

## **CHAPTER 16.**

### **MARINE TRANSPORTATION**

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#### **16.1 INTRODUCTION**

This chapter discusses the potential environmental consequences associated with implementation of the alternatives for Utilities and Off Base Roadway Projects (Guam) within the region of influence (ROI) for marine transportation. For a description of the affected environment for all resources, refer to the respective chapter of Volume 2 (Marine Corps Relocation – Guam). The locations described in that volume include the ROI for the utilities and roadway projects, and the chapters are presented in the same order as the resource areas contained in this volume.

#### **16.2 ENVIRONMENTAL CONSEQUENCES**

##### **16.2.1 Approach to Analysis**

The primary military, commercial, and recreational port facilities on Guam are located in Apra Harbor. It is critical that navigational access to the channels be maintained for these users. The consequences of the alternatives for the proposed project have been evaluated based on the magnitude and duration of impacts to navigation. For activities that would have an adverse impact on navigation, appropriate mitigation measures have been identified. The following analysis focuses on possible effects to marine transportation from the proposed relocation of the Marines from Okinawa to Guam.

###### **16.2.1.1 Methodology**

Apra Harbor is the only Department of Defense (DoD) harbor that could accommodate the Marine Corps ships; no documented alternatives analysis was conducted.

###### **16.2.1.2 Determination of Significance**

For marine transportation, the significance of impacts of the alternatives for Utilities and Off Base Roadway Projects are determined by the potential interference to marine vessel navigation from any proposed increase in vessel usage in Apra Harbor.

###### **16.2.1.3 Issues Identified During Public Scoping Process**

As part of the analysis, the concerns relating to navigation that were identified by the public during scoping meetings were reviewed. These concerns related to potential access restrictions to areas in Outer Apra Harbor as a result of the movement of military vessels.

##### **16.2.2 Power**

Power improvement alternatives would involve facilities that use fuel oil or liquefied natural gas (LNG). Fuel oil would be delivered by ship. It is expected that there would be up to one shipment of fuel oil per month. If a generating facility would be powered by LNG, the LNG would be transported in containers via a container ship from the United States (U.S.) and would be received at the container terminal at the Port of Guam. This would eliminate the need to develop or construct an LNG receiving terminal. The LNG would be transferred from the container ship to a truck for delivery to the LNG storage tanks. It is expected that there would be up to one shipment of LNG containers per month.

The annual number of vessels visiting the Port of Guam has decreased by 1,902 vessels over the period of 1995 to 2008. It is expected that the addition of up to 12 vessels per year transporting fuel for the power

facilities above the average annual number of vessels visiting the Port of Guam would result in less than a significant impact on marine transportation in Apra Harbor.

#### 16.2.2.1 Summary of Impacts

Table 16.2-1 summarizes the potential impacts of each interim alternative.

**Table 16.2-1. Summary of Potential Impacts to Marine Transportation-Power**

| <i>Potentially Impacted Resource</i> | <i>Interim Alternative 1*</i> | <i>Interim Alternative 2</i> | <i>Interim Alternative 3</i> |
|--------------------------------------|-------------------------------|------------------------------|------------------------------|
| Apra Harbor                          | LSI                           | LSI                          | LSI                          |

*Legend:* LSI = Less Than Significant Impacts. \*Preferred Alternative.

With the estimated additional annual number of ships needed to provide extra fuel for power plant operations being only 12, the impact on marine transportation would be less than significant.

#### 16.2.3 Potable Water

Neither of the potable water improvement alternatives would impact Apra Harbor or marine transportation within the harbor.

##### 16.2.3.1 Summary of Impacts

Table 16.2-2 summarizes the potential impacts of each alternative.

**Table 16.2-2. Summary of Potential Impacts to Marine Transportation-Potable Water**

| <i>Potentially Impacted Resource</i> | <i>Basic Alternative 1*</i> | <i>Basic Alternative 2</i> |
|--------------------------------------|-----------------------------|----------------------------|
| Apra Harbor                          | NI                          | NI                         |

*Legend:* NI = No Impact. \*Preferred Alternative.

#### 16.2.4 Wastewater

None of the wastewater improvement alternatives would impact Apra Harbor or marine transportation within the harbor.

##### 16.2.4.1 Summary of Impacts

Table 16.2-3 summarizes the potential impacts of each interim alternative.

**Table 16.2-3. Summary of Potential Impacts to Marine Transportation-Wastewater**

| <i>Potentially Impacted Resource</i> | <i>Interim Alternative 1*</i> | <i>Interim Alternative 2</i> |          |
|--------------------------------------|-------------------------------|------------------------------|----------|
|                                      |                               | <i>A</i>                     | <i>B</i> |
| Apra Harbor                          | NI                            | NI                           | NI       |

*Legend:* NI = No Impact. \*Preferred Alternative.

#### 16.2.5 Solid Waste

Solid waste improvement alternatives would not impact Apra Harbor or marine transportation within the harbor.

#### 16.2.6 Summary of Impacts

Table 16.2-4 summarizes the potential impacts of the preferred alternative.

**Table 16.2-4. Summary of Potential Impacts to Marine Transportation-Solid Waste**

| <i>Potentially Impacted Resource</i> | <i>Preferred Alternative</i> |
|--------------------------------------|------------------------------|
| Apra Harbor                          | NI                           |

Legend: NI = No Impact

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