

CRS Report for Congress

Received through the CRS Web

Navy Ship Deployments: New Approaches — Background and Issues for Congress

Ronald O'Rourke
Specialist in National Defense
Foreign Affairs, Defense, and Trade Division

Summary

The Navy is implementing or experimenting with new kinds of naval formations, more flexible forward-deployment schedules, forward-homeporting additional Navy ships, and long-duration deployments with crew rotation (which the Navy calls Sea Swap). Navy officials have pointed to Sea Swap in particular as a change that may permit a reduction in the planned size of the Navy. These changes in Navy ship deployment methods raise several potential issues for Congress. This CRS report will be updated as events warrant.

Background

As part of its efforts to transform itself to better meet 21st-Century needs,¹ the Navy is implementing or experimenting with changes to its traditional methods for deploying its ships overseas. These changes involve new kinds of naval formations, more flexible deployment schedules, homeporting additional Navy ships at forward locations, and long-duration deployments with crew rotation (which the Navy calls Sea Swap). Each of these changes is discussed below.

New Kinds Of Naval Formations. The Navy previously organized itself into aircraft carrier battle groups (CVBGs) and Amphibious Ready Groups (ARGs). A CVBG typically included 1 aircraft carrier, about 6 cruisers, destroyers, and frigates, 1 or 2 attack submarines, and 1 or 2 supply ships. An ARG typically included 3 amphibious ships that together were capable of embarking a Marine Expeditionary Unit (MEU), which is a force of about 2,200 Marines, their ground-combat equipment, and an aircraft detachment. ARGs traditionally have operated overseas in the company of CVBGs. Although individual surface combatants, amphibious ships, and attack submarines often deployed independent of CVBGs and ARGs, the Navy traditionally was defined primarily by the number of CVBGs and ARGs it included. The plan for a 310-ship Navy set forth in the

¹ For more on naval transformation, see CRS Report RS20851, *Naval Transformation: Background and Issues for Congress*, by Ronald O'Rourke.

Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE 12 MAY 2005		2. REPORT TYPE		3. DATES COVERED 00-00-2005 to 00-00-2005	
4. TITLE AND SUBTITLE Navy Ship Deployments: New Approaches - Background and Issues for Congress				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Congressional Research Service, The Library of Congress, 101 Independence Avenue SE, Washington, DC, 20540-7500				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 6	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

final report of the 2001 Quadrennial Defense Review (QDR), for example, was characterized as a 12-CVBG, 12-ARG fleet.

Navy officials believe this way of organizing the Navy does not offer sufficient flexibility for responding to the potential need for deploying significant naval capability in several locations around the world at the same time. Navy officials also believe that with the increasing capabilities of Navy ships, naval formations other than the large CVBG/ARG combination can now be sufficient to perform certain missions.

As a result, the Navy has implemented a new **Global Concept of Operations (CONOPS)** that reorganizes the Navy into a larger number of independently deployable, strike-capable formations. The most significant change under the plan is the conversion of the 12 ARGs into independently deployable formations called Expeditionary Strike Groups (ESGs). ESGs are ARGs that have been reinforced with surface combatants and attack submarines carrying Tomahawk cruise missiles, and land-based P-3 Orion long-range maritime patrol aircraft. The Global CONOPS also creates independently deployable surface strike groups (SSGs), each consisting of a few surface combatants (most or all Tomahawk-armed), and independent operations by 4 Trident SSGN submarines that have been converted to carry Tomahawks and special operations forces.² CVBGs under the Global CONOPS plan have been redesignated Carrier Strike Groups (CSGs). Implementing the Global CONOPS has changed the Navy from a fleet with 12 independently deployable CVBG/ARG formations into one with 24 major independently deployable strike groups (12 CSGs and 12 ESGs) and additional independently deployable capabilities in the form of SSGs and Trident SSGNs.

More Flexible Forward-Deployment Schedules. The Navy in recent decades has maintained a continuous or near-continuous forward-deployed presence in three major overseas operating areas — the Mediterranean, the Indian Ocean/Persian Gulf region, and the Western Pacific — as well as a more intermittent forward-deployed presence in other ocean areas. The Navy's primary means of maintaining forward-deployed presence had been the standard six-month deployment. Although the six-month limit on deployment length and the predictability of the rotational deployment schedule were considered key to the Navy's ability to maintain its forward deployments while meeting its personnel recruiting and retention goals, Navy officials concluded that the deterrent value of forward-deployed naval forces might be enhanced by making naval forward deployments more flexible and less predictable. Navy officials have also concluded that orienting Navy readiness toward maintaining standard six-month deployments resulted in a fleet that offered insufficient flexibility for responding to the potential need for surging large numbers of naval forces in a short time to respond to major regional contingencies.

As a result, although six-month deployments will still take place, the Navy has put more flexibility into its deployment plans by deploying some CSGs and ESGs for less than or more than six months, as operational needs dictate. In addition, the Navy has implemented a new **Fleet Response Plan (FRP)** to increase the Navy's ability to surge multiple formations in response to emergencies. Under the FRP, CSGs and ESGs that have just returned from deployments will be kept, for a time, on alert for potential short-

² For more on the Trident SSGNs, see CRS Report RS21007, *Navy Trident Submarine Conversion (SSGN) Program: Background and Issues for Congress*, by Ronald O'Rourke.

notice redeployment if needed, and CSGs and ESGs that are approaching their next scheduled deployment will be maintained in a higher readiness status so that they, too, could be deployed on short notice. Implementing the FRP, Navy officials say, permits the Navy to deploy up to 6 of its 12 CSGs within 30 days, and an additional 2 CSGs within another 60 days after that. For this reason, the FRP has also been referred to as the “6+2” plan. In June 2004, the General Accounting Office, or GAO (which in July 2004 was renamed the Government Accountability Office) reported that the FRP

does not shorten preexisting time frames for performing aircraft carrier maintenance. Furthermore, it does not alter existing major repair and maintenance requirements; methods of upgrading and modernizing weapons, communications, and engineering systems; or methods of performing nuclear refueling. At this time, the potential impact of the plan on the Navy’s budget is uncertain.³

Forward-Homeporting Additional Ships. Homeporting Navy ships in overseas locations, called forward homeporting, can reduce transit times from home port to operating area and thus permit a Navy of a certain size to provide a larger number of ship days on station in overseas operating areas. The U.S. Navy’s principal forward homeporting location is Japan, where the Navy since the early 1970s has forward homeported a CVBG and ARG. The Navy traditionally has also forward-homeported a small number of other ships, such as fleet command ships and repair ships, in forward locations such as Italy and the U.S. territory of Guam.

Forward homeporting requires a site with a port that offers suitable infrastructure. In addition, forward homeporting has significant potential operational disadvantages, including (if the location is a foreign country) host-nation limits on how the naval forces may be used (which reduces the sovereign flexibility that naval forces are supposed to provide U.S. policymakers); a reduced ability to send the forward-homeported naval forces to another region because the host nation and its neighbors might perceive the deployment as a reduction in U.S. commitment to the host nation’s region (which can reduce the geographic flexibility that naval forces are supposed to provide U.S. policymakers); and the potential for sudden eviction due to changes in the host nation’s policies (which can undermine force-sizing calculations based on the availability of that overseas home port). Forward homeporting also transfers the economic activity associated with ship homeporting (e.g., sailors spending their pay for goods and services, and ship maintenance and repair work) from a U.S. home port to a foreign home port.

The Navy recently has taken steps to increase the number of forward-homeported Navy ships. Four mine warfare ships have been forward-homeported at Bahrain in the Persian Gulf, and three attack submarines have been homeported at Guam. The Navy is also studying the idea of transferring an aircraft carrier from the continental United States to Hawaii or Guam, and the idea of transferring additional attack submarines to Guam. Increasing the number of ships forward-homeported in the Pacific is viewed as improving the Navy’s ability to respond to potential contingencies in locations such as the Korean Peninsula or the Taiwan Strait.

³ Government Accountability Office, *Defense Logistics: GAO’s Observations on Maintenance Aspects of the Navy’s Fleet Response Plan*, GAO-04-724R, June 18, 2004, p. 3.

Long-Duration Deployments With Crew Rotation. As a potential fourth change, the Navy is experimenting with the concept of long-duration deployments with crew rotation. This concept, which the Navy calls **Sea Swap**, is another way to reduce the amount of time that deployed ships spend transiting to and from operating areas. It involves deploying Navy ships overseas for periods such as 12, 18, or 24 months rather than 6 months, and rotating successive crews out to the ships for 6-month periods of duty. Crew changes would occur in a friendly port located near the forward operating area. Crews would travel between the United States and the changeover port by aircraft, and the departing crew would spend some time at the port together with the replacement crew to familiarize the replacement crew with the ship and the operating area. The departing crew would then return to the United States and takes over the ship that had been operated by the replacement crew, so that the two crews would wind up swapping their ships. Potential disadvantages of Sea Swap include extensive wear and tear on the deployed ship due to lengthy periods of time at sea, a reduced sense of crew “ownership” of a given ship (which might reduce a crew’s incentive to keep the ship in good condition), and reduced opportunities for transit port calls (which have diplomatic value and are beneficial for recruiting and retention).

The Navy has completed Sea Swap experiments with surface combatants and mine warfare ships. Navy officials have characterized the experiments successful in terms of ship days on station, total costs, ship maintenance and material condition, and crew re-enlistment rates during deployment. In July and August 2004, it was reported that a review of the Sea Swap experiment conducted by the Center for Naval Analyses found that although Sea Swap was successful in these terms, crew members participating in the experiment who were surveyed viewed the concept negatively and indicated they would be less likely to stay in the Navy if all deployments were conducted this way.

Navy officials have said they are interested in extending the Sea Swap concept to other types of ships, including entire ESGs. In testimony to the Senate Armed Services Committee on March 19, 2002, a Navy official described an approach for applying crew rotation to aircraft carriers under which a carrier would be assigned a crew equivalent to 125% of its required manning. The ship would then be deployed for 9 months at a time with 100% crewing, and 25% of the crew would rotate on and off the ship every 2 and 1/4 months.⁴ The Navy reportedly expressed a similar idea in July 2004.⁵

In February and March 2005, Navy officials testified that applying Sea Swap somewhat widely throughout the fleet could help permit the required size of the fleet to be reduced from a range of 290 to 375 ships down to a range of 260 to 325 ships.⁶

⁴ Statement of Rear Admiral (Lower Half) Miles B. Wachendorf, U.S. Navy, Director, Strategy & Policy Division (N51), In U.S. Congress, Senate Committee on Armed Services, Sea-Power Subcommittee, *Navy On-Station Enhancement Options*, hearing, Mar. 19, 2002.

⁵ Dave Ahearn, “12 Carriers Needed Despite Efficiencies — Admiral,” *Defense Today*, July 9, 2004, p. 1.

⁶ See, for example, Statement of Admiral Vernon Clark, USN, Chief of Naval Operations, Before the Senate Armed Services Committee, Feb. 10, 2005, pp. 17-19. For additional discussion, see CRS Report RL32665, *Potential Navy Force Structure and Shipbuilding Plans: Background and Issues for Congress*, by Ronald O’Rourke.

A November 2004 GAO report on the sea basing concept concluded the following:

To effectively institutionalize and implement change, best practices show that a comprehensive analytical framework provides useful information to decision makers. However, the Navy has not established such an analytical framework — consisting of formal measurable goals, objectives, and metrics — that could be used to assess the feasibility of various rotational crewing options and determine their impact on operational requirements, ship condition, and crew morale. Further, the Navy has not systematically collected or developed accurate cost data to perform complete cost-effective analyses. Absent such information, the Navy may not know the full impact of rotating crews on surface ships, the extent to which the various options should be implemented, or whether it is getting maximum return on investment.

Because rotating crews on surface ships is evolving as an alternative, the Navy has not provided effective guidance when implementing the practice and has not systematically leveraged lessons learned. Effective guidance and sharing of lessons learned are key tools used to institutionalize change and facilitate efficient operations. While the Navy has well-established crew rotation policies and procedures for ballistic missile submarines that include appropriately documenting a ship's condition and turnover procedures for accountability, it has not provided comparable guidance to surface ships. As a result, the Navy unnecessarily risks repeating mistakes that could decrease warfighting effectiveness and crew morale.

Furthermore, the impact of ship maintenance on the implementation of rotational crewing has not been fully assessed. Effective maintenance strategies help ensure ships can perform their missions without adverse impacts on crew morale. It is a challenge to ensure the mission capability of ships that are deployed for longer periods because most maintenance and repair is usually completed between 6-month deployments. While rotating crews has enabled the Navy to keep ships deployed for up to 24 months, the service has not fully examined all issues related to the best maintenance strategies that could affect a ship's condition and crew's morale. Absent effective strategies, the Navy risks degrading long-term ship condition and discouraging crew support for rotational crewing.⁷

Issues For Congress

Planned Size of the Navy. To what degree will the four changes discussed above permit a reduction in the planned size of the Navy?

Effect on Ship Maintenance. How will these changes, particularly the FRP and the forward-homeporting of additional ships, affect the distribution of Navy ship overhaul and repair work? Will they lead to increased work for some yards and decreased work for others? If so, which yards stand to gain or lose work?

Funding For Increased Readiness. How much additional funding will be needed under the FRP to maintain higher readiness levels for ships? What other Navy spending priorities might need to be cut to finance any additional readiness-related expenditures?

⁷ Government Accountability Office, Force Structure[:] Navy Needs to Fully Evaluate Options and Provide Standard Guidance for Implementing Surface Ship Rotational Crewing, GAO-05-10, November 2004.

Options for Additional Forward Homeporting. The final report of the 2001 QDR directed the Navy to explore options for homeporting an additional three to four surface combatants, and Trident SSGN submarines, in the Western Pacific. A March 2002 CBO report presented an option for homeporting as many as 11 attack submarines at Guam.⁸ What are the Navy's intentions regarding these ideas, or the idea of homeporting a carrier at Hawaii or Guam? The Navy in the past has also examined options for forward-homeporting Navy ships in locations like the Mediterranean and Australia. Should these options be pursued?

Sea Swap. How widely does the Navy plan to apply Sea Swap throughout the fleet? What types of ships does the Navy plan to deploy using Sea Swap, and when would this start?

Multiple Crewing and Crew Rotation. Another potential strategy for increasing the percentage of time that Navy ships can be deployed is multiple crewing, which would involve maintaining more than one crew for each Navy ship. Potential versions of multiple-crewing include having two crews for each ship (dual crewing), three crews for every two ships, four crews for every three ships, five crews for every four ships, or other combinations, such as eight crews for every five ships. The most basic version of Sea Swap maintains one crew for each ship, but Sea Swap could be combined with multiple crewing. For many years, the Navy's nuclear-powered ballistic missile submarines (SSBNs) have been operated successfully with dual crews. In 1997, a Navy study panel proposed multiple-crewing for other kinds of ships as part of a plan called the Horizon Concept.⁹ The above-mentioned March 2002 CBO report presented the option of applying multiple crewing to the attack submarine fleet.

Potential disadvantages of multiple crewing include the costs of recruiting, training, and retaining additional crews, the difficulty of achieving fully realistic training using land-based simulators (whose use would be more necessary because a given crew would not always have access to a ship for training), a reduced sense of crew "ownership" of a given ship, and increased wear and tear on the ship due to more intensive use of the ship at sea (which can reduce ship life). The crew ownership issue does not appear to have led to any significant material condition problems for the Navy's SSBNs. Aside from the SSBNs, however, the Navy's existing ships were not designed to be operated intensively at sea with multiple crews.

For multiple crewing and crew rotation, potential questions for Congress include the following: Are these concepts more suitable for some kinds of Navy ships than others? How might they affect the readiness of forward-deployed ships? Should future Navy ships be designed to support multiple crewing and long-duration deployments with crew rotation?

⁸ Congressional Budget Office, *Increasing the Mission Capability of the Attack Submarine Force*, Mar. 2002.

⁹ U.S. Department of the Navy, Chief of Naval Operations Strategic Studies Group XVI, Capt. D. F. "Rick" Miller, USNR, et al., *Horizon, Executive Summary of the Horizon Concept Generation Team 'Future Force Operational Plan,'* June 1997. See also Daniel J. Franken, et al., "Changing the Way [the] Navy Deploys," *U.S. Naval Institute Proceedings*, Jan. 2001, pp. 70-73.