



Draft

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GUAM AND CNMI MILITARY RELOCATION

Relocating Marines from Okinawa,  
Visiting Aircraft Carrier Berthing, and  
Army Air and Missile Defense Task Force

**Volume 4: Aircraft Carrier Berthing**

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## Guam and CNMI Military Relocation EIS/OEIS

### Volume 4: Aircraft Carrier Berthing

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# CHAPTER 1.

## PURPOSE OF AND NEED FOR ACTION

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### 1.1 INTRODUCTION

#### 1.1.1 Introduction to Proposed Action

Volume 4 focuses on the proposed construction of a new deep-draft wharf with shoreside infrastructure improvements, creating the capability to support a transient nuclear powered aircraft carrier in Apra Harbor, Guam.

The aircraft carrier is manned by over 5,600 military personnel and is accompanied by aircraft and escort ships, collectively referred to as a Carrier Strike Group (CSG). The number of port visits and duration of visits to Apra Harbor by an aircraft carrier has varied throughout the past 10 years because of operational requirements. For example, in 2008, the schedule included four visits for 4 days each (Port Operations 2008). Apra Harbor currently supports an average of two CSG port calls for an average of up to 7 days in duration per year, though actual port visits and durations are subject to change based upon Fleet operational requirements.

Under the proposed action with a transient-capable port, the aircraft carrier would visit for a cumulative total of up to 63 visit days per year, with an anticipated length of 21 days or less per visit. This capability is required to support increased aircraft carrier operational requirements in the Western Pacific and Indian Oceans. Previous nuclear powered aircraft carrier berthing has been at Kilo Wharf. However, the longer transient visits would interfere with existing munitions operations and therefore require a new deep-draft wharf that can accommodate the transient aircraft carrier. Additionally, due to the length of a transient visit, shoreside infrastructure for utilities (i.e., power, wastewater management, potable water supply) must be improved to minimize or eliminate reliance on shipboard systems while in port.

This Volume is organized as follows.

- *Chapter 1: Purpose of and Need for Action.* This chapter states the purpose of and need for the proposed action and presents background information about the proposed action.
- *Chapter 2: Proposed Action and Alternatives.* This chapter describes the siting criteria and the screening process to evaluate and identify the reasonable alternatives, the proposed action and reasonable alternatives, and the no-action alternative.
- *Chapters 3-19: Resource Sections.* These chapters describe existing conditions and identify potential impacts to the respective resources:
  - Chapter 3: Geological and Soil Resources
  - Chapter 4: Water Resources
  - Chapter 5: Air Quality
  - Chapter 6: Noise
  - Chapter 7: Airspace
  - Chapter 8: Land and Submerged Lands Use
  - Chapter 9: Recreational Resources
  - Chapter 10: Terrestrial Biological Resources
  - Chapter 11: Marine Biological Resources

#### **Chapter 1:**

##### *1.1 Introduction*

##### *1.1.1 Introduction to Proposed Action*

##### *1.1.2 Purpose and Need*

##### *1.1.3 Global Perspective*

- Chapter 12: Cultural Resources
- Chapter 13: Visual Resources
- Chapter 14: Marine Transportation. (Volume 6 covers roadway transportation)
- Chapter 15: Utilities
- Chapter 16: Socioeconomics and General Services
- Chapter 17: Hazardous Materials and Waste
- Chapter 18: Public Health and Safety
- Chapter 19: Environmental Justice and the Protection of Children
- Chapter 20: References

### **1.1.2 Purpose and Need**

As discussed in Volume 1, the overarching purpose for the proposed actions is to locate United States (U.S.) military forces to meet international agreement and treaty requirements and to fulfill U.S. national security policy requirements to provide mutual defense, deter aggression, and dissuade coercion in the Western Pacific Region. The need for the proposed actions is to meet the following criteria based on U.S. policy, international agreements, and treaties:

- Position U.S. forces to defend the homeland including the U.S. Pacific territories
- Provide a location within a timely response range
- Maintain regional stability, peace and security
- Maintain flexibility to respond to regional threats
- Provide a powerful U.S. presence in the Pacific region
- Increase aircraft carrier presence in the Western Pacific
- Defend U.S., Japan, and other allies' interests
- Provide capabilities that enhance global mobility to meet contingencies around the world
- Have a strong local command and control structure

The proposed action creating a capability in Guam to support a transient nuclear powered aircraft carrier would provide greater aircraft carrier presence in the Pacific region through enhanced rotational presence and would meet the overarching purpose and need.

### **1.1.3 Global Perspective**

Aircraft carriers are deployed worldwide in support of U.S. interests and commitments. Aircraft carriers are generally the first to respond to a crisis (Navy 2009). They can respond to global crises in ways ranging from deterrence through their presence in peacetime to launching operations in support of armed conflict. Together with their on-board air wing (including a mixture of different aircraft, air logistics, weapons, maintenance support and administrative functions) the carriers have vital roles across the full spectrum of conflict. U.S. aircraft carriers and other warships are recognized as sovereign U.S. territory. While the U.S. military would have to make special arrangements with a foreign nation to set up a land military base or airfield, it can move a carrier and its CSG all over the globe to project power from the sea in accordance with the Navy's "Sea Power 21" vision (Navy 2002). Naval aircraft, including bombers and fighters, can fly a variety of missions into enemy territory and then return to the carrier. In most cases, the Navy can continually replenish (resupply) the CSG, allowing it to maintain its position for extended periods of time. Eventually, however, the ships must return to a port for maintenance and crew rest.

### 1.1.3.1 Background

The employment of an aircraft carrier and its associated CSG are integral to supporting U.S. interests and meeting treaty and alliance requirements, both globally and regionally. The aircraft carrier's mission is to:

- Provide a credible, sustainable, independent presence and conventional deterrence in peacetime
- Operate as the cornerstone of joint/allied maritime expeditionary forces in times of crisis
- Launch and support aircraft attacks on enemies, protect friendly forces, and engage in sustained independent operations in war (Navy 2009)

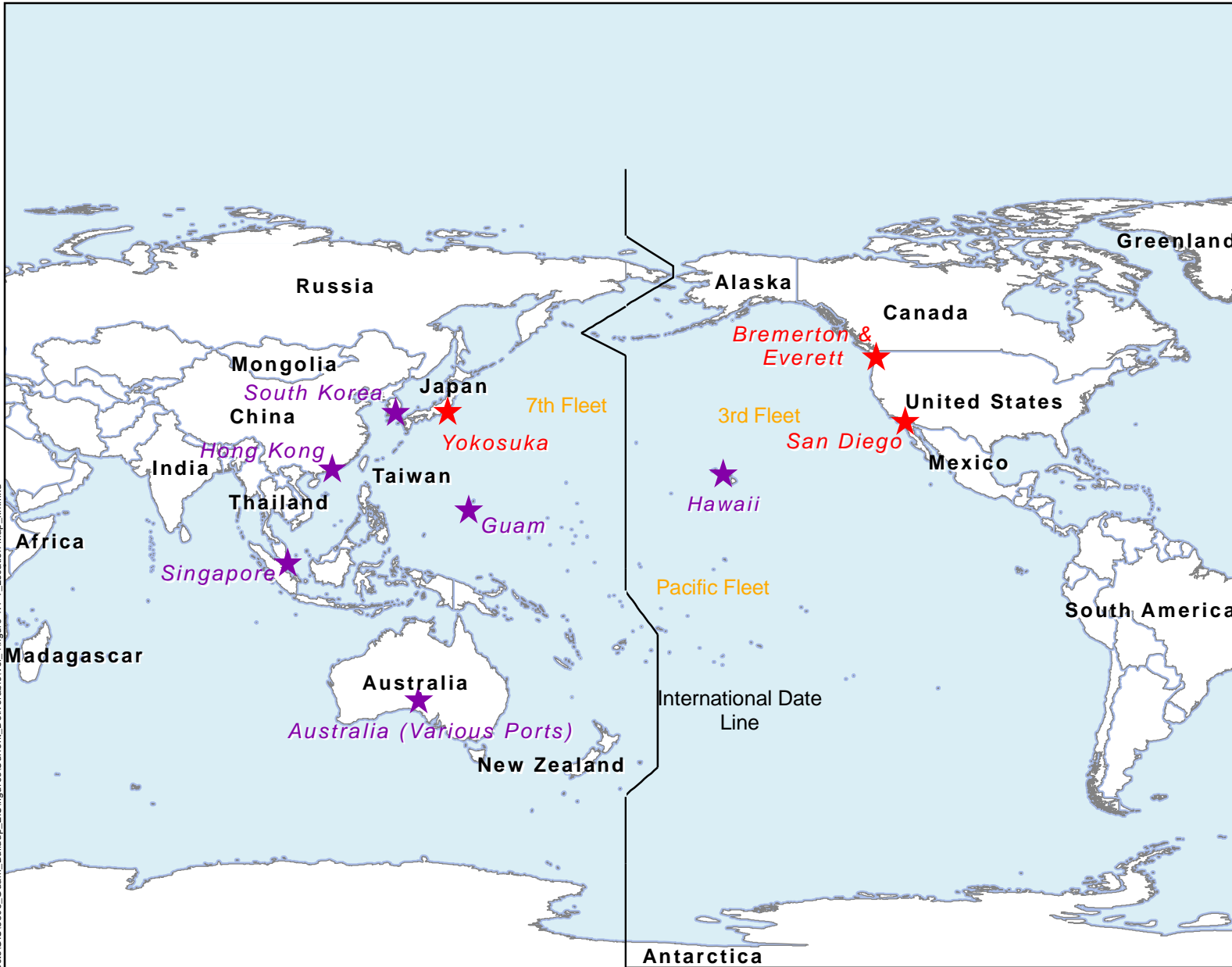
As discussed in Volume 1, the Navy's proposed action is based upon treaty and alliance requirements and the Department of Defense's (DoD) Quadrennial Defense Review (QDR). One of the QDR conceptual policy initiatives is that the U.S. should strive to position strike forces, which include aircraft carrier and airwing capabilities, in forward locations that support flexibility and speed of response to anywhere in an unpredictable environment. The Pentagon's strategic QDR of 2006 stated the following:

*"The Fleet will have a greater presence in the Pacific Ocean consistent with the global shift of trade and transport. Accordingly, the Navy plans to adjust its force posture and basing to position at least 6 operationally available and sustainable carriers and 60% of its submarines in the Pacific to support engagement presence and deterrence."*

This guidance reflected a need to supplement existing ship deployments and the aircraft carrier base (homeport) in the Pacific. The policy initiative of the QDR was to provide a near continuous presence of multiple carrier strike groups in the Western Pacific and/or Indian Ocean. Accordingly, the Navy began to identify how to meet: 1) treaty and alliance requirements, as well as the QDR, 2) freedom of action (use of a base without restrictions, including implementation of force protection measures to deter/avoid terrorist attacks), and 3) response times to potential areas of conflict. Starting in 2005 the U.S. Navy began exercising this concept of operations by developing a series of multi-carrier strike group exercises commonly known as "Valiant Shield" in the Marianas Islands. Traditional thinking had been, to assure continuous military presence in an area, a ship or forces needed to have a forward homeport or base from which to operate. The U.S. Navy, however, validated the concept of continuous rotation of strike groups to increase presence in the region as desired by the QDR. To support the continual rotational presence, a new concept was developed: a transient-capable port that would provide maintenance and logistics support for aircraft carriers close to the area of responsibility (AOR). The proposed transient port capability in Guam, as discussed below, fulfills the operational requirement for continuous strike capability without the financial, political, and environmental issues associated with a forward homeport.

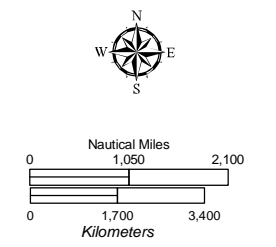
The Navy currently bases (homeports) six aircraft carriers in the Pacific AOR: three in San Diego, California; two in Washington State; and one in Yokosuka, Japan (Figure 1.1-1). A homeport provides the full plethora of support services to the ship and airwing and the dependent families of personnel assigned to the carrier strike group. These services include full depot level maintenance, quality of life support services for dependents, and other related services. When ships deploy they visit other harbors. The length of stay, reasons for stay and other factors determine whether the visit is characterized as a "port" visit or "transient" visit. The length of stay and purpose of a visit are dictated by military mission requirements. Port visits are brief and may be determined by international political concerns, operational requirements and other factors.

Printing Date: Jun 5, 2009, M:\projects\GIS\8806\_Guam\_Buildup\_EIS\figures\Current\_Deliverable\Vol\_4\Figure 1.1-1\_Location Map\_4h.mxd



**Figure 1.1-1**  
Location Map

- Legend**
- ★ Homeport CVN Locations
  - ★ CVN Port of Call Locations



Port visits require minimal or no shoreside support and do not necessarily require a berth. When port visits are made to locations without an available berth (anchorage), there is limited time and capability for ship maintenance and crew rest. Because a port visit is brief and independent of shoreside utility support, the aircraft carrier has the ability to get underway with minimal delay. This ability to mobilize quickly is an important force protection consideration, allowing CSG port visits to take place in foreign locations.

In contrast to port visits, the Navy proposes to develop a transient berthing capability which provides the ship and carrier airwing operational support requirements, including emergent (unscheduled) repair and maintenance capabilities and crew quality of life. There would be no dependent quality of life support nor full depot maintenance as this support is provided at the ship's homeport. To accomplish a transient capability, a berth is required with full "hotel services" for the ship and the ability to ensure quality of life and safety for the crew and ship for a duration of stay longer than is normal for a port visit. These longer stays with a ship relying on shoreside utilities increase force protection concerns; however, the advantage of a transient port capability is that a ship can be re-supplied or maintained without returning to its homeport. Development of a transient-capable port close to the AOR increases aircraft carrier presence, as required by the QDR, by reducing the non-availability that occurs when a carrier must perform a long transit to its homeport. The creation of a transient-capable port comes without the expense, political or environmental concerns raised by creation of a forward homeport. It also maintains adequate response times to potential conflicts.

#### 1.1.3.2 Treaty and Alliance Requirements

Five of the seven U.S. Mutual Defense Treaties are with countries in the Western Pacific: the Philippines, Australia/New Zealand (joint treaty), Korea, Japan, and Thailand. For example, the U.S.–Japan (1960) treaty, known as the *Treaty of Mutual Cooperation and Security*, contains general provisions on the further development of international cooperation and on improved future economic cooperation. Both parties assumed an obligation to maintain and develop their capacities to resist armed attack and assist each other in the event of an armed attack on Japanese territories. This provision is carefully crafted to be consistent with Japan's Constitution that limits its military capabilities to defensive capabilities only. U.S. treaty commitments with the other nations listed above also require a timely response to incidents and a consistent U.S. presence of force as a deterrent in the Pacific region.

The Pacific Fleet's AOR extends from the west coast of the contiguous U.S. to the eastern shore of Africa. The AOR includes the world's five largest foreign armed forces: People's Republic of China, Russia, India, North Korea and Korea. More than half of the world's population lives within the AOR. In addition, more than 80% of the population within the Fleet's AOR lives within 500 miles of the oceans and more than 70% of the world's natural disasters occur in this region (Navy 2008).

When the Navy examined potential locations to support a greater carrier presence in the Pacific, it was mindful of the critical precept of the Integrated Global Presence and Basing Strategy to place visiting U.S. forces only where those U.S. forces are wanted and welcomed by the host government. Accordingly, because some countries within the region have indicated their hesitancy and inability to host more U.S. forces on their lands, the U.S. military shifted its focus to basing on U.S. sovereign soil.

#### 1.1.3.3 Freedom of Action and Force Protection

In the context of creating a transient-capable port, as discussed above, a crucial factor is freedom of action. Freedom of action is the ability of the U.S. to use ports, training facilities, and bases (including the ability to re-supply and conduct mid-level maintenance), freely and without restriction at a particular

locale, as well as affording the U.S. the ability to engage in force protection, rapid force posture movements, and contingency response. U.S. relations in the Pacific and Indian Ocean regions are based upon multiple bilateral treaties and international law. Within this legal framework, the U.S. and its Pacific allies have mutual defense commitments; however, access and level of support varies for like operations throughout the region. In short, U.S. forces responding to contingencies still have greater freedom of action when responding from U.S. territory.

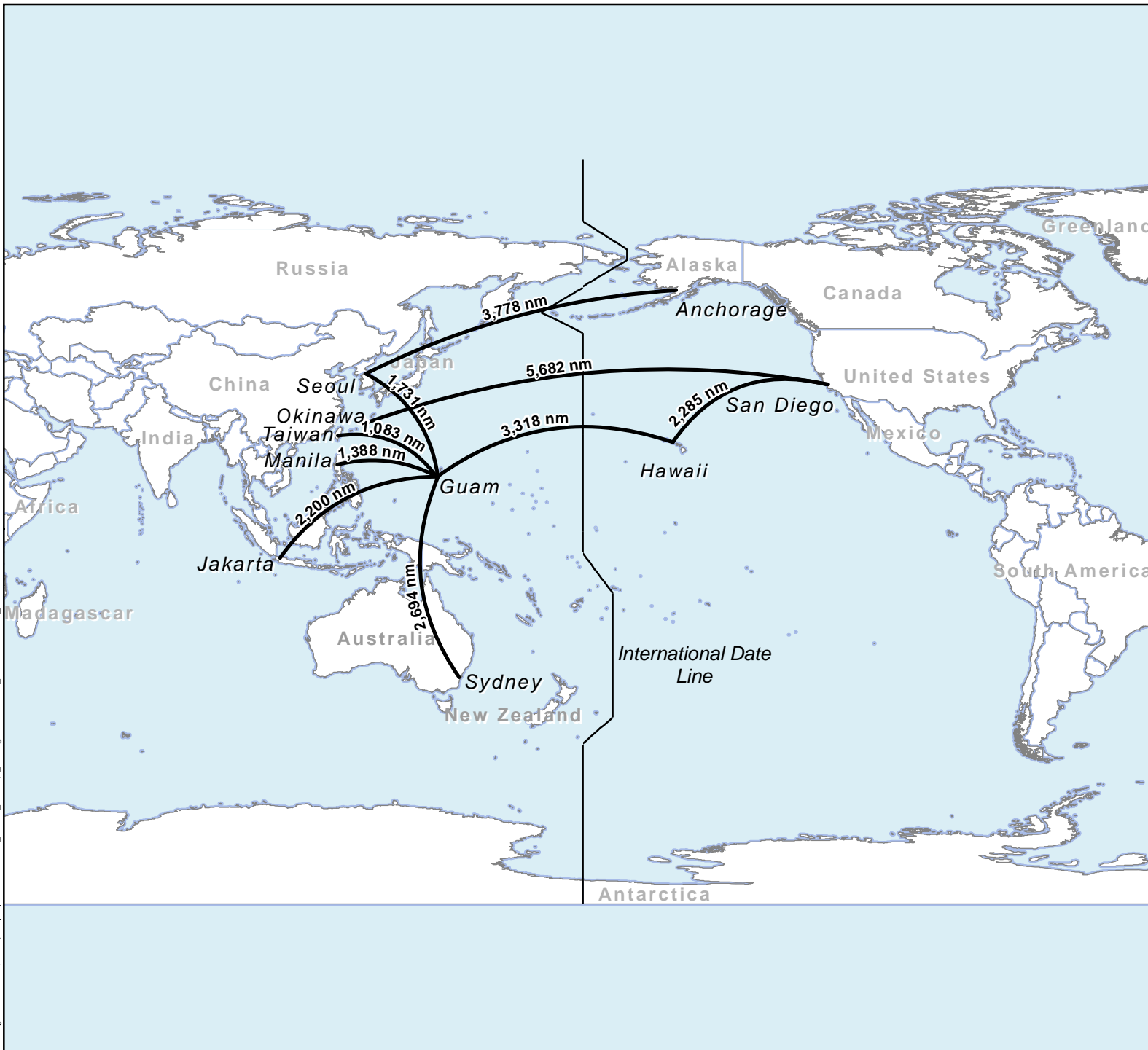
The reliance on shoreside utility support for a transient-capable port reduces the aircraft carrier's ability to get underway quickly. Compared to port visits, the longer berthing times and the delay in getting underway are important considerations for force protection. The CSG concentrates a large contingent of military personnel (greater than 7,000) along with hundreds of millions of dollars of military assets when it is in a transient port, so force protection is critical. In assessing possible locations for transient-capable ports, the unique requirements for emergent (unscheduled) repairs, full shoreside utility support, and the increased force protection and security requirements that accompany the longer duration of visits make U.S. sovereign locations for the transient-capable port preferable.

Force protection concerns increase as the duration of the visit increases. Given the importance of the CSG, the Navy determined that it must have maximum flexibility to protect the CSG. While force protection concerns are met in foreign ports, accomplishment of this requirement is more feasible in U.S. territory. Under these criteria, force protection can be more easily met in Guam, Hawaii, Washington, and California; therefore, these areas are preferred over other countries because they provide the most flexibility in the combined requirements for force protection and freedom of action.

#### 1.1.3.4 Response Times

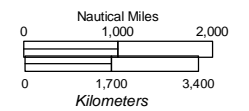
To meet the QDR stated policy initiatives, a comparative analysis of the potential response times from existing homeports and traditional port visit locations was conducted. The travel distances depicted in Figure 1.1-2 and the response times in Table 1.1-1 show the challenge of siting a transient-capable port to ensure that aircraft carriers can rapidly respond to a crisis in the Western Pacific while providing for the critical freedom of action and force protection requirements this asset requires. Ports in the region that have previously accommodated U.S. aircraft carriers for brief port visits were considered as potential locations for a transient port. Non-U.S. ports that have had port visits in the Western Pacific are located in Australia, Singapore, Hong Kong, and Japan. U.S. port locations that already support aircraft carriers include Hawaii, Guam, Washington, and California. Hawaii is located approximately 3,300 nautical miles (nm) (6,160 kilometers [km]) northeast of Guam in the opposite direction of the Western Pacific/Indian Ocean AOR. Hawaii is also outside of the AOR for Western Pacific operations. Transit times from the AOR to the West Coast are even longer. The transit time nearly doubles from Guam to Hawaii and again from Hawaii to California. Because of this additional transit time, restriction of transient-capable ports to Hawaii or California would significantly strain the capability to rapidly respond to a crisis in the Western Pacific or Indian Ocean. Accordingly, these locations were eliminated from further consideration based on their inability to meet the purpose of and need for the proposed action. Australia, Singapore, Hong Kong, Japan, and Guam are much closer to potential crises areas and the response times would be significantly shorter; therefore, they were retained as potential locations for development of extended aircraft carrier transient capabilities.





**Figure 1.1-2**  
Travel Distances within  
the Pacific Region

Source: Navy 2009



**Table 1.1-1. Representative Response Times to Southeast Asia by Sea**

	<i>Hawaii</i>	<i>Alaska</i>	<i>California</i>	<i>Guam</i>
<b>Sea Deployment</b> <sup>1</sup>				
Okinawa	8.5 days	N/A <sup>2</sup>	15 days	3.8 days
Taiwan	9.6 days	N/A <sup>2</sup>	16 days	5 days

Notes:

<sup>1</sup> Sea deployment times are based on ship speed of 20 knots (23 mph).

<sup>2</sup> There are no seaports in Alaska capable of CSG deployment.

Source: Navy 2008.

Utilization of a location in the Western Pacific would satisfy the QDR given that maintenance and supplies would be obtained closer to the area of operations, in effect, increasing the availability and presence of carriers in the Pacific due to the reduction in transits to other locations outside of the Western Pacific AOR. The greater availability and presence would enable quick responses to potential crises due to short travel times and distances to our allied nations and potential hot spots within the region.

#### 1.1.3.5 Summary of Global Alternatives Analysis for Proposed Transient-Capable Port

Overall, Guam, Hawaii, California, and Washington pose no limitation on freedom of action, and all have some available infrastructure to support an aircraft carrier visit. None, however, except for California and Washington, which are presently aircraft carrier homeport locations, have an aircraft carrier transient-capable pier. California, Washington, and Hawaii locations, however, would increase response times compared with locations within the Western Pacific AOR and constrain the U.S. ability to uphold treaty obligations. Those treaty obligations require that certain forces be within range to project power, to deter aggression and dissuade coercion in the Western Pacific. The aircraft carrier homeport in Japan is within the desired range; however, this pier is a dedicated homeported nuclear powered aircraft carrier pier and there is no additional capability to meet the needs of a transient nuclear powered aircraft carrier as specified by the QDR. Guam is close enough to many of the likely contingency areas in the region and potential threats to ensure rapid response, comply with treaty obligations, and assure the deterrent presence that U.S. forces bring to the region. Development of a transient port capability in Guam, because of the proximity of Guam to the Western Pacific/Indian Ocean AOR, would enable multiple CSGs to maximize time in the Western Pacific/Indian Ocean AOR. Transient port capability meets the defense and national security policy initiatives of the QDR. Finally, because Guam is U.S. sovereign territory, the combined requirements of freedom of action and force protection can be met while meeting the required operational flexibility.

Guam is a suitable base for a transient-capable berth for the following additional reasons.

- Guam maintains adequate infrastructure for shoreside utilities.
- Naval Base Guam already possesses emergent nuclear repair, radiation response and radioactive waste management capabilities.
- Guam has an existing logistics support network through the Defense Logistics Agency that is co-located on Naval Base Guam. While in port, the aircraft carrier continues to support the on-board military personnel while continuing its daily operations and maintenance of the ship and its aircraft. Food and other supplies must be reliably available for the ship.
- Guam provides adequate quality of life amenities. One of the primary reasons for the extended transient port visits is to provide for quality of life for Sailors and airmen deployed for extended periods of time to the Western Pacific associated with enhanced rotational presence. Studies have shown that extended deployments at sea may have detrimental effects on individual readiness unless adequate shoreside quality of life amenities are available for

rest and relaxation when the ship is in port. Morale and quality of life of individual Sailors is important to maintain a combat ready unit.

- Guam provides existing transient aircraft capabilities at Andersen Air Force Base (AFB) for visiting air wings.

In summary, the fundamental requirements to support the treaties and alliances, which ensure peace and stability in the region, as well as Guam's unique geography and port infrastructure, make it the best and only location to create a transient-capable carrier port to increase aircraft carrier presence in the Western Pacific.

#### 1.1.3.6 Transient Berthing Capability and Operation in Guam

The Navy plans to have six operationally available and sustainable aircraft carriers in the Pacific Fleet AOR, with the majority deployed in the Western Pacific and Indian Oceans, including the referenced transient carrier. To maximize operational availability, the carriers would remain deployed for longer periods of time and utilize the proposed wharf for unscheduled repairs. This can only be accomplished if the carrier docks in Apra Harbor for crew changes, logistics support, and crew recreation.

The present projected operational requirements indicate a proposed schedule for aircraft carrier transient visits with a cumulative total of up to 63 visit days per year, with an anticipated length of 21 days or less per visit. Schedules are subject to operational, contingency, and geopolitical considerations. The aircraft would continue to be accommodated at Andersen AFB on a space available basis. The aircraft carrier escort ships would be accommodated at Inner Apra Harbor, as is current practice.

The number of Guam transient port days would be directly related to the treaty and alliance requirements, operational requirements including contingency operations, geopolitical considerations, and the QDR as periodically updated. Aircraft carrier port visits are currently accommodated at Kilo Wharf, as it is the only Navy wharf in Guam that meets operational water depth requirements (-49.5 feet [ft], -15 meters [m] mean lower low water [MLLW]). During current port visits, the aircraft carriers do not require shoreside utility support. During these brief stays, the aircraft carriers rely entirely on their own shipboard utilities while pier side.

Kilo Wharf is also DoD's only dedicated munitions wharf in the AOR serving the 12 to 14 ammunition ships in the AOR. Navy Munitions Command Detachment Guam (NMC-DET Guam) provides munitions logistics support to the operational forces of the 5th and 7th Fleets. Access to the wharf and vicinity is restricted during munitions operations for safety reasons. There is a Department of Defense and Explosive Safety Board (DDESB) approved explosive safety arc delineating the area of restricted access. When there are no munitions operations at the wharf, other types of ships can berth at Kilo Wharf at the discretion of Port Operations.

On average, ammunition operations occur at Kilo Wharf 275 days per year (COMNAV Marianas 2007). These operations include loading or unloading ammunition to or from a ship and staging the ammunition on Kilo Wharf after it has been unloaded from a ship or in preparation of an ammunition ship arrival. Kilo Wharf is unavailable during unfavorable weather (tropical storms) or high seas, which occur an estimated 40 to 50 non-consecutive days per year (COMNAV Marianas 2007).

In addition to the days the wharf is unavailable due to munitions operations (275 days) and ocean or weather conditions (average 45 days), there are an estimated 40 to 45 days per year that the wharf is unavailable for use by the aircraft carrier due to maintenance work aboard cargo munitions ships that are docked at Kilo Wharf. Unscheduled repairs to these ships while loaded are restricted to Kilo Wharf because of the explosive safety considerations. If they require maintenance and are carrying munitions,

Kilo Wharf is the only wharf in Apra Harbor that has a DDESB approval for large quantities of munitions. A waiver is required from DDESB and Naval Ordnance Safety and Security Activity for ships carrying ammunition to berth in Inner Apra Harbor. These waivers are not readily granted because the large quantities of explosives berthed at a wharf that is unauthorized for large net explosive weights would represent an increased safety risk to nearby populations (NMC-DET Guam 2009).

Kilo Wharf usage is near capacity (estimated 275 days per year of use) without considering the aircraft carrier visits estimated at approximately 63 total days per year (NMC-DET Guam 2009). The aircraft carrier visits are managed through scheduling, but are disruptive to munitions operations and limit flexibility in carrier scheduling. Fleet and Military Sealift Command customers have been turned away due to the unavailability of Kilo Wharf (Commander Navy Installations Command 2006).

There are other challenges associated with an aircraft carrier berthing at Kilo Wharf that are manageable for the recent short duration port visits, but would be untenable for longer transient berthing requirements that include logistics, maintenance, and Morale Welfare and Recreation (MWR) support. Dependents, vendors, commercial delivery vehicles and non-DoD personnel are prohibited from entering the explosive safety arcs around Kilo Wharf. There is limited space for MWR activities at Kilo Wharf (NMC-DET Guam 2009).

Beginning in 2014, the munitions operations are projected to increase from 275 to 315 days per year at Kilo Wharf to support the programmed Navy, Marine Corps and Air Force missions (Commander Navy Installations Command 2006). The additional estimated 90 days of wharf unavailability due to ocean conditions, weather, and ship maintenance would exceed the Kilo Wharf annual capacity by an estimated 40 days per year. Adding the anticipated 63 visit days per year for the proposed action would exceed the Kilo Wharf annual capacity by an estimated 103 days. Regularly requesting waivers from DDESB to allow munitions cargo ships into Inner Apra Harbor is not a viable option. No other wharves in Apra Harbor meet the depth and security requirements associated with an aircraft carrier; consequently, a new wharf and shoreside infrastructure improvements are proposed.