

# Navy Shore Surge Requirements Support

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A handwritten signature in black ink, appearing to read "Alan J. Marcus". The signature is written in a cursive style with a horizontal line extending to the right.

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# **Navy Shore Surge Requirements Support**

This briefing describes work we did for the Commander, Navy Installations in support of the Strategies for Support and Sustainment of Surge Requirements by Navy Shore Infrastructure Study. Specifically, it summarizes the probable surge requirements and potential infrastructure support issues resulting from implementation of the Navy's new Sea Power 21 operational vision.

# Background



- Commander, Navy Installations (CNI) is a newly created command
- New Seapower 21 Naval Strategy
  - Different global concept of operations
  - Increased surge projection capability
  - Changed Fleet Response Plan (FRP)
- Future Surge Requirement Shore Support Study
  - What shore capacity exists now to support new surge requirements?
  - What additional infrastructure is needed?

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The office of the Commander, Naval Installations (CNI) was established on 1 October 2003 with Rear Admiral Christopher Weaver, USN as its first leader. The mission of CNI is “to provide consistent effective and efficient shore installation services and support to sustain and improve current and future Fleet readiness and mission execution” [1]. It was created by consolidating the numerous major claimant shore installation management organizations into one central cohesive unit.

On June 12, 2002, the Chief of Naval Operations, Admiral Vernon E. Clark, USN first announced during his remarks to the Current Strategy Forum at the Naval War College in Newport, Rhode Island that the Navy would soon implement a new operational vision called Sea Power 21 [2]. As part of this strategy, the Navy will adopt a global concept of operations that disperses combat striking power by creating additional independent operational groups capable of responding simultaneously to crises around the world. One significant change is that the Inter-Deployment Training Cycle (IDTC) for Carrier Strike Groups (CSGs) and Expeditionary Strike Groups (ESGs) has been recreated as a new Fleet Response Plan (FRP). This new plan extends the old IDTC from 24 months to 27 months and introduces progressive states of readiness that are referred to as emergency surge, surge, deployable, and post-deployment surge. Overall readiness levels will now be maintained at a higher level and will not be allowed to dip as much during post deployment stand-down and maintenance availability as they were in the past. The focus of the new strategy is to increase the number of deployment surge-capable CSGs and ESGs by 50 percent. This allows the Navy to consistently deliver six forward deployed or ready to surge CSGs almost immediately, plus two additional CSGs in the basic training phase within 90 days. This is commonly referred to as the “six plus two” FRP capability [3]. The training window has been compressed significantly with the intent of conducting some training and exercise opportunities en route or on station if a combat force surge is required. A new Flexible Deployment Concept has also been introduced to embrace the philosophy of “Presence with a Purpose” and will impact fleet unit in-port berthing time depending more on external worldwide events and less on fixed internal Navy maintenance and training schedules. (Continued)

# Background (Continued)



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This new strategy and supporting operational concepts require greater flexibility in shore support options to keep the fleet assets action-capable with higher states of readiness. Since future operational needs will most likely be more fluid and less predictable, and shore support capacity relatively fixed, there will be a potentially higher possibility for these needs to overlap and result in support delays. CNI requested CNA to help address this concern by investigating the current shore infrastructure for its mission expansion capacity to support both Navy and Joint Force surge requirements worldwide and to recommend strategies of investment to determine how much, if any, additional permanent, temporary, and non-tangible infrastructure might be needed.

# Background



- **Sea Power 21 Transformational Operational Vision**
  - Sea Strike (*projecting offensive power*)
  - Sea Shield (*projecting global defensive assurance*)
  - Sea Basing (*projecting joint operational independence*)
  - ForceNet (*enabling integrated network-centric warfare*)
  
  - Global Concept of Operations (*increase strike groups from 19 to 37*)
  - Fleet Response Plan (*more ships in employable status, sooner in the cycle for a longer period of time*) (6+2)
  - Flexible Deployment Plan (*“presence with a purpose” deployment durations*)
  
  - Sea Trial (*innovation to the warfighter*)
  - Sea Warrior (*preparing the warfighter*)
  - Sea Enterprise (*resources to the warfighter*)

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This slide provides a breakdown of the new concepts that form the basis of Sea Power 21 [4].

**Sea Strike** is the projection of precise and persistent offensive power. Key elements are:

- More flexible land attack cruise missiles launched from ships and submarines
- Electronic Radio Frequency or digital attack from manned aircraft, unmanned aerial vehicles (UAVs), and ships
- Precision-guided munitions delivered by naval manned and unmanned aircraft and surface ships
- Highly-maneuverable and increasingly lethal Marine forces and SEAL teams operating ashore.

**Sea Shield** is the projection of layered global naval defensive power. Key elements are:

- Real-time integration with joint and coalition forces
- High-speed littoral attack platforms
- Expanded sensor and unmanned vehicle surveillance capabilities
- Theatre air and missile defense
- Extended homeland defense.

**Sea Basing** is focused on utilizing the vast maneuver space of the sea to support operations ashore from the sea and minimize the vulnerabilities associated with bases ashore. Key elements are:

- Pre-positioned warfighting capabilities
- Enhanced joint support from a fully netted, dispersed naval force
- Integrated Joint Logistics
- Inter-theatre high-speed sealift and airlift
- Heavy equipment transfer capabilities. (Continued)

# Background (Continued)



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**ForceNet** will implement the theory of network-centric warfare by designing and fielding an information network architecture that includes standard joint protocols, common data packaging, seamless interoperability, and strengthened security. Key elements are:

- Enhanced sensing, connectivity, and decision-making
- Expanded joint, interagency, and coalition interoperability
- Intra-theater organic communication hub capabilities
- Increased focus on human-system information integration.

A **Global Concept of Operations** will result in a new force structure of 12 CSGs, 12 ESGs, 9 strike/theatre ballistic missile defense surface action groups (SAGs), and 4 SSGN/SOF strike force groups. This change produces 37 independent strike groups that can provide a scalable and continuous combat-intensive presence over a greater percentage of the globe than was possible in the past.

The **Fleet Response Plan** modifies maintenance and training practices for CSGs and increases the percentage of time that they can be employed. The 24-month cycle was extended by 3 months. The stand-down and bulk crew-replacement concepts were changed to reflect the higher states of ongoing readiness desired. The training portion was compressed and segmented into unit-level training, integrated training, and sustainment/deployment training. The net effect was to increase surge ready/deployment availability from 9.5 months to 15.83 months per cycle.

The **Flexible Deployment Plan** construct allows for units that have attained high readiness levels to embark on deployments of varied duration in support of specific national priorities instead of solely in predictable, lock step 6-month deployments. The expanded readiness capability resulting from implementation of the FRP allows for this deployment responsiveness. (Continued)

# Background (Continued)



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**Sea Trial** is a new approach to create a continual process of rapid concept and technology development to deliver enhanced warfighting capabilities to the fleet as swiftly as possible. Key elements are:

- Fleet-led, continuous process of innovation
- Accelerated concept and technology development
- Greater integration of headquarters and fleet leadership.

The **Sea Warrior** intent is to grow naval professionals who are highly skilled, powerfully motivated, and optimally employed for mission success. Key elements are:

- Continual professional growth and development
- Improved selection and classification
- Interactive, web-based, incentive detailing
- Networked, high-impact distance learning training.

The **Sea Enterprise** intent is to apply proven commercial business practices to reduce the overhead cost burden of the supporting structure and shift the resulting savings into meeting direct operational needs. Key elements are:

- Greater process efficiencies
- Divestment of non-core functions
- Organizational streamlining
- Shifting support tail resources to operational teeth.



# Approach



- Study Sea Power 21 changes to forecast future shore requirements
- Identify current shore infrastructure capacity and homeport loading
- Identify major support issues and develop new investment strategies
- Examine near-term concepts for evolving surge support

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We examined the Sea Power 21 Strategy and accompanying operational concepts to determine how the changes might affect shore support requirements. Next, we reviewed the worldwide Navy facilities inventory and identified the current shore infrastructure capacity and homeport loading capabilities. Our next step was to identify the major support issues by comparing the new requirements against current capabilities and to develop long-term investment strategies to meet the needs of the shore installation facilities. Finally, we explored short-term workaround concepts that would assist the Navy in meeting the new surge requirements until more permanent solutions can be developed.

# Tasks



1. Forecast potential future operational surge-capacity requirements
2. Review inventory for major support issues
3. Explore investment strategies for future surge requirements
4. Identify short-term options for evolving surge requirements

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This slide lists the four tasks we were asked to perform. Task 1 was to forecast operational surge-capacity requirements that might occur in the future. We performed a quick look analysis to identify which of the Navy and Joint Force operational surge requirements were most likely to affect shore support. We reviewed internal and public Navy documents dealing with a global concept of operations espoused under Naval Power 21 and the Sea Power 21 core operational concepts of Sea Strike, Sea Shield, and Sea Basing as enabled by ForceNet. We also studied the support implications of a global operations concept, which included additional independent operational groups; naval capability packages; a forward-projected combat logistics force; a dispersed, netted, and agile fleet; and improved responsiveness resulting from changes in the Fleet Response Plan. We looked at the support implications of more short-notice deployments, the possibility of more in-port time than deployed time, support to other than home-based units, increased simulation training, possible mid-deployment crew swaps, and the movement of military personnel from support to operational roles.

Task 2 included a literature review of internal Navy documents to identify how current Navy planners look at facility support requirements for new and changing missions. We examined the worldwide inventory of Navy installations. Through interviews with Navy field resource planning personnel, we focused on operating homeports and identified major support capacity elements. We also investigated linking the mission requirement categories into the Navy installation core business-model areas and service-level supporting capabilities to identify funding issues relating to infrastructure support. We then identified possible future shore-support requirements based on the most likely outcomes of the Sea Power 21 vision implementation.

CNA Research Memorandum D0010414.A1/Final was released in July 2004 as an interim report to capture the results of these two tasks.

Task 3 explored those investment strategies that might be required to correct any identified surge infrastructure support concerns. Task 4 identified the short-term facility technology/materials options that could be utilized to deal with evolving surge requirements.

# What Changed?



- Sea Power 21 focus
  - Make operational concepts more flexible and responsive
  - Leverage current fleet strengths of mobility, presence, and sovereignty
- Adjustments
  - Lengthened period between maintenance availabilities by 3 months
  - Compressed training availability periods and segmented them into
    - Unit-level training
    - Integrated training
    - Sustainment/deployment training
  - Higher levels of sustained readiness (particularly for CVW units)
  - Over 7-year cycle
    - No difference in in-port maintenance periods, in-port steaming time, deployment time, or deep maintenance cycle
    - However, 17-month increase in surge ready availability
  - Flexible Deployment Plan (surge & pulse)

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What has changed since the introduction of Sea Power 21? We found that the new Fleet Response Plan in July 2003 and the Flexible Deployment Plan created the means for inter-deployment surge capability and presence with a purpose for flexible deployment tasking. The goals to develop a dispersed, netted, and operationally agile fleet that can serve as part of the joint force. This fleet, which must deliver the combat power needed to sustain homeland defense, provide forward deterrence in four theatres, swiftly defeat two aggressors at the same time, and deliver decisive victory in one of those conflicts, requires a more flexible and responsive shore support structure. Employment of sovereign sea-based forces that can project offensive and defensive power across a unified battle space will be central to every war plan. The new strategy shifts the focus away from rotational deployments and hub presence to an ability to surge a substantial force globally [5].

The new strategy involves extending the interval between maintenance periods and modifying the training and manpower processes. As a result, the Navy will need to make adjustments in platform maintenance scheduling, logistics support, personnel training, and rotation assignment. Surges in shore-based port and airfield operations will be more likely. Extending the cycle from 24 months to 27 months in effect lengthened the interval between maintenance availabilities. This could mean that more money will be needed to bring the platforms back up to readiness standards; however, no data were available with which to estimate these possible expenditures. The training portion of the cycle was compressed and segmented into unit-level training, integrated training, and sustainment/deployment training. A new Fleet Training Strategy was developed to support the compressed and front-loaded training availability to maintain stability in scheduling but yield greater responsiveness capability. Readiness levels for the Carrier Air Wings improved significantly to better match the sustained cruiser/destroyer readiness and to allow for more rapid surge deployment capability. (Continued)

# What Changed? (Continued)



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In order to get a complete picture of the change, the IDTC cycle needs to be extended to an 85.5-month period capturing several cycles so it matches the same baseline period for the new multiple cycles of the FRP. This look at a 7-year period shows that there is no difference in in-port maintenance periods (27 months), in-port steaming time (40.5 months), or deployment time (18 months) between the old IDTC and new FRP cycles. However, there is an almost 17-month increase in surge ready availability. Therefore, since the deep maintenance periods have remained the same as well, the only shore impact that is readily observable is the additional 3 months between maintenance availabilities and the compressed basic training window [6].

However, the introduction of the Flexible Deployment Plan in order to take advantage of the significantly expanded readiness availability does have the potential to impact the shore support infrastructure. The Navy uses the terms of routine, surge, and pulse to differentiate between the types of deployment options. This change introduces more uncertainty in deployment schedules and could result in increased homeport time during the traditional routine 6-month deployment periods. With deployment period windows extended through use of the post-deployment surge time and increased homeport time within those windows, we can anticipate increased port traffic due to the greater number of transits in and out. However, the total amount of time actually in-port may not be substantially different from before depending on the length of the pulse deployments [7].

# Forecast Future Requirements



- **Impact of the Sea Power 21 Strategy**
  - No major change from current support experience unless the fleet actually surges
  - No major change to deep maintenance activity (i.e., shipyard schedules)
  - New DD(X), HSV, and LCS will have unique features requiring additional support capabilities
  - Major growth in pier-side and advanced base intermediate maintenance tasking
  - Greater need for homeport advanced training and simulation facilities
  - Increased port operations tempo for pier-side, pilot, and tug services
  - Increased need for weight-handling, ordnance-handling, and shipping-container management capability
  - Need for additional homeport transient personnel housing
  - Greater need for intermediate advance bases for crew swaps, intermediate maintenance, LCS support, and sea base logistics support

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In summary, the impact on shore support that results from implementing the new Sea Power 21 Strategy is not significant — at least on the surface — and depends more upon external world events than on internal Navy decisions. Our principal finding is that current support requirements will not change significantly unless the fleet actually surges or pulses.

The amount of time allowed for deep maintenance activity is exactly the same as before. Therefore, the shipyards have exactly the same amount of time to perform major maintenance as they had previously. However, the fleet will probably be less tolerant when the shipyards fail to meet their maintenance schedules because such failures will have a serious impact on the compressed training schedules and readiness requirements of the “6+2”.

The new classes of platforms such as the DD(X), HSV, and LCS will have unique features that will require additional support capabilities to include different fender systems; nesting capability; composite repair facilities; increased, and probably different, pier-side electrical power capacity; and LCS module storage, servicing, and handling capabilities. With the extension of time between maintenance availabilities and more frequent surge and pulse deployments, pier-side and advanced-base intermediate maintenance tasking will probably increase significantly.

Due to the compressed training cycle and shifts in training responsibilities, there will be a greater need for homeport advanced training and simulation facilities. The “Flexible Deployment Plan” will result in an increased port operations tempo for pier-side, pilot, and tug services. The new platform designs and the changed operating tempo will result in an increased need for additional weight-handling, ordnance-handling, and shipping-container management capability. Since the plan calls for departure from the large-scale ship company, changes upon completion of 6-month deployments to a more steady state and continuous personnel transfer policy, an additional homeport housing for transient personnel will be necessary. We can also anticipate a greater need for intermediate advance base capability for crew swaps, intermediate maintenance, LCS module support, and sea base logistics support.

# Potential Shore Support Issues



- Major support findings
  - The BRAC process has clouded homeport forecasting and delayed basing decisions
  - Post-surge capacity has not been a support issue as of yet
  - Homeport loadings during the Christmas holiday period are the best current example of possible post-surge impacts
  - Current homeport capacity, along with ship nesting, can handle near-term port loadings
  - Construction of new DD(X) and LCS ships will require additional pier construction
  - Most existing piers will need to be upgraded with additional power and material handling/transport capability
  - Greater facility flexibility will be required for fleet POV parking lots, administration and training spaces, and transient berthing
  - Forward base support will become more important and require additional capacity

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We believe that the new strategy will result in several problems related to shore support.

The Base Realignment and Closure (BRAC) process has made it difficult to forecast homeport future availability and has delayed decisions on where to base new platforms. Also, depending upon the extent of reductions in pier-side and aviation-unit support capacity, post-surge capacity may become a problem when it currently is not. At present, support for post-surge capacity has not been an issue for the Navy, but fleet support personnel at Norfolk have told us that they are concerned about the potential for post-surge port overloads in the future. They acknowledge, however, that they have had no major problems as yet.

The homeport loadings during the Christmas Holiday period is the best current example of the post-surge capacity problems the Navy may face in the future. It also gives clues as to what the short-term workarounds might be. In the near term, current homeport capacity along with ship nesting can handle anticipated port loadings.

The construction of new ships such as the DD(X) and LCS will require additional pier construction and upgrades. Most existing piers will need to be upgraded with additional power and material handling/transport capability. Such upgrades would be similar to those most recently completed in San Diego. Greater shore facility flexibility will be required for fleet POV parking lots, administration and training spaces, and transient berthing. Finally, forward base support will become more important and will require additional capacity to be developed in the future.

# Future Investment Strategies



- Preliminary findings
  - Support issues are not “show-stoppers”
  - Improve surface-ship intermediate maintenance and crew training support to reduce stress induced by higher levels of readiness and compressed training availability periods
  - Long-term upgrades to pier-side power and material-handling capacity (double deck piers)
  - Greater intermediate advance base capability to support evolving Sea Base concept
  - Normal shore support planning should be able to accommodate new platform requirements

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As we started to work on task 3 and looked at the shore investment strategies that would best support the Sea Power 21 operational concepts, it became clear that most of the support issues we had identified earlier were not “show-stoppers” and it should be possible to handle them during the normal course of planning for shore support. This finding is consistent with the overall intent of Sea Power 21 which was to make the operational concepts more flexible and responsive and to leverage the current fleet strengths of mobility, presence, and sovereignty. Because the strategy focuses on using the current fleet strengths, which the shore infrastructure is already able to support, we do not anticipate major changes in the support requirement. However, due to unpredictable surge and pulse deployment requirements, the disruption of the deployment cycle may put a strain on shore support elements such as maintenance and crew training. Management streamlining and facilities improvements that help shorten the intermediate maintenance and training cycles and reduce the workload required to produce results will help these support elements to better cope with the compressed periods of availabilities.

In addition, the upgrades related to pier power and material-handling capacity should receive special attention because of the long lead times required for construction. Although we found that existing pier space is sufficient for the new platforms being planned, much of that space may not be adequate in terms of condition, layout space, or power capacity. Navy BRAC recommendations that will be released later this summer, should be examined closely for the impact of pier capacity eliminated by closure or realignment as well as new pier construction. (Continued)

# Future Investment Strategies (Continued)

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As the Sea Base concept evolves and more ships are forward deployed, there will be a need for more intermediate advance base support. Sea Basing will require new methods of handling, breakdown, tracking, and management of warehouse space and shipping containers. Current plans indicate that some of the LCS modules will be located at these advanced bases to facilitate rapid LCS mission changes close to the theatre of action. This will require additional pier-side weight handling, layout, maintenance, and storage support for the modules [8].

In summary, it appears that the best way to support future development of shore facilities in support of Sea Power 21 is to continue with optimization of the footprint, ensure sustainable development, and maintain and/or improve the quality of life and service. The new platform requirements should be identified early and accommodated through the normal facilities planning, programming, and budgeting system.



# Evolving Short-term Options



- Preliminary findings
  - Ship “nesting” has been the major means of dealing with berthing availability
  - Ensure that weight-handling equipment is sufficient and available
  - Should continue to streamline intermediate maintenance scheduling process to reduce routine repair cycle times
  - Should standardize computerized port-operations scheduling systems and provide these systems to each homeport

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The remaining task was to look at what short-term methods and operational practices could be used to help shore installations adjust to the evolving surge requirements brought about by Sea Power 21. The Navy’s primary method of dealing with short-term post-surge port capacity problems has been to use ship “nesting” wherever possible. Most of the smaller combatants can be moored together, one outboard of the other, at the same pier. Nesting is not a desirable option from the perspective of ship commanders because it complicates re-provisioning cross decks and direct pier-side access, but it is nevertheless a well understood and adequate short-term solution to excess port loading. This ability to nest the smaller ships is the reason why post-surge capacity has not been a major problem thus far.

The Navy should review current portable and permanent weight-handling equipment to ensure that what is currently operational is sufficient and available. The new requirements for additional pier-side weight-handling, LCS module-handling, ordnance cross-decking, and increased logistics traffic will increase the burden on current assets. More effort should be focused on streamlining the intermediate maintenance scheduling process and reducing routine repair cycle times. Although regional initiatives have been started with the “ShipMain” and “One Shipyard” programs, more should be done to reduce the administrative burden for intermediate maintenance scheduling and allow for quicker ship repair setup and cleanup times to take advantage of when the ships are in-port. Since there will be an increase in ship movements and a corresponding increased need for harbor tug and pilot services as well as other port services, effort should be focused on standardizing computerized port operations scheduling systems on both coasts and provide the system to each homeport. While there are several good systems fielded, standardization will help with ongoing support and improvements to the basic computerized scheduling support. We had intended to include the findings from a planned Commander Fleet Forces Command (CFFC) study on the Summer Pulse 04 exercise. However, we were recently told that CFFC has decided not to continue with the exercise review study because it had observed no significant problems that would warrant further analysis. This determination adds weight to the findings of this study that major shore support capacity issues will not immediately occur as a result of Sea Power 21 Strategy implementation.



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