectives described above, the Navy's desired end state is a safe, stable and secure Arctic region where U.S. national and maritime interests are safeguarded and the homeland is protected. In order to best achieve this end state, Navy must enhance cooperative relationships with other services, U.S. government agencies, foreign partners and allies; and ensure Navy forces are both capable and ready to meet future requirements in the region.

The Navy strategic objectives to achieve the desired end state include:

I. *Contribute to safety, stability, and security in the region.* Establishing and maintaining security at sea is essential to mitigating a multitude of threats, including conflicts over resources, territorial boundaries, or excessive maritime claims. Preventing or countering these threats protects our homeland, enhances regional stability, and helps to secure freedom of navigation for the benefit of all nations. The Navy and Coast Guard, with their different authorities, missions and responsibilities, face different requirements and timelines in the Arctic. The immediate needs in the Arctic region, Icebreaking, Search and Rescue, Marine Environmental Protection, Living Marine Resources/Law Enforcement, Marine Safety, and Waterways Management, are primarily Coast Guard missions. However, close cooperation and collaboration based on established agreements[1] will facilitate future success.

[1] Operation of Icebreakers MOA; National Fleet Policy; Department of Defense Support to the United States Coast Guard for Maritime Homeland Security MOA; Inclusion of the U.S. Coast Guard in Support of Maritime Homeland Defense MOA; Use of U.S. Coast Guard Capabilities and Resources in Support of the National Military Strategy MOA.

Clearly identified maritime security responsibilities detailed in international, national, and DoD documents (e.g. the Unified Command Plan (UCP)), deliberate communications of intentions and actions, and effective legal and regulatory structures accepted and enforced by all Arctic nations are examples of desired effects for this objective.

II. *Safeguard U.S. maritime interests in the region.* Access to the global commons and freedom of navigation are top national priorities. Preserving access and freedom of navigation in the Arctic region supports Navy's ability to exercise these rights throughout the world, especially in strategic straits. We cannot view the Arctic in isolation; the application of international law in the Arctic establishes precedent germane to all the world's oceans, straits, and sea lanes.

While the Arctic is a unique operating environment, it does not necessarily require a new treaty regime or system of governance. Customary international law, as codified in the United Nations Convention on the Law of the Sea (UNCLOS), provides the appropriate legal framework for responsible cooperative development, use, and preservation of the Arctic. The U.S. accession to UNCLOS will enable and enhance Navy's ability to protect our maritime interests worldwide.

Desired effects for this objective include U.S. accession to UNCLOS, freedom of navigation for all, suitable weather forecasting and navigation information, and sustainable development that balances economic, energy, and environmental concerns.

III. *Protect the American people, our critical infrastructure, and key resources.* Navy's national security responsibilities in the Arctic are similar to those in any other maritime domain and are clearly articulated in the guiding policy documents and legal frameworks detailed above. Although the potential for conflict in the Arctic is low, Navy's core responsibility is to defend the United States from attack upon its territory at home and to secure its interests abroad.

Desired effects for this Navy objective include deterring or swiftly defeating threats to the U.S. interests and our homeland from state or non-state actors. Not only does the Navy need to be prepared to operate in the Arctic, it must be capable of supporting civil authorities in the event of an attack or natural disaster.

IV. *Strengthen existing and foster new cooperative relationships in the region.* Expanded cooperative relationships with the other Arctic nations to responsibly exercise sovereign rights and jurisdiction are essential to successfully addressing complex issues in an uncertain future. The best way to achieve security is to encourage peaceful change within the international system - Navy seeks to achieve this within cooperative relationships, not adversarial ones. Building and maintaining relationships with allies and international partners will contribute to the security and stability of the region. These relationships must be fostered and consistently reinforced over time to promote mutual respect and understanding.

Desired effects for this objective include increased cooperation between Navy and other services, and a continued strong relationship or increased cooperative relationship between the U.S. and the other member states of the Arctic Council.

V. *Ensure Navy forces are capable and ready.* Arctic-related security discussions should focus on addressing the consequences of increased human activity and the necessity to acquire the right capabilities at the right cost at the right time to meet national requirements for the region. While Navy has operated in the Arctic on a limited basis for decades, expanded capabilities or capacities may be required.

Navy must continue being the dominant, ready naval force across all maritime missions with appropriate force structure and strategic laydown, balancing limited resources with ever-expanding requirements. Navy's Task Force Climate Change is carefully reviewing these issues as they potentially represent a considerable commitment of funds during a resource-challenged time.

The desired effects for this objective include determining, developing, and maintaining the proper skill sets, training, experience, and capabilities required to operate effectively in Arctic conditions.

Way Ahead

These strategic objectives for the Arctic region are the Navy Arctic Roadmap's first deliverable and shall be reviewed and updated following each QDR or as required. They are intentionally focused on "ends" – the ways and means to achieve these ends will be analyzed and determined in the execution of all subsequent actions from the Roadmap in the following focus areas:

-*Strategy, Policy, Missions, and Plans:* Providing actionable direction to operational staffs to achieve the Navy's strategic objectives.

-*Operations and Training:* Developing competency in accomplishing Arctic missions assigned by combatant commanders.

-*Investments:* Providing weapon, platform, sensor and C4ISR capabilities, installations, and facilities required to implement Navy, DoD, and National policy regarding the changing Arctic region.

-*Strategic Communications and Outreach:* Informing internal and external organizations as well as the media, public, government, interagency, and international audiences regarding Navy's strategies, policies, investments, intentions, and actions regarding the changing Arctic.

Source Documents

[i] *U.S. Navy Arctic Roadmap*, October 2009.

[ii] *Arctic Region Policy*, National Security Presidential Directive (NSPD)-66 / Homeland Security Presidential Directive (HSPD)-25, January 2009.

[iii] *Quadrennial Defense Review Report*, February 2010.

[iv] *2008 National Defense Strategy*, June 2008.

[v] *A Cooperative Strategy for 21st Century Seapower*, October 2007.

Appendix H. "Strategic Planning for Contracting Operations," Bill Long (Defense Acquisition University), and E. Cory Yoder (Naval Postgraduate School), Naval Postgraduate School, Working Paper Series, April 2012

STRATEGIC PLANNING FOR CONTRACTING OPERATIONS

by

Bill Long and E. Cory Yoder

Introduction

Lack of planning and sound contract integration at the strategic level can lead to loss of efficiencies, lack of effectiveness, lack of oversight, and in some cases, outright fraud of the executing participants. Our military strategy focuses on our ability to rapidly mobilize, deploy, and sustain forces anywhere in the world. As such logistics becomes the focal point of any scenario, and contingency contracting becomes a critical logistics function. Your analysis of plans is critical to your performance in time of a contingency, and your expertise is needed to provide input to the process so that disconnects may be solved before they fester into major problems. This chapter of the handbook presents a comprehensive overview of the deliberate planning process. While most of the information in this chapter occurs well above the operational level, it is always important to understand where you fit into the process to be a force multiplier for the joint force.

What is Joint Operational Planning?

The Joint Operational Planning Process (JOPP) is the basis for all planning. In order for the services to work together they must use the same planning system for compatibility. The JOPP is a coordinated joint staff procedure used by a commander to determine the best method of accomplishing assigned tasks and to direct the action

necessary to accomplish the mission. Joint operation planning consists of planning activities associated with Joint military operations by Combatant Commanders (CCDRs) and their subordinate Joint Force Commanders (JFC) in response to contingencies and crises. It transforms national strategic objectives into activities by development of operational products that include planning for the mobilization, deployment, employment, sustainment, redeployment, and demobilization of Joint forces.

Who are the Players?

The players in the planning process are illustrated in Figure 1. The National Security Council (NSC) is the President's principal forum for considering national security and foreign policy matters with the senior national security advisors and cabinet officials. For DOD, the President's decisions drive strategic guidance promulgated by the Office of the Secretary of Defense (OSD) and refined by the Joint Strategic Planning System (JSPS). To carry out Title 10, United States Code (USC), statutory responsibilities, the Chairman of the Joint Chiefs of Staff (CJCS) utilizes the JSPS to provide a formal structure in aligning ends, ways, and means, and to identify and mitigate risk for the military in shaping the best assessments, advice, and direction of the Armed Forces for the President and Secretary of Defense (SecDef). The headquarters, commands, and agencies involved in joint operation planning or committed to a joint operation are collectively termed the Joint Planning and Execution Community (JPEC). Although not a standing or regularly meeting entity, the JPEC consists of the CJCS and other members of the Joint Chiefs of Staff (JCS), Joint Staff (JS), the Services and their major commands, the Combatant Commands (CCMDs) and their subordinate commands, and the Combat Support Agencies (CSAs).

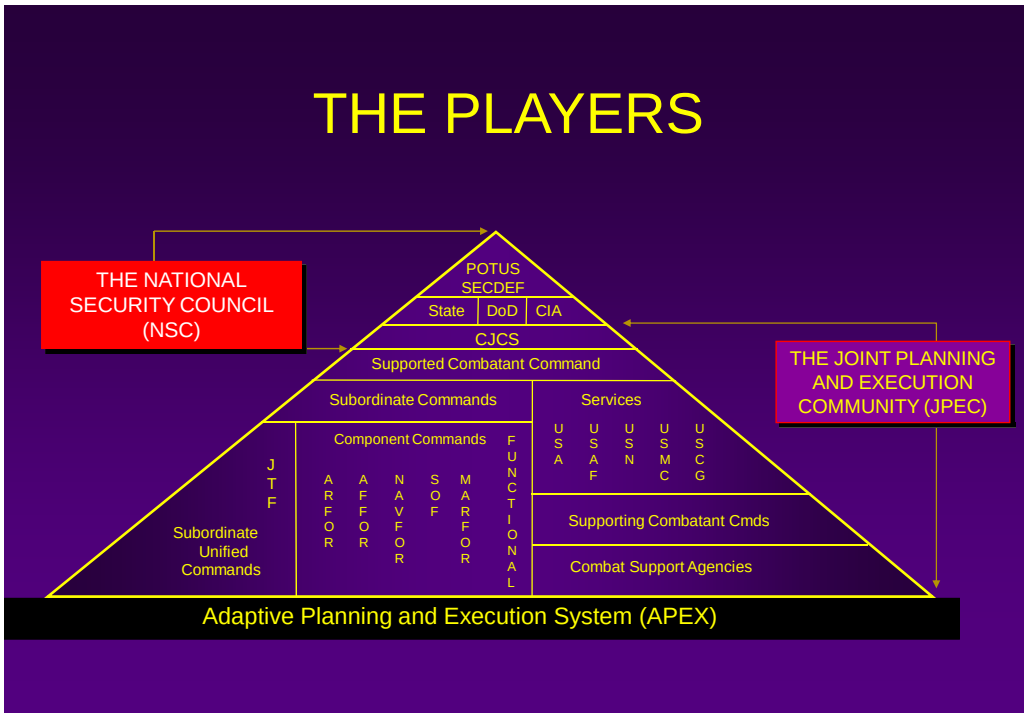

Figure 1.

Adaptive Planning and Execution System (APEX)

Joint operation planning occurs within APEX, which is the department-level system of joint policies, processes, procedures, and reporting structures. Formally known as Joint Operation Planning and Execution System (JOPES), APEX is supported by communications and information technology that is used by the JPEC to monitor, plan, and execute mobilization, deployment, employment, sustainment, redeployment, and demobilization activities associated with joint operations. APEX formally integrates the planning activities of the JPEC and facilitates the JFC's seamless transition from planning to execution during times of crisis. APEX activities span many organizational levels, but the focus is on the interaction between SecDef and CCDRs, which ultimately helps the President and SecDef decide when, where, and how to commit US military forces.

Joint Strategic Capabilities Plan (JSCP)

The JSCP is the primary vehicle through which the CJCS exercises responsibility for directing the preparation of joint plans. The JSCP provides military strategic and operational guidance to CCDRs, Service Chiefs, CSAs, and applicable defense agencies for preparation of campaign plans and contingency plans based on current military capabilities. It serves as the link between strategic guidance provided in the Guidance for Employment of the Force (GEF) and the joint operation planning activities and products that accomplish that guidance. The GEF provides two-year direction to CCMDs for operational planning, force management, security cooperation, and posture planning. The GEF is the method through which OSD translates strategic priorities into implementable direction for operational activities.

Deliberate Planning

Deliberate Planning encompasses the preparation of plans that occur in non-crisis situations. It is used to develop campaign and contingency plans for a broad range of activities based on requirements identified in planning directives. Theater and global campaign plans are the centerpiece of DOD's planning construct. They provide the means to translate Combatant Command theater or functional strategies into executable plans. The Deliberate Planning process is connected to the budget, strategic planning, as well as the acquisition processes at the most senior levels of government. It is the Deliberate Planning process that allows us to identify what resources are required and how they are to be used to support our national security objectives. This same system is used to program the amount of money it will take to accomplish those objectives. Deliberate Planning is defined as the APEX system involving the development of Operations Plans (OPLANs) for contingencies identified in joint strategic planning documents. The Deliberate Planning process is used when time permits the total participation of the commanders and staffs of the JPEC. Development of the plan, coordination among supporting commanders and agencies, reviews by the Joint Staff, and

conferences of JPEC members can take many months, possibly the entire 12-month planning cycle, to develop a large plan (some OPLANs can be as long as 1,400 pages). When time does not permit us to use the entire process, we use Crisis Action Procedures (CAP) which basically compresses the entire planning cycle time frame. Figure 2 below illustrates how this process works.

Deliberate Planning: The Idea is to Create a Valid OPLAN or OPORD

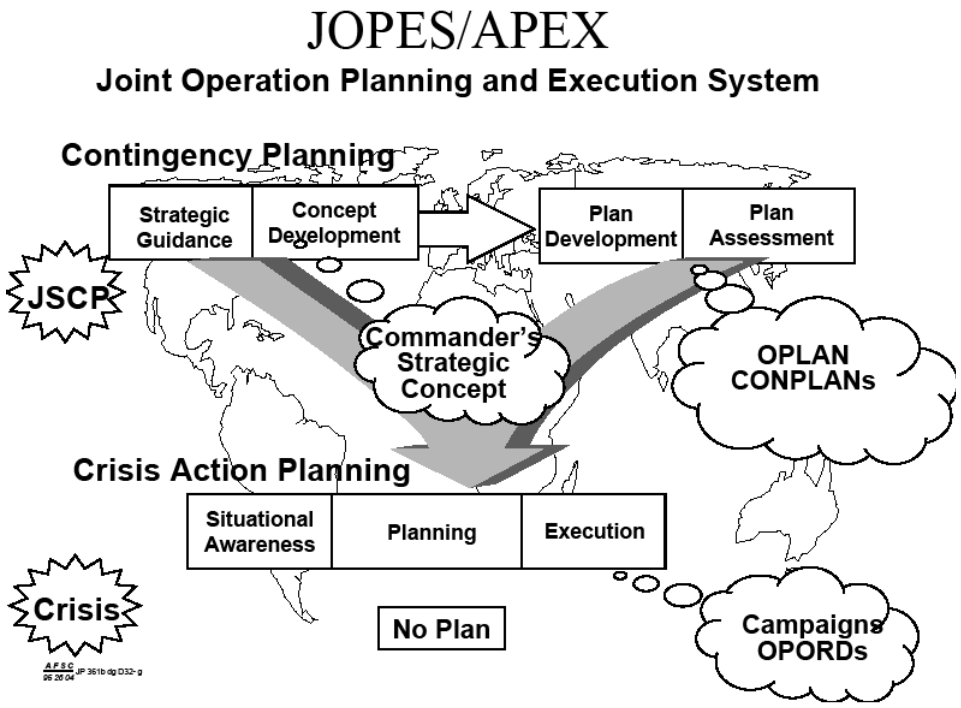

Figure 2.

Crisis Action Planning (CAP)

CAP provides the CJCS and CCDRs a process for getting vital decision making information up the chain of command to the President and SecDef. CAP facilitates information sharing among the members of the JPEC and the integration of military advice from the CJCS in the analysis of military options. Additionally, CAP allows the President and SecDef to communicate their decisions rapidly and accurately through the

CJCS to the CCDRs, subordinate and supporting commanders, Services, and CSAs to initiate detailed military planning, change deployment posture of the identified force, and execute military options. It also outlines the mechanisms for monitoring the execution of the operation. While deliberate planning normally is conducted in anticipation of future events, CAP is based on circumstances that exist at the time planning occurs. CAP can use plans developed in deliberate planning for a similar contingency. If unanticipated circumstances occur, and no plan proves adequate for the operational circumstances, then CAP and execution would begin mission analysis under JOPP in a "no plan" situation.

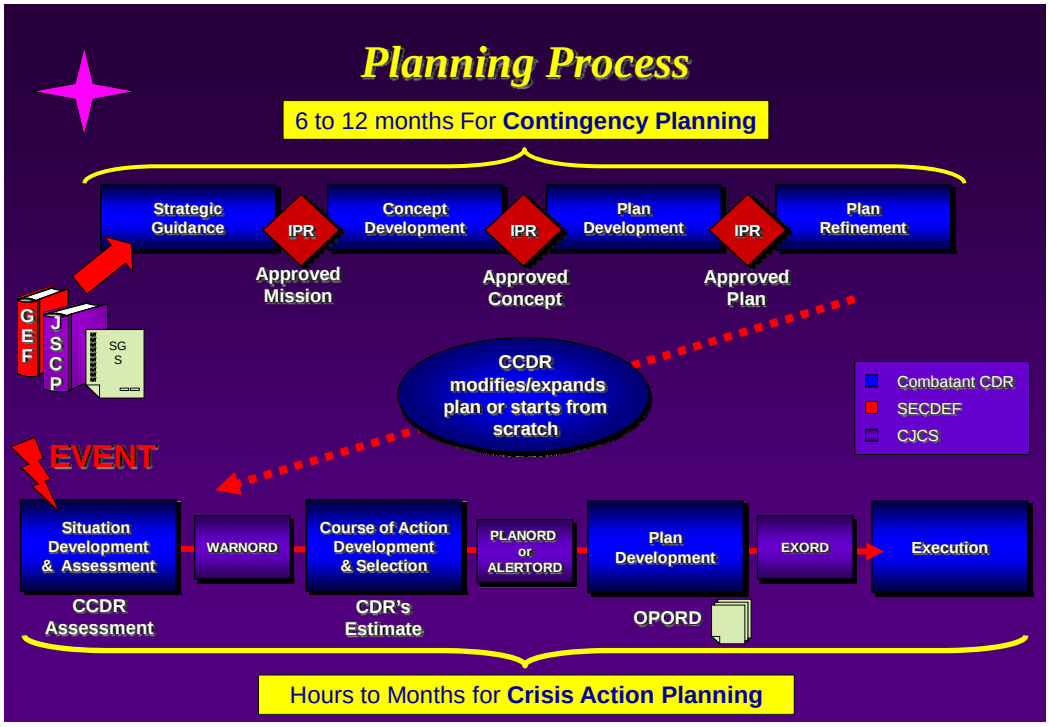

Figure 3.

Contingency Planning

Although the four planning functions of strategic guidance, concept development, plan development, and plan assessment are generally sequential, they often run simultaneously in the effort to accelerate the overall planning process. Figure 3 above illustrates this point.

*Strategic Guidance***.** This function is used to formulate politico-military assessments at the strategic level, develop and evaluate military strategy and objectives, apportion and allocate forces and other resources, formulate concepts and strategic military options, and develop planning guidance leading to the preparation of Concept of Operations (COAs). The President, SecDef, and CJCS—with appropriate consultation with additional NSC members, other USG agencies, and multinational partners—formulate strategic end states with suitable and feasible national strategic objectives that reflect US national interests. The primary end products of the strategic guidance function are assumptions, conclusions about the strategic and operational environment (nature of the problem), strategic and military end states, and the supported commander's approved mission statement.

Concept Development. During deliberate planning, the supported commander develops several COAs, each containing an initial CONOPS that identifies, at a minimum, major capabilities required and task organization, major operational tasks to be accomplished by components, a concept of employment, and assessment of risk for each COA. The main product from the concept development function is a COA approved for further development. Detailed planning begins upon COA approval in the concept development function.

Plan Development. This function is used to fully develop campaign plans, contingency plans, or orders, with applicable supporting annexes, and to refine preliminary feasibility analysis. This function fully integrates mobilization, deployment, employment, sustainment, conflict termination, redeployment, and demobilization activities. The primary product is an approved plan or order.

Plan Assessment (Refine, Adapt, Terminate, Execute—RATE). The supported commander continually reviews and assesses the complete plan, resulting in four possible outcomes: refine (R), adapt (A), terminate (T), or execute (E). The supported commander and the JPEC continue to evaluate the situation for any changes that would trigger RATE.

Campaign Planning

A campaign is a series of related major operations aimed at accomplishing strategic and operational objectives within a given time and space. Planning for a campaign is appropriate when the contemplated military operations exceed the scope of a single major operation. Thus, campaigns are often the most extensive joint operations in terms of time and other resources. Campaign planning has its greatest application in the conduct of large-scale combat operations, but can be used across the range of military operations. Joint force headquarters plan and execute campaigns and major operations, while Service and functional components of the joint force conduct subordinate supporting and supported major operations, battles, and engagements. While intended primarily to guide the use of military power, campaign plans consider how to coordinate all instruments of national power, as well as the efforts of various inter organizational partners, to attain national strategic objectives. Campaign planning encompasses both the deliberate and crisis action planning processes.

Joint Operational Planning Products

Figure 4 below illustrates these Joint Operation Planning Products.

A Warning Order **(**WARNORD), issued by the CJCS, is a planning directive that initiates the development and evaluation of military COAs by a supported commander and requests that the supported commander submit a commander's estimate.

A Planning Order **(**PLANORD) is a planning directive providing essential planning guidance and directs the initiation of plan development before the directing authority approves a military COA.

An Alert Order **(**ALERTORD) is a planning directive providing essential planning guidance and directs the initiation of plan development after the directing authority approves a military COA.

Prepare to Deploy Order. The CJCS, by the authority of and at the direction of the President or SecDef, issues a prepare to deploy order (PTDO) or DEPORD to increase or decrease the deployability posture of units; to deploy or redeploy forces; or to direct any other action that would signal planned US military action or its termination in response to a particular crisis event or incident.

Deployment/Redeployment Order. A planning directive from SecDef, issued by the CJCS that authorizes and directs the transfer of forces between CCMDs by reassignment or attachment. A deployment/redeployment order normally specifies the authority that the gaining CCDR will exercise over the transferred forces.

An Execute Order (EXORD) is a directive to implement an approved military CONOPS. Only the President and SecDef have the authority to approve and direct the initiation of military operations. The CJCS, by the authority of and at the direction of the President or SecDef, may subsequently issue an EXORD to initiate military operations. Supported and supporting commanders and subordinate JFCs use an EXORD to implement the approved CONOPS.

An Operation Order **(**OPORD) is a directive issued by a commander to subordinate commanders for the purpose of effecting the coordinated execution of an operation. Joint OPORDs are prepared under joint procedures in prescribed formats during CAP.

A Fragmentary Order (FRAGORD) is an abbreviated form of an OPORD (verbal, written, or digital), which eliminates the need for restating information contained in a basic OPORD while enabling dissemination of changes to previous orders. It is usually issued as needed or on a day-to-day basis.

Time Phased Force Deployment Data (TPFDD)

The TPFDD is the data base that links planning and execution. It is the computer supported data base portion of an OPLAN that lists forces, bed down locations, and movements of forces for a particular operation. All personnel, equipment, etc. are included in the TPFDD and is essential to support the synchronization of force arrival in theater. When the two parts of our National Command Authority, the President and SecDef, decide to actually send forces somewhere, they need a vehicle to do that. The vehicle used is the TPFDD. When the President says "Implement plan XX", we do so by using a TPFDD.

Contingency Plans

Contingency plans are developed in anticipation of a potential crisis. A contingency is a situation that likely would involve military forces in response to natural and man-made disasters, terrorists, subversives, military operations by foreign powers, or other situations as directed by the President or SecDef. There are four levels of planning detail for contingency plans:

Level 1 Planning Detail—Commander's Estimate. This level of planning focuses on producing multiple COAs to address a contingency. The product for this level can be a COA briefing, command directive, commander's estimate, or a memorandum.

Level 2 Planning Detail—Base Plan (BPLAN). A BPLAN describes the CONOPS, major forces, concepts of support, and anticipated timelines for completing the mission. It normally does not include annexes or time-phased force and deployment data (TPFDD).

Level 3 Planning Detail—Concept Plan (CONPLAN). A CONPLAN is an OPLAN in an abbreviated format that may require considerable expansion or alteration to convert it into an OPLAN or OPORD. It may also produce a TPFDD if applicable.

Level 4 Planning Detail—Operation Plan (OPLAN). An OPLAN is a complete and detailed joint plan containing a full description of the CONOPS, all annexes applicable to the plan, and a TPFDD. It identifies the specific forces, functional support, and resources required to execute the plan and provide closure estimates for their flow into the theater. The document includes annexes that describe the concept and explore the theater-wide support required in the subordinate commander's supporting plan.

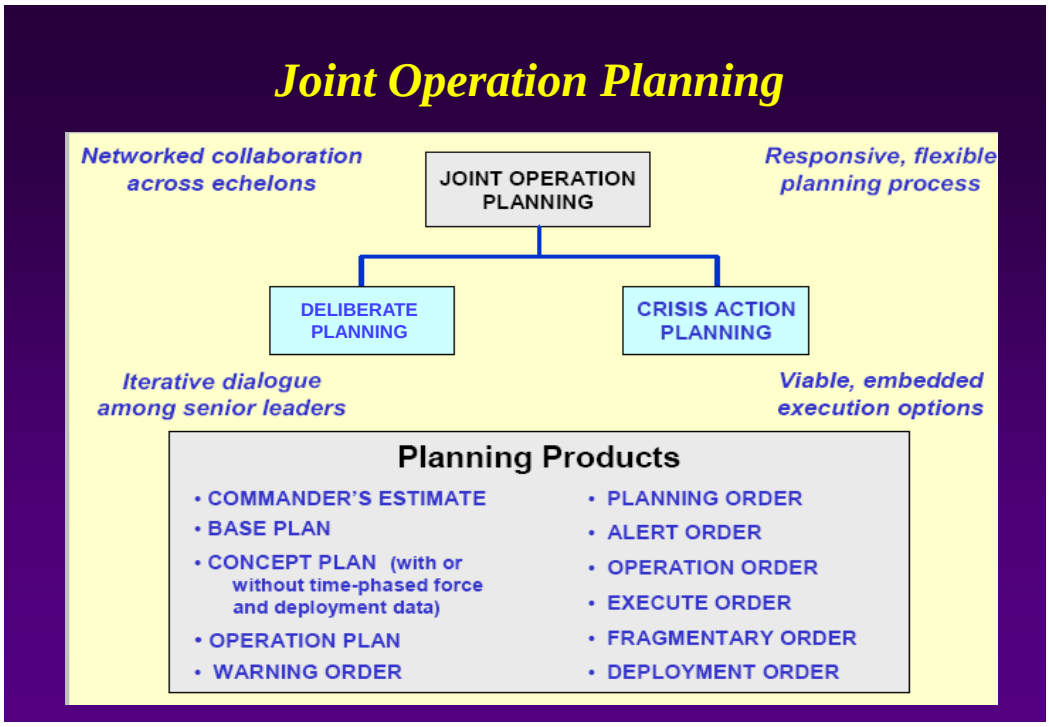

Figure 4.

OPLAN Reviews

Now that you have the big picture of the planning process and how it works, it's time to discuss the process you'll be most involved with, OPLAN reviews. The first step in the process is to find the OPLAN that your unit may be tasked under. The basic plan

describes the situation, mission, plan of execution, and administration and logistics concepts and identifies the CINC's plan for command and control. The annexes within the OPLAN give an exhaustive treatment of the basic subjects: Commands supporting the plan (task organization), intelligence, operations, logistics, personnel, and a multitude of other vital subjects. The annexes are further expanded by a long list of appendixes that contain an even more detailed statement of the CINC's concept for specific elements of the plan.

Annexes

The annexes will be the largest part of the OPLAN and will define general taskings for each functional area. Annexes are designated A through Z and allocated by function. The area you will be most concerned with is the contract support required. Contracting information is included in Annex W - Contingency Contracting. Specifically, the Contracting Support Integration Plan (CSIP) is included in annex W and contains information on the contracting requirements necessary to support the OPLAN. Figure 5 below illustrates the flowdown from the OPLAN and Operation Order (OPORD) under the new mandate stemming from the Defense Authorization Act of 2008.

Contracting Support Integration Plan (CSIP)

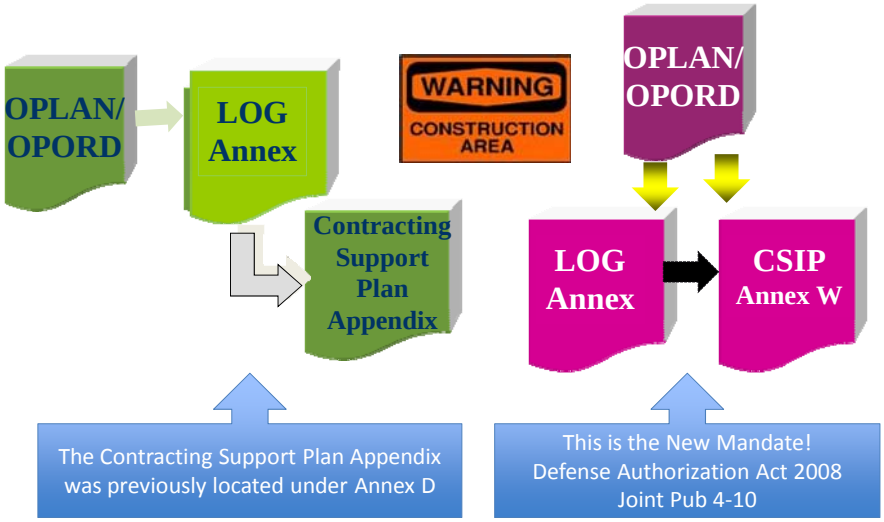

Figure 5.

Contract Support Integration Plan (CSIP)

Planning encompasses all activities necessary to properly execute contract support integration requirements in an operational area. The product of this task is a CSIP, which defines key contract support integration capabilities to include command and control (C2) relationships, boards and centers requirements, theater business clearance policies, etc., necessary to execute subordinate JFC contract support integration requirements. It is crucial that supported units from the combatant command down to the tactical-level have a basic understanding of the key considerations and processes associated with integrating contractor personnel and equipment into the joint force. Successful contractor management results from efforts and interactions of a myriad of players including requiring activities, contracting activities, various staff officers from the Geographic Combatant Command (GCC), subordinate JFC, and Service components.

CSIP - Annex W Contents

- Mission Statement – from the OPLAN or OPORD
- Primary and Secondary Customers
- Anticipated requirements (in relative time-phase)
- Forces deploying in sequence and duration
- Operational locations
- Lead Service
- Organization structure: HCA, Joint Acquisition Review Board (JARB), etc.
- Supported and supporting relationships
- Command and control relationships
- Procedures for appointing, training, and employing FOOs, CORs, Disbursing Agents, GPC, ratifications and claims
- Procedures for defining, validating, processing and satisfying customer requirements
- Procedures for budgeting receipt of supplies/services and payments to vendors
- Procedures for closing out contracting operations and redeployment
- Supplies and services anticipated locally, local customs, laws, taxes, SOFA, Host Nation Support, Acquisition Cross Service Agreements (ACSA), vendor base, etc.
- Infrastructure, office location, security measures, kits, etc.
- Security requirements and procedures for contracting and contractor personnel.
- Standards of Support – processing times, turn-around-time, PALT, reporting etc.
- Specific statutory/regulatory constraints or exemptions, special authorities and programs
- Relief in Place/Transfer of Authority
- Contractor restrictions (movement, basing, etc. time-phase specific)
- Guidance on transferring LOGCAP support to theater support contracts by function and/or phase of the operation

- Special Authorities and Programs (CERP – COIN).
- Post-Contract Award Actions (mgt., closeout, de-obligation, etc.)
- Contractor support, civil augmentation programs (CAP)
- Mandated solicitation and contract provisions
- Human Trafficking, Indemnity, MEJA (Legal Jurisdiction) etc.

The CSIP is the mechanism for planning the contracting support for the operation. It ensures that contracting personnel conduct advance planning, preparation, and coordination to support deployed forces, and that contracting plans and procedures are known and included in overall plans for an operation. It is an integral part of both the Deliberate Planning Process (Contingency) and Crisis Action Planning process, and MUST be included in all plans within Annex W.

Summary

As you can see, strategic planning can be very complex and cumbersome. Understanding your role and where you fit into the overall planning process will make you a force multiplier for the joint force. Contracted support can have a direct strategic impact on civil aspects of the operation. While the most important factor of contracted support is effectiveness of support to the military force, in certain operations the JFC may choose to utilize theater support and some external support contracts to also provide a positive economic and social impact on the local populace. Tying the contracting effort directly to the civil-military aspects of the JFC's plan requires very close coordination between the lead contracting activity and the JFC plans and operations staff. Contracted support and its associated contractor management challenges must be closely integrated early in the operation planning process. Proper planning will better integrate the contractor force into military operations and mitigate unplanned burdens on the joint force. The importance of such integrated planning cannot be overemphasized.

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Appendix I. DoDD 3020.49: Operational Contract Support, Department of Defense, Under Secretary of Defense (AT&L), March 24, 2009

Department of Defense

DIRECTIVE

NUMBER 3020.49
March 24, 2009

USD(AT&L)

SUBJECT: Orchestrating, Synchronizing, and Integrating Program Management of Contingency Acquisition Planning and Its Operational Execution

References: See Enclosure 1

1. PURPOSE. This Directive establishes policy and assigns responsibilities for program management for the preparation and execution of acquisitions for contingency operations, in accordance with section 854 of Public Law 109-364 (2006) (Reference (a)) and section 862 of the National Defense Authorization Act for Fiscal Year 2008 (Reference (b)).

2. APPLICABILITY. This Directive applies to OSD, the Military Departments, the Office of the Chairman of the Joint Chiefs of Staff and the Joint Staff, the Combatant Commands, the Office of the Inspector General of the Department of Defense, the Defense Agencies, the DoD Field Activities, and all other organizational entities within the Department of Defense (hereafter referred to collectively as the "DoD Components").

3. DEFINITIONS. These terms and their definitions are for the purpose of this Directive.

a. contingency acquisition. Acquisition, as defined by the Federal Acquisition Regulation (FAR) (Reference (c)), as it relates to acquisitions in support of a contingency operation, as defined by sections 101(a) (13), 331-335, 688, 12301(a), 12302, 12304, 12305, and 12406 of title 10, United States Code, (Reference (d)) such as the planning for and acquiring of supplies, services, or construction to support a contingency operation.

b. contractor management. The oversight and integration of contractor personnel and associated equipment providing support to the joint force in a designated operational area.

c. contingency operation. In accordance with section 101(a) (13) of Reference (d), a military operation that:

(1) Is designated by the Secretary of Defense as an operation in which members of the Military Services are or may become involved in military actions, operations, or hostilities against an enemy of the United States or against an opposing military force; or

(2) Results in the call or order to, or retention on, active duty of members of the uniformed services under sections 688, 12301(a), 12302, 12304, 12305, 12406, or 331-335 of Reference (d), or any other provision of law during a war or during a national emergency declared by the President or Congress.

d. operational contract support (OCS). The ability to orchestrate and synchronize the provision of integrated contract support and management of contractor personnel providing support to the joint force within a designated operational area.

e. program management. The process of planning, organizing, staffing, controlling, and leading the OCS efforts to meet the Joint Force Commander's objectives.

4. POLICY. It is DoD policy that appropriate program management for the preparation and execution of acquisitions for contingency operations (including contract and contractor support planning, accountability, visibility, deployment, protection, and redeployment requirements) is implemented to:

a. Abide by applicable U.S., international, and local national laws, regulations, policies, and international agreements.

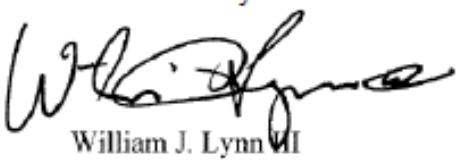
b. Use contractor support only in appropriate situations consistent with DoD Instruction 1100.22 (Reference (e)), the Defense Federal Acquisition Regulation Supplement (Reference (f)), and Reference (c).

c. Fully consider, plan for, integrate, and execute contractor support into contingency operations.

5. RESPONSIBILITIES. See Enclosure 2.

6. RELEASABILITY. UNLIMITED. This Directive is approved for public release and is available on the Internet from the DoD Issuances Web Site at http://www.dtic.mil/whs/directives.

7. EFFECTIVE DATE. This Directive is effective immediately.



William J. Lynn III

Deputy Secretary of Defense

Enclosures
1. References
2. Responsibilities

ENCLOSURE 1

REFERENCES

(a) Section 854 of Public Law 109-364, "The John Warner National Defense Authorization Act for Fiscal Year 2007," October 17, 2006
(b) Section 862 of the National Defense Authorization Act for Fiscal Year 2008, Public Law 110-181, "Contractors Performing Private Security Functions in Areas of Combat Operations"
(c) Federal Acquisition Regulation, current edition
(d) Sections 101(a) (13), 331-335, 688, 12301(a), 12302, 12304, 12305, and 12406 of title 10, United States Code
(e) DoD Instruction 1100.22, "Guidance for Determining Workforce Mix," September 7, 2006
(f) Defense Federal Acquisition Regulation Supplement, current edition
(g) DoD Directive 5134.01, "Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L))," December 9, 2005
(h) DoD Instruction 3020.41, "Contractor Personnel Authorized to Accompany the U.S. Armed Forces," October 3, 2005
(i) DoD Directive 5143.01, "Under Secretary of Defense for Intelligence (USD(I))," November 23, 2005

ENCLOSURE 2

RESPONSIBILITIES

1. UNDER SECRETARY OF DEFENSE FOR ACQUISITION, TECHNOLOGY, AND LOGISTICS (USD(AT&L)). The USD(AT&L), in accordance with the authority in DoD Directive 5134.01 (Reference (g)), shall ensure:

a. The Deputy Under Secretary of Defense for Logistics and Materiel Readiness (DUSD(L&MR)) oversees the OCS capability area to effectively manage contracts and contractors through the development of joint policies on requirements definition, contingency program management, and contingency contracting.

b. The Assistant Deputy Under Secretary of Defense for Program Support (ADUSD(PS)), under the DUSD(L&MR):

(1) Oversees and manages the orchestration, integration, and synchronization of the preparation and execution of acquisitions for contingency operations.

(2) Leads, in conjunction with the Chairman of the Joint Chiefs of Staff, the development of joint policies for requirements definition, contingency program management, and contingency contracting.

(3) Undertakes interagency coordination with respect to OCS, as appropriate.

c. The Director, Defense Procurement and Acquisition Policy, under the Deputy Under Secretary of Defense for Acquisition and Technology (DUSD(AT)), modifies Reference (f) and (in consultation with the other members of the FAR Council) Reference (c) to include contract clauses required by Reference (b) and DoD Instruction 3020.41 (Reference (h)).

d. The Director, Defense Contract Management Agency, under the DUSD(AT), deploys and sustains the appropriate contingency contract administration and oversight capability in accordance with the requirements of the operations plans and concept plans of the geographic Combatant Commands.

e. The President, Defense Acquisition University, under the DUSD(AT):

(1) Develops and executes training of the acquisition workforce to prepare and manage OCS.

(2) Is responsible for consolidating contingency acquisition lessons learned.

2. UNDER SECRETARY OF DEFENSE FOR INTELLIGENCE (USD(I)). The USD(I) shall:

a. In accordance with DoDD 5143.01 (Reference (i)), provide advice and assistance, as appropriate, to USD(AT&L) concerning acquisitions programs that significantly affect Defense intelligence, counterintelligence, and security programs.

b. In coordination with USD(AT&L), oversee the exercise of acquisition authority by the Directors of the Defense intelligence, counterintelligence, and security components. USD(I) develops, coordinates, and oversees the implementation of DoD policy, programs and guidance for personnel, physical, industrial, information, and operations security programs.

3. DIRECTOR, DEFENSE BUSINESS TRANSFORMATION AGENCY. The Director, Defense Business Transformation Agency, under the authority, direction, and control of the Deputy Chief Management Officer of the Department of Defense, shall ensure that information systems effectively support the accountability and visibility of contracts and contractors supporting contingency operations.

4. CHAIRMAN OF THE JOINT CHIEFS OF STAFF. The Chairman of the Joint Chiefs of Staff shall:

a. Advise and assist the ADUSD(PS) in joint policy development to implement this Directive and related issuances.

b. Provide for the preparation and review of OCS integration and contractor management in support of operational and concept plans that conform to the guidance of the President and Secretary of Defense.

c. Ensure joint doctrine and training is developed to guide a joint force commander's actions in order to integrate contracted capability and the management and oversight of contractors during contingency operations in accordance with the policies contained in Reference (h).

d. Ensure geographic Combatant Commanders issue guidance and procedures to integrate contracted support within their area of responsibility (AOR).

5. SECRETARIES OF THE MILITARY DEPARTMENTS. The Secretaries of the Military Departments shall:

a. Support the orchestration, integration, and synchronization of, and prepare for and execute, acquisitions during contingency operations in accordance with Reference (h).

b. Ensure that those personnel (both acquisition and non-acquisition) who will oversee contracts and contractors during contingency operations are identified and trained.

c. Participate in the development of joint policies for requirements definition, contingency program management, and contingency contracting.

6. GEOGRAPHIC COMBATANT COMMANDERS. The geographic Combatant Commanders shall:

a. Orchestrate, integrate, and synchronize the preparation and execution of acquisitions during contingency operations within their AOR and in accordance with Reference (h).

b. Develop and issue, as necessary, guidance and procedures in accordance with this Directive, joint policies, and related instructions within their AOR.

7. COMMANDERS OF THE FUNCTIONAL COMBATANT COMMANDS. The Commanders of the Functional Combatant Commands shall:

a. Ensure that those personnel (both acquisition and non-acquisition) who will manage and oversee contracts during contingency operations are identified and trained.

b. Develop and issue, as necessary, guidance and procedures in accordance with this Directive, joint policies, and applicable operational specific guidance provided by the supported geographic Combatant Commander.

Appendix J. "The Arctic Circle: Development and Risk"[5]

Executive Summary

Climate change is gradually uncovering an Arctic which stands at the crossroads of development and risk. Natural and man-made change in the region will increasingly compel American attention. Policymakers will need to weigh the demands of commercial development against the unique obligations the U.S. owes to indigenous residents, and the fragile eco-system on which they depend. They will also need to manage an expanding security environment in which the U.S. lags seriously behind its nearest competitors.

Human access to Arctic resources is already improving. Vast natural resources lay virtually untouched by the world's five Arctic States; the U.S., Russia, Canada, Norway, and Denmark. Indeed, international boundaries have, until very recently, been only vaguely delineated on imprecise maps. Global energy demand and the melting icecap are changing this legacy of diplomatic indifference.

Formal negotiations are already underway in the context of the *U.N. Convention on the Law of the Sea (UNCLOS)* to allow the world's coastal nations to extend their sovereign economic claims. In the Arctic particularly, new territory means access to rich new resources. Yet despite support from Democratic and Republican Presidents alike, the U.S. has not ratified the UNCLOS and cannot stake its own claim to over 1.2 million square kilometers of additional territory. Presently, over 155 other nations have ratified the UNCLOS agreement, and some of these states, like the Russian Federation, have begun making expansive new territorial claims in the Arctic.

While the region's economic value to the U.S. is difficult to estimate, experts are optimistic about the Arctic's rich potential. Most of its recoverable hydrocarbon reserves are in the form of natural gas, though significant deposits of oil, coal, and other minerals also make the region extremely attractive to a broad range of commercial investment. Estimates exceeding $1 trillion in "un-harvested" assets are common. These figures do not include monies earned from the Arctic's important commercial fishing industries and growing tourist trade. They also do not account for what will inevitably be the region's most important contribution to global commerce—the "Trans-Arctic" waterways. These routes promise to cut by half the distance goods travel around the world, significantly altering the flow of commercial maritime traffic over the next century.

U.S. capabilities in the Arctic lag far behind international competitors and do not reflect the country's global standing or regional responsibilities. Currently, the U.S. has a single, oceangoing diesel icebreaker for the region.[1] This makes the American fleet equivalent to Greenpeace, which also operates a single polar vessel. By comparison, Russia employs roughly 18 icebreakers, 7 of which possess exceptionally powerful, state-of-the-art nuclear powered engines. At least one of these has been armed. In the modern "Great Game" competition for Arctic resources, the U.S. stands at least a decade behind.

Reassessing American priorities in the region will be an important first step towards rebuilding its operational capabilities. Unfortunately, the impact of climate change is difficult to predict with any precision. What is certain is the rising demand for Arctic resources will continue to climb. Infrastructure, ship-building, and security improvements in the region will likely take a decade or more to mature. Realistic planning over the next several years will signal the US remains committed to defending its commercial and territorial interests in a region whose strategic significance will bloom in the next decade.

[1] The USCG Healy is the only American ice breaker to operate full time in the Arctic. Two additional ships, the Polar Sea and the Polar Star, are either limited by funding to part-time operations or in caretaker status. Both are at the end of their design lives. The U.S. has an additional icebreaker operating only in the Antarctic, the Nathanial B. Palmer.

3

[5] Excerpt: pp. 7–12. Full document available at www.ndu.edu/CTNSP/docUploaded/TFX_Arctic%20Summary.pdf

Arctic Overview

Though no strict definition of the term "*Arctic*" has been uniformly adopted, the region is believed to encompass a sixth of the world's total land mass sprawling over 24 time zones. Accurate maps of the undersea region are sparse and generally inaccurate. Despite its relative size, the Arctic supports only four million permanent inhabitants. Conditions may be harsh, but the environment is changing in ways which have both positive and negative consequences for U.S. interests. Access to the region is improving, and this, along with global energy demand, is helping to drive states north in search of resources. Key national players are the five "coastal states—Russia, the U.S., Canada, Denmark (including Greenland and the Faroe islands), and Norway—plus Iceland, Sweden and Finland (the entire eight nations comprising the Arctic Council). Each has shown greater interest than the U.S. has toward the Arctic. Each also has more capability to support those growing interests.

Climatic Change, Arctic Transit Routes

Scientists agree the Arctic is warming faster than the rest of the planet. Prior to 1989, over 80% of the Arctic Ocean was covered by a durable ice sheet which thickened over the course of a decade or more. Current measurements indicate this ice cap has significantly retreated. Less than 10% of the deep, multi-year ice remains.

Arctic States have recognized the new waterway will be an opportunity to re-define their national boundaries and expand commercial areas of operation. Three potential Trans-Arctic routes are developing through formerly inaccessible regions. All of these paths exit through the Bering Strait, which acts as a gateway and strategic choke-point for ocean-going vessels transiting the region:

- *The Northern Sea Route*: Hugs Siberia in the Arctic Ocean
- *The Trans Polar Route:* Traverses the North Pole in a relatively straight line
- *Northwest Passage*: Navigates through contested Canadian international waterway

The shortest comparable routes—for instance, through the Panama or Suez Canals, or around the Cape of Good Hope- measure more than twice the distance of the longest Arctic route above.[2]

Despite the apparent 'bluing' of regions formerly covered in un-navigable ice flows, Arctic seas will likely remain too dangerous for conventional *container vessels* for decades to come (mid 21st century), and demand for these services will remain low. *Seasonal* transit through the Arctic by container vessels may become routine by 2050.

By contrast, evidence suggests the demand for other types of marine transport missions, such as *cruising and resupply*, has already begun to climb. Demand for these services will remain constrained by regional climatic differences, unpredictable shifting ice patterns, and seasonal and perennial weather variability.

[2] Figure a

Energy Resources

Experts believe there may be over a trillion dollars in hydrocarbon (oil and gas) resources in the Alaskan Arctic. These untapped assets account for 40% of the remaining U.S. reserves, and are believed to lie in concentrated areas offshore, beneath the Chuckchi, Beaufort, and Barents Seas.

While some estimates put the amount of recoverable oil reserves as high as 400 billion barrels, most of the Arctic's energy potential lies in vast storehouses of clean-burning natural gas. Transporting the estimated 100 trillion cubic feet of natural gas will likely require pipeline-based infrastructure, rather than double-hulled ocean-going vessels.

The region is also home to a significant amount of high quality coal and mineral deposits. Alaska is believed to hold as much as $1/10^{th}$ of the planet' remaining coal reserves, and this fuel is of the cleanest, longest lasting variety.

"Harvesting" and transporting these resources will be a technical, expensive, and difficult task. Seasonal weather patterns, annual variability and extremes, and most importantly, a lack of (year-round) physical infrastructure- such as North/South pipelines- make any possibility of speedy production remote. Indeed, a dedicated program of large-scale hydrocarbon development is perhaps decades away. [3]

Emerging Governance

While, technically, there exist only five Arctic States (U.S., Russia, Canada, Norway, and Denmark), three additional countries (Finland, Sweden, and Iceland) are typically included in deliberations about the region. They join others on significant international bodies addressing Arctic issues, such as:

- **The Arctic Council** (est. 1996): Consultative, intergovernmental forum on issues related to *sustainable development* and *environmental protection* issues.
- **The Conference of Parliamentarians of the Arctic Region** (est. 1993*)*: Delegations appointed by parliaments hold *conferences and issue reports* on a variety issues. The U.S. representative to this body is Senator Lisa Murkowski (R-AK).

The Organizations listed above are consultative bodies only, and do not represent legal international authorities. While a patchwork of international agreements govern the region, the most significant treaty, the *United Nations Convention on the Law of the Sea*, is one which the U.S. has not yet ratified.

Extending U.S. Territory

The most important legal framework affecting the *sovereign jurisdiction* of Arctic States is the **United Nations Convention on the Law of the Sea** ***(UNCLOS)***. Among other provisions, the treaty defines the coastal area (200 nautical miles) over which nations can exercise an exclusive right to all *natural resources*.

[3] See Figure b

Under the terms of UNCLOS, the limit of this boundary—or, Exclusive Economic Zone (**EEZ**)—is subject to revision based on a coastal state's measured *continental shelf*.[4] This potentially expands the **sovereign jurisdiction** of over 30 coastal states by significant margins, granting full economic authority over the new territory. (The EEZ does not authorize "denial of innocent passage," but delineates a state's *economic* rights only.)[5]

Over 155 nations have ratified the UNCLOS agreement, and a number of them have already submitted substantial new territorial claims. Australia, for example, has recently "grown" by 2.5 million square kilometers. The Russian Federation has submitted a claim which includes the North Pole, and extends 1.2 million square kilometers. Other states anticipate significant gains, as well.

- **As a UNCLOS signatory, the United States could claim over 1.2 million additional square kilometers of territory, an area roughly the size of Alaska.**

Though the U.S. adheres to all UNCLOS provisions and played a significant role in authoring a revised version of the treaty in 1994, *final ratification has been blocked*. Congressional opponents argue its framework risks compromising U.S. sovereignty by making international disputes subject to third-party arbitration. They also worry UNCLOS provisions could bind the U.S. to excessively strict international environmental and humanitarian regulations.

Advocates of the treaty—a clear majority—believe the agreement is fair-minded and would allow the U.S. to benefit from an arrangement it authored, honors, and has promoted.

The Biggest Challenge- Missing U.S. Arctic Policy

The U.S has neither a formal nor an informal "Arctic policy." "There are three COCOM's in charge," said one high ranking military official, "I don't know who's in charge…I do know that in Alaska, we can't get them to agree." Many worry the nation's relative indifference to its status as an Arctic State prevents the DoD from accurately assessing and responding to risks in the region.

Public attention recently focused on the Russian Federation's symbolic move to stake its claim to the North Pole by planting a national flag on the deep sea floor. Some administration officials voiced concern this dramatic action created a false impression for American audiences of a lawless, chaotic "scramble" in the Arctic.[6] In fact, the international community has maintained a relatively collegial atmosphere of negotiation in the region based on an effective framework of bilateral and multilateral agreements.

In spite of the exaggerated coverage, many were pleased the Russian "media stunt" had reminded the U.S. it was an Arctic nation with an important stake in the region. "What's our biggest challenge in the Arctic?" asked one senior military analyst, "The U.S. simply doesn't understand we are an Arctic Nation. We're a landowner in the Arctic with unique obligations, environmentally and strategically."

[4] See Figure 1a
[5] See Figure 1b
[6] See Figure 1c

U.S. Strategic Climate

> *"Having a safe, secure and reliable Arctic shipping regime is vital to the proper development of Arctic resources, especially now give the extent of Arctic ice retreat…We can have such a regime only through cooperation, not competition among Arctic Nations."*
>
> *-Assistant Secretary of State Daniel S. Sullivan*

Climate change in the Arctic brings with it new opportunities for American commercial interests. Current estimates project 25% of the world's remaining reserves of oil and natural gas lie 'trapped' in the Arctic.[7] Three new waterways hold the potential to cut travel time and expenses for goods transiting the globe by more than half. Developing these resources while safeguarding existing human and animal habitations will be a challenge requiring a significant shift of national priorities.

U.S. Priorities

The U.S. shares with other nations a mixture of traditional and non-traditional interests in the Arctic. According to various presentations given during NDU's recent conference, these American priorities are:

Security Interests

- Establish and safeguard sovereign territorial claims
- Monitor and maintain Arctic balance of power
- Protect coastlines from criminal activities
- Ensure freedom and safety of maritime commerce
- Prepare for timely search, rescue, and recovery operations

Economic Interests

- Promote development of hydrocarbon and mineral deposits (manganese, copper, nickel, cobalt)[8]
- Prepare fishery management tools for species migration
- Resolve outstanding territorial disputes with neighbors
- Manage growing ecotourism

Environmental Interests

- Mitigate effects of climate change on indigenous communities
- Protect fragile eco-system
- Promote scientific exploration

[7] See Figure 2
[8] See Figure 3a

As a means protecting U.S. interests while robustly asserting American sovereign claims, policy-makers should consider the importance of re-establishing the country's leading role in international institutions, like UNCLOS, which govern and legitimize the use of Arctic resources. Fortunately, states have so far treated the sparsely populated Arctic as a virtual non-militarized zone, contributing to its common history of international cooperation and scientific exploration. Whether this collegial atmosphere continues remains an open question. However, even in the best-case scenarios, it seems unlikely the current U.S. icebreaker fleet will be capable of defending American security interests in the region over the course of the next decade.

Operational Gaps

Main Issues

A host of equipment-related and managerial problems plaguing U.S. Arctic operations can be expected to grow more acute over the coming decades. It seems likely that, if left unresolved, these gaps in American capabilities will begin limiting policy options at an accelerating rate.

Physical Problems

- U.S. icebreaking vessels are vastly outnumbered[9]
- Scarcity of experienced Arctic navigators
- Lack of reliable communication/navigation infrastructure
- Extreme uncertainties in weather prediction models
- Seasonal, inadequate theater infrastructure (roads, rail, pipeline)
- Unreliable extreme weather provisions (port of refuge; search and rescue; pollution response)

Managerial Problems

- Unclaimed 1.2 million square kilometers of U.S. territory
- Arctic "seam" exposes uncertainty in the UCP
  - (USPACOM/ USEUCOM/ USNORTHCOM)[10]
- Major Outstanding boundary disputes with neighbors
  - **U.S./Russia**: Maritime boundary in the Bering Sea
  - **U.S./Canada**: Maritime boundary in the Beaufort Sea
  - **U.S./Canada:** Dispute over ownership of the Northwest Passage[11]
- Question of which agency will handle multi-mission capacities; Dept. of the Interior, USCG, Dept. of Transportation, or the Navy?

[9] See Figure 4
[10] See Figure 5

[11] Other Disputes include: **Canada/Denmark**: Boundary dispute in Lincoln Sea; **Canada/Denmark:** Hans Island; **Russia/Norway:** Boundary dispute in Barents Sea

These outstanding problems reflect a region fraught with geologic, climatic, technical, economic, and territorial uncertainties. Managing the risks associated with such a complex operating environment will require sustained attention and long-term investment.

Icebreakers

The importance of improving the American icebreaker fleet cannot be overstated. The U.S. Navy is *not* poised to operate in the Arctic and has no plans of addressing the expanding missions distributed among the USCG and three separate COCOMs which meet at the Pole. Indeed, the Navy lacks any double-hulled surface vessels capable of operating in the region, which is not traditional blue water.[12]

America's only icebreaker operating full-time in the region, the USCG Healy, employs diesel technology and falls under the budgetary discretion of the National Science Foundation. By comparison, the 7 newest ships in the Russian fleet are far more powerfully designed. Fueled by nuclear reactors, each vessel is capable of breaking through ice nearly twice as thick as its diesel competitor and can operate for extended periods on the open seas. By any measurement, the Russian Federation's 18:1 numerical advantage over American icebreakers inadequately summarizes that country's overall maritime superiority.

Arctic Balance of Power

The Arctic is not governed by the same legal and international restrictions that shape international behavior in the *Antarctic*. Consequently, for many years the U.S. removed weapon systems from icebreakers in the Antarctic and re-armed them when the vessels deployed to the Arctic. This practice was eventually discontinued in favor of the current policy, which prevents all USCG icebreakers from carrying weapons.

The U.S. posture reflects a legacy of international cooperation and peaceful dispute resolution in the region, but with the discovery of new Arctic resources, the atmosphere may be changing. Commenting on news that the Russian Federation had recently armed one of its icebreakers, a distinguished DoD officer noted, "It has become clear now that we need (U.S.) polar icebreakers to be re-armed with defensive weapons…for multi-mission capabilities." Among the issues that are front and center is the arming of USCG vessels that operate in the region. The U.S. is certainly not prepared for a militarized Arctic, and policymakers may soon be compelled to relook at their Arctic armament policies to avoid a chaotic shift in the global balance of power.

Considerations

Climate change is gradually uncovering an American Arctic which stands at the crossroads of development and disaster. Rising sea levels and permafrost degradation have damaged poor, subsistent coastal communities, and accelerating environmental changes promise to worsen their condition. In many ways, the region resembles a third world frontier, where travel is difficult and the opportunity of rescue can be unpredictable.

At the same time, the Arctic holds great potential for commercial industries poised to invest billions in extremely technical transport and development schemes. U.S. businesses will inevitably rely on DoD infrastructure and security improvements as a prerequisite for their success.

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[12] See Figure 3b

Based on discussions at NDU's recent conference, the U.S. should consider several new instruments, policies, and initiatives.

Instruments

- Enlarged fleet of Icebreakers
- Ice pilotage training programs
- Polar orbiting satellites
- Improved weather, ice forecasting
- Comprehensive Arctic hydrographic data
- Provision of short range (fixed, seasonal floating) aids
- Designated maritime traffic separation scheme

Policies

- Refined UCP plan for likely Arctic scenarios
- U.N. Convention on the Law of the Sea (UNCLOS) ratification
- Submission of American claim to expanded territories
- Prompt resolution of outstanding maritime border disputes
- Fishery plan for species migration

Initiatives

- ***U.S.-led Convention on Arctic Armaments:*** The U.S. might take the lead in regulating the appropriate weaponry and rules of engagement in the Arctic.
- ***Consideration of an USARCOM*** **(Arctic Component Command):** The importance of delineating clear areas of responsibility will be paramount for managing disasters. The U.S. should consider a unified command to simplify the decision-making process.
- ***Plan for Arctic Interagency Exercises:*** American planning for Arctic emergency and security response scenarios has not yet fully matured. The U.S. should consider joint exercises which feature scenarios such as: a sinking Russian nuclear icebreaker calls for help; an U.S. confrontation with international smuggler/poacher/pirates; terrorist attacks against oil rigs; international response to large-scale pollution response.

It seems likely conditions will grow more difficult in the Arctic over the short-term, whatever course the U.S. adopts. The timeline for human development in the region may be measured in decades, not years.

Options for Policy-Makers

Though the Arctic is poised for rapid, accelerating economic growth, the U.S. has so far excluded itself from an emerging international framework designed to manage the anticipated changes. We judge it extremely likely that policy initiatives taken during the next 5-10 years will disproportionately influence U.S. strategic posture in the Arctic over the next half century.

Bearing this in mind, we offer three possible options for the consideration of policymakers:

Option 1: Retain Current Levels (Status Quo)

Risks: High

There is a tangible sense among many experts that America's Arctic policy is adrift and unable to keep pace with events in the region. Many of these limitations have been outlined in the review above, and include essential capabilities like scientific exploration and search and rescue. The most troubling aspects fall into three general categories:

- Expanding Arctic Mission Area
- Insufficient Arctic Infrastructure
- Unsatisfied Arctic Diplomatic Agreements

These mounting problems make it likely the DoD will be pressured to formalize its present policies in the Arctic. To answer anticipated criticism, the DoD should consider commissioning a comprehensive study comparing U.S. interagency capabilities with anticipated needs throughout the region. While waiting on the outcome of this report, the DoD should also consider hosting a series of interagency training exercises which test Arctic exigency scenarios and familiarize the public with American interests in the region.

Option 2: Limited Enhancement

Risk Assessment: Medium

As a great power and an Arctic state, the U.S. bears a unique responsibility for securing its own interests in the region while promoting a stable security environment. The following steps would help balance international obligations while preparing the way for increased economic activity.

- Ratify UNCLOS
- Articulate an Arctic Strategy which positively defines U.S. interests and priorities
- Arm the USCGC Healy for defensive purposes
- Create an Arctic Combatant Command able to manage and lobby for DoD assets in the region
- Initiate a DoD working group to assess the feasibility of improving U.S. Navy Arctic operations
- Act to resolve border disputes with the Russian Federation and Canada on a bilateral basis
- Develop plan to safeguard the Bering Strait (the future Trans-Arctic gateway for shipping)

- Review plans for establishing a base on Little Diomede Island or improving Kivalina Lagoon (near Red Dog Mine)

As the region grows more accessible to human traffic and subject to unpredictable climatic events over the next decade, short-term exigencies will likely handicap the opportunity for planning, investment, and international negotiation.

Option 3: Enhanced Engagement

Risks: Low

A decision for "enhanced engagement" indicates policy-makers will begin formulating short and long priorities for investing in the region's physical, economic, and security infrastructure. These include:

Short Term

- Ratify *UNCLOS*
- Submit U.S. claims for extended territorial boundary
- Conduct a comprehensive DoD review of Arctic exigency plans
- Establish an interagency working group on Arctic scenarios

Long Term

- Improve, upgrade, and expand American icebreaker fleet (but begin process now)
- Review feasibility of a new Arctic COCOM
- Act to resolve border disputes with Russia and Canada
- Begin fundraising campaign for U.S. infrastructure improvements which will also serve Arctic clients; i.e. improved "ports of refuge," navigation and communication satellites, search and rescue operations, cartographical measurements, etc…
- Arctic armaments treaty which restricts weapons in the region

The U.S. will have to improve its strategic posture in order secure a leadership role in the Arctic during the next decade. Preparations for a thawing Arctic will take some time, and the window for effective action is closing. The construction of a single icebreaker, for example, typically takes more than a decade to design, approve, and complete. Establishing U.S. claims to an extended continental shelf will likely be take many years, as well. Other nations have already taken positive steps to prepare for the future, while the U.S. lags behind.

Conclusion

A successful U.S. Arctic policy is one which articulates American priorities and promotes the peaceful, balanced exploitation of the region's rich resources. Fortunately, competition in the region is neither as fierce nor lawless as media accounts have depicted. As the Arctic grows more accessible to commercial interests, collegiality may wane. Unforeseen disasters, security breeches, or climatic events may permanently alter the political equation. An American position which can appeal to an international framework for managing and diffusing these new stresses backed by an increased national capacity for promoting and defending our interests is needed.

Appendix K. "Lockheed Martin Wins Contract Worth Up to $2 Billion to Support Antarctic Program," Lockheed-Martin Press Release, December 28, 2011[6]

Lockheed Martin Wins Contract Worth up to $2 Billion to Support the U.S. Antarctic Program

Working with the National Science Foundation to enhance the program's infrastructure in support of world-class research and discovery

ROCKVILLE, Md., December 28th, 2011 -- Lockheed Martin [NYSE: LMT] has been selected by the National Science Foundation (NSF) to operate and maintain the support infrastructure for the United States Antarctic Program (USAP), which enables universities, research institutions and federal agencies to conduct scientific research in the region. NSF is the designated single-point manager of the program, providing funding for research in Antarctica as well as logistics and infrastructure needed by other federal agencies for their research there. The multiyear contract is valued at approximately $2 billion if all options are exercised.

Under the new contract, Lockheed Martin will work with the NSF to implement a cost-effective, streamlined infrastructure for managing work stations and medical facilities, research vessels, construction projects and remote sites in and around Antarctica. The corporation also will modernize technologies to transport scientists, staff and supplies to and from the Antarctic region.

"Lockheed Martin is proud to work with more than 3,000 program participants involved in valuable research in Antarctica," said Linda Gooden, executive vice president of Lockheed Martin's Information Systems & Global Solutions (IS&GS) business. "We have a longstanding history of supporting customers in remote locations and logistically challenging environments and are committed to fostering scientific and technological innovations that will benefit the world."

NSF and the USAP have been anchoring U.S. presence in Antarctica since 1956 through its active and influential scientific research program, supporting fundamental discovery research that can only be done there and studying the Antarctic and its interactions with the rest of the planet. The program goals include: understanding the region and how its ecosystems depend on the polar environment; understanding its effects on (and responses to) global processes such as climate; and using the region as a platform for fundamental research in every scientific discipline. Antarctica's remoteness and extreme climate make it a unique and natural laboratory environment.

[6] Retrieved from http://www.lockheedmartin.com

"As the manager of the U.S. Antarctic Program, NSF looks forward to working with Lockheed Martin over the coming years, addressing together the challenges of supporting research as the scientific frontiers in Antarctica advance and technology evolves to support it," said Karl Erb, director of NSF's Office of Polar Programs. "In addition to supporting forefront research funded by NSF and other federal agencies, the program provides the foundation for U.S. leadership in the governance of the only continent in the world set aside by international treaty for peaceful purposes, of which science is the foremost example."

"Our team is excited to ensure the Antarctic Program continues to reach and even surpass its research goals," said John Mengucci, president of Lockheed Martin's IS&GS–Civil business. "We also are thrilled to work with the NSF in expanding its outreach activities to educate students about the polar research and encourage them to pursue careers in science, technology, engineering and mathematics."

Lockheed Martin's IS&GS-Civil division serves various non-defense U.S. government agencies, international governments and regulated commercial industries. It is responsible for a wide array of information technology systems and services in areas such as health care, energy, transportation, information and cyber security, extreme environments, citizen protection and space exploration.

Headquartered in Bethesda, Md., Lockheed Martin is a global security company that employs about 126,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services. The corporation's 2010 sales from continuing operations were $45.8 billion.

Appendix L. "Top of the World: NATO Rehearses for War in the Arctic—The Western Campaign for Global Dominance has Reached the Top of the World," Rick Rozoff, April 24, 2012[7]

TOP OF THE WORLD: NATO Rehearses For War In The Arctic

The Western campaign for global dominance has reached the top of the world.

By Rick Rozoff

Global Research, April 24, 2012

Stop NATO and VoltaireNet.org

To the world's military leaders, the debate over climate change is long over. They are preparing for a new kind of Cold War in the Arctic, anticipating that rising temperatures there will open up a treasure trove of resources and long-dreamed-of sea-lanes. Rick Rozoff scrutinizes the feverish military activity taking place in the High North, under the official label of a joint Norwegian-NATO-Partnership for Peace endeavor, including preparedness drills against terrorist threats, mass demonstrations...and spies coming in from the cold!

Cold Response 2012 military exercise in Nordland, Norway. The yearly air land and maritime exercise is organized withing NATO with a UN mandate.

The largest military exercise in the High North, inside and immediately outside the Arctic Circle, since the end of the Cold War (and perhaps even before) was completed on March 21 in northern Norway.

Except for the crash of a Norwegian military transport plane in Sweden during its course the world would have been unaware of it.

Cold Response 2012 was conducted from March 12-21 primarily in Norway but also in Sweden with the participation of 16,300 troops from fifteen nations as part of full spectrum – air, sea, infantry and special forces – maneuvers against the backdrop of the past three years' new scramble for the Arctic.

The term High North is a translation of the Norwegian designation *nordområdene* which was adopted by NATO in January of 2009 for its two-day Seminar on Security Prospects in the High North in Reykjavik, Iceland attended by the bloc's secretary general, chairman of its Military Committee and two top military commanders, the Supreme Allied Commander Europe and the Supreme Allied Commander Transformation.

Four of the five Arctic claimants – the United States, Canada, Norway and Denmark – are members of NATO. The other, Russia, is not. In 2010 Norway became the first Arctic nation to move its military command center within the Arctic Circle, transferring the Norwegian Operational Command Headquarters from Stavanger to Bodø, a five-story complex built during the Cold War to withstand a nuclear attack. The preceding year Norway purchased 48 Lockheed Martin F-35 fifth generation multirole fighters.

Last month's Cold Response was the largest of five such exercises held since 2006. The first was the largest military exercise ever conducted in Norway, with 10,000 troops from eleven nations. All NATO member states, at the time 26, were invited to participate.

The next, in 2007, included 8,500 military personnel. The third, in 2009, consisted of 7,000 troops from eleven nations and the fourth, in 2010, included 8,500 soldiers from fourteen nations.

This year's Arctic drills were almost twice as large in terms of troop numbers as any preceding one.

Information on the exercise was scarce before, during and after the event; even the full roster of participating nations

[7] Retrieved from http://www.globalresearch.ca

was not disclosed by the Norwegian military.

According to the website of the Norwegian Armed Forces, military forces from fifteen nations were involved – NATO members Norway, the U.S., Britain, France, Canada and the Netherlands – as well as Partnership for Peace affiliate Sweden, part of whose territory was employed for the exercise.

The other eight nations were not identified but the exercise was described as a joint Norwegian-NATO-Partnership for Peace undertaking. One of only a handful of English-language reports on the subject, from Finland, confirmed that nation's participation. Finland and Sweden are for all intents the 29th and 30th members of the Alliance.

The other Partnership for Peace states involved are likely to have been, among others, former Soviet republics like Estonia, Latvia, Lithuania and Ukraine.

According to the Norwegian Armed Forces, "The main purpose of this year's winter exercise is to rehearse high intensity operations in winter conditions within NATO with a UN mandate."

The source added: "Participants will rehearse deploying and using military reaction forces in an area of crisis where they have to handle everything from high intensity warfare to terror threats and mass demonstrations. The soldiers have to balance the use of diplomatic and military force."

High-intensity warfare, terror threats and mass demonstrations in the Arctic...

It also described live-fire infantry, naval and air – with the participation of fighter jets and helicopters operating from several Norwegian and Swedish bases and from aircraft carriers – components of the exercise.

The ground forces included U.S. Marines. According to the Marine Corps Times, "After years of fighting in a desert environment, most Marines may not think of the North Pole often, but the area abounds with oil, gas and other minerals, making it one of the most contentious regions of the world."

The same source quoted a national security and Arctic expert at the Washington, D.C.-based Center for a New American Security with the improbable name of Will Rogers:

"The importance of why we need forces capable of operating in the Arctic is very basic power projection — to make a show to other players in the international community that we are an Arctic nation, and we are going to protect our interests in the Arctic Circle."

Britain deployed HMS Illustrious, its last-remaining aircraft carrier, which had to return home early for repairs after being rammed by a tugboat, thereby eliciting a few paragraphs in the *Daily Mail*.

A Norwegian C-130 Super Hercules military transport plane crashed in Sweden, killing five soldiers. A memorial service was presided over by King Harald V, the titular commander-in-chief of the Norwegian armed forces.

The assault ship HMS Bulwark accompanied HMS Illustrious, which carried eight helicopters, and the first landed British commandos as well as American and Dutch troops, equipment and vehicles on the northern Norwegian coast.

In the words of the commanding officer of the Bulwark:

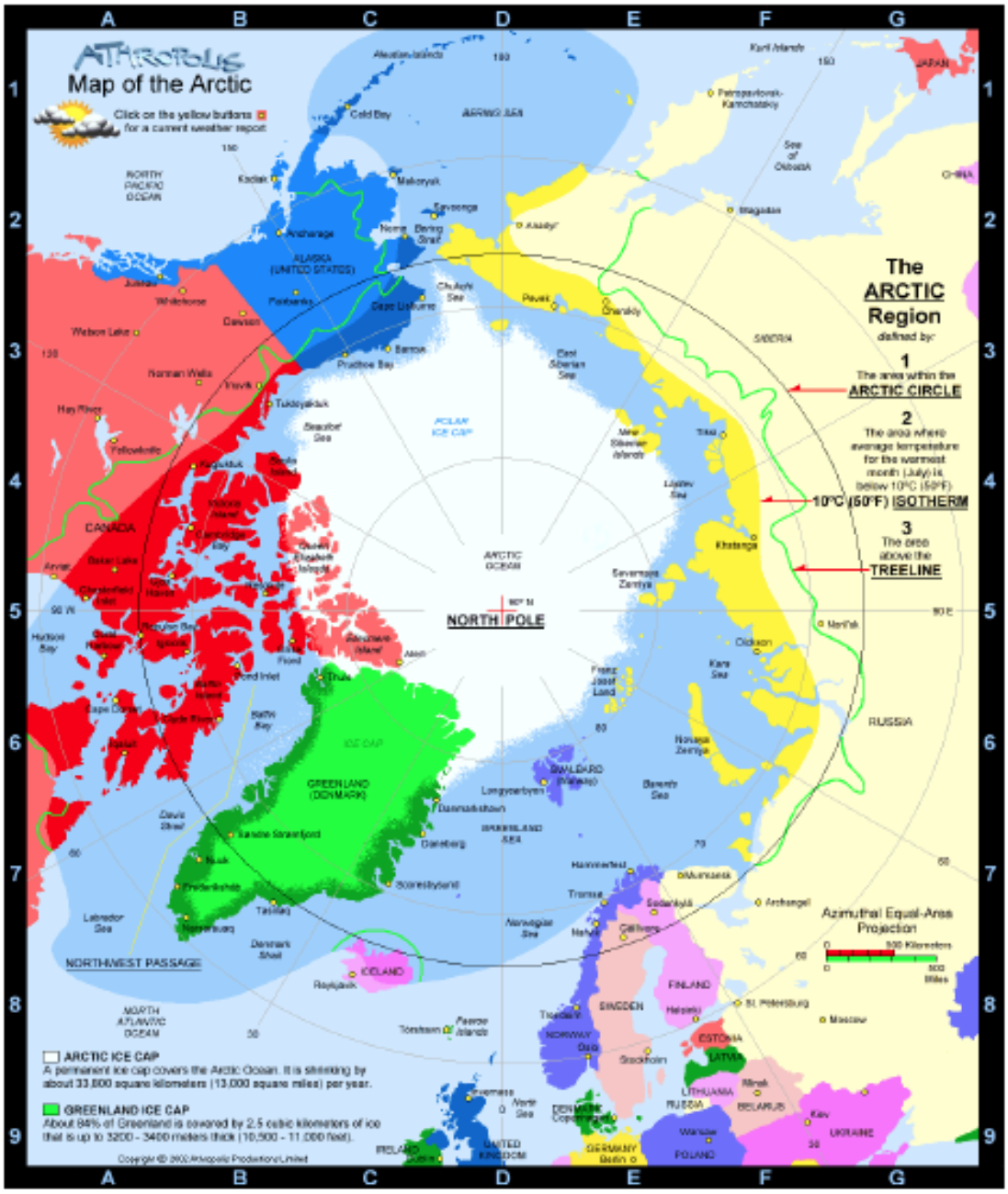
"It is not simply park the ship and offload it. In war – and therefore in training – we have to take account of the environment, enemy forces in the air, sea, and on land, coordinate people into boats and naval helicopters, all to arrive on target, in the right order, at the right time, to achieve the battle-winning effect. Few navies deliver this successfully and most aspirants look to the Royal Navy, Royal Marines, and Fleet Air Arm, with our war-proven capability, for guidance – on the sea in the air and on the land."

Regarding "war-proven capability(ies)," Defense Media Network quoted U.S. Marine Corps Brigadier General James M. Lariviere, commanding general of 4th Marine Division, present for the occasion:

"It was an opportunity to interact with our allies. Many of them are veterans of Iraq, Afghanistan, and anti-piracy task forces off the coast of Somalia. They all have a lot of experience working with the U.S. and our allies in various capacities..."

The U.S. uses the Bjugn Cave Facility in Norway's Fosen peninsula for Marine Corps Prepositioning Program Norway, the Marine Corps' only land-based prepositioning program. According to a U.S. European Command article of last year:

> "Well guarded within 671,000 sq. feet of six climate-controlled caves, $420 million worth of Marine Corps equipment and supplies lie ready for real world use. The caves, located in Norway, serve as a key strategic storage site for the Marine Corps....The Norwegian caves are strategically located to provide support to the United States Marine Corps' operations around the globe...[T]he equipment from the climate controlled caves of Norway has seen action in places as diverse as the deserts of Iraq and mountains of Afghanistan in support of Operation Iraqi Freedom and Operation Enduring Freedom."



The Helsingin Sanomat, which reported 215 Finnish soldiers participating in the exercise, characterized Cold Response 2012 as "a major military training exercise being held in the far north of Norway [in which] armed forces from 14 nations are protecting civilians in the same way as last year in Libya, and are fighting against the local opposition just as in Afghanistan."

The newspaper also quoted a Finnish military media and communications officer stating, "It would be silly to rehearse a situation if it were not realistic."

A Swedish website, which identified Denmark, Spain, Estonia, Latvia and Switzerland as having also supplied units for

Cold Response, published a synopsis of the scenario for the Swedish part of the exercise provided by the Swedish Armed Forces, which included:

A "strange group of people" have settled in northern Sweden and established a state called "Gardaland" from which they have invaded "an area in Norway," after which NATO intervenes under a United Nations mandate.

The Ministry of Defence of the Netherlands reported a potpourri of unrelated and even conflicting scenarios that leaves the door open for any pretext for military intervention:

> "The Netherlands Defence organisation sent 800 military personnel to take part in the exercise, including a large maritime detachment and units from the army and air force. The Dutch units left the Norwegian training area on 21 March, after a simulated attack lasting 48 hours. The emphasis was on beating off air attacks, combating submarines and covertly landing amphibious units. The scenario also included taking terrorists into custody."

The Standing NATO Mine Countermeasures Group 1 was deployed to the Norwegian Arctic island city of Tromsø for the exercise. NATO established a Joint Warfare Centre in Stavanger, which at the time hosted the nation's military command headquarters, in 2003. According to NATO's Norfolk, Virginia-based Supreme Allied Command Transformation, the center is "the jewel in the Crown of Allied Command Transformation".

On the opening day of this year's Cold Response, Igor Korotchenko of Russia's National Security Journal put the event in geopolitical perspective:

"The current military drill takes place amid NATO's increased activities in the Arctic. Apparently, NATO is set on obtaining a share of Arctic resources and is carrying out the naval exercises to demonstrate that its geopolitical and diplomatic efforts lean on military might."

Vladimir Yevseyev of the International Security Center of the Institute of Global Economy and International Relations, as cited by *Voice of Russia*, added:

> "[T]he exercises are being held on the territories of Norway and Sweden, in close proximity to Russian borders. They might thus be seen as a provocation. Russia has all grounds for concern given that ships equipped with the...Aegis Combat System can be deployed in the Arctic."

The last sentence is an allusion to the U.S.-NATO sea- and land-based interceptor missile system, which thus far is limited to Eastern Europe and the Mediterranean Sea but could well expand into the Norwegian, Barents, Baltic and Black Seas in future.

The Western campaign for global dominance has reached the top of the world.

Appendix M. Air Force FAR Supplement, Section CC-502-4: Contingency Contracting Activity During Termination/Redeployment

CC-502-4 Contingency contracting activity during termination/redeployment.

(a) On being notified of contingency termination or redeployment, the CCO will:
(1) Closeout contracts:
(i) Coordinate with contractors and user activities the timing and procedures for return of all rental items;
(ii) Determine which contracts require formal termination for convenience actions and initiate settlement negotiations with those contractors. During termination of base services, CCOs will immediately negotiate a reduction of services and terminate base support agreements to coincide with the unit redeployment schedule. As unit assets are redeployed, interim replacement support may be required from the host base or contractor sources, if available. (NOTE: Contracts awarded throughout the deployment should be tailored to minimize formal termination requirements wherever possible.);
(iii) Ensure that receiving reports and invoices for all purchases pending payment are processed;
(iv) Coordinate with the disbursing agent to ensure that final payments are processed;
(v) Settle all contractor claims prior to the final CCO redeployment; and
(vi) Coordinate the disposition of all purchased assets to include site restoration if necessary.
(2) Contract action reporting and disposition: Report all contract actions and dollar amounts to the contracting activity that issued the PIINs used during the deployment; total actions and dollars will be reported by office chiefs to supported CINC/MAJCOM LGC prior to departure.
(3) After-action report. Within 30 days after redeployment, each CCO shall submit an electronic after-action report to their parent MAJCOM Superintendent who will in turn forward the report to the theater MAJCOM/LGC supporting the AOR. MAJCOM Superintendents will also forward reports to SAF/AQCX (CC-502-5). After-action reports shall specifically address:
(i) A formal update of site survey information concerning potential sources of supply to include items obtained through the U.S. Embassy, host nation support, or servicing U.S. military installations;
(ii) Problems encountered with the contracting process to include local customs, shortages of supply within the local economy, local political or diplomatic impediments, language difficulties, funding, currency exchange rate fluctuations, and security issues or concerns;
(iii) Local transportation, billeting, and communication resource availability;
(iv) Evaluation of any Host Nation Support Agreement or comparable understanding, Status of Forces Agreements, if applicable, and the impact of these agreements upon contingency contracting within the area (applies to overseas contingency);
(v) Adequacy of facilities, equipment, and other support provided by the deployed commander and the OPLAN under which the deployment was conducted. Specific modifications required for future deployment plans to this or other locations;
(vi) Any specific problems that could be anticipated to support an extended exercise or contingency operation at this location; and
(vii) Special personnel requirements (rank, gender, skill level, etc.), contingency kit requirements, or individual clothing and equipment requirements to meet mission demands in this area.

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