



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105

October 25, 2010

In Reply Refer To: WTR-7

Mathews Pothen, President and CEO  
Guam Shipyard  
P.O. Box 13010 (NAVACTS)  
Santa Rita, Guam, 96915-3010

**Re: May 6, 2010 Storm Water Inspection**

Dear Mr. Pothen:

Enclosed is the October 25, 2010 report for our May 6, 2010 storm water inspection of the Apra Harbor naval waterfront for compliance with the Multi-Sector General Permit for industrial activities. Please submit a short response to the findings in Sections 3.0 and 3.2 of this report to EPA and Guam EPA, by **December 30, 2010**. This report also was sent under a separate cover letter to the Naval Base Guam. The main findings are summarized below:

- Guam Shipyard has maintained an updated SWPPP to determine and implement storm water control measures. Many were found effectively deployed (covered storm drains during shipyard activities, drain inlet stenciling, weekly walk-through inspections, swept up debris, spill containment kits ready for use, bilge handling capability, secondary containment around bilge transfer tanks, and the capture of air compressor condensate).
- No oily debris or oil staining on the waterfront, or oily sheen on the water was observed.
- There were a few missing or ineffective control measures. Pier scuppers were not sand-bagged during ship repair activities, the transfer of bilge, or during CHT riser use. There were fire pump and fresh water line leaks. Rusty debris and recyclable materials were found exposed to rainfall for long periods of time. There were no written operating procedures for CHT ships sanitary service, and not all CHT risers were in good condition.

I appreciate the helpfulness of you and your staff extended to me during this inspection. We remain available to the Guam Shipyard, Guam EPA, and the Navy to assist in any way. Please do not hesitate to call me or have your staff call me at (415) 972-3504, or e-mail [arthur.greg@epa.gov](mailto:arthur.greg@epa.gov).

Sincerely,

*Original signed by:*

Greg V. Arthur  
CWA Compliance Office

cc: Ivan Quinata, GEPA



**U.S. ENVIRONMENTAL PROTECTION AGENCY**

**REGION 9**

**CLEAN WATER ACT COMPLIANCE OFFICE**

**NPDES MSGP STORMWATER COMPLIANCE INSPECTION**

**Report No. 2**

MSGP Permittees: USN Naval Base Guam  
(NPDES 2008 MSGP - GUR05A211)

Guam Shipyard  
(NPDES 2008 MSGP - GUR05A267)

Facilities: Apra Harbor Naval Waterfront

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Dates of Inspection April 28, 2010 and May 6, 2010

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Inspected Facilities: Alpha/Bravo Polaris Point Wharves (Naval Base Guam)  
Delta/Echo Fueling Piers (FISC Fuel Depot)  
Kilo Wharf (Naval Magazine)  
Lima/Mike/November/Oscar/Papa/Quebec Wharves (Guam Shipyard)  
Finger Piers (Guam Shipyard)  
Sierra/Tango/Uniform/Victor Wharves (Naval Base Guam)  
Victor Wharf (Coast Guard)  
X-ray Wharf (Merchant Marine)

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Inspection Participants:

US EPA: Greg V. Arthur, CWA Compliance Office, (415) 972-3504

Guam EPA: Maricar Quezon, Engineer II, (671) 475-1601  
Oscar Delfin, Engineer III, (671) 475-1645

USN Naval Base Guam: Omar Domian, Naval Base Guam, Public Works, (671) 339-3712  
Mandy Mandapat, NAVFAC, (671) 339-5605  
Franklin Cruz, FISC Fuel Div, Asst Superintendent, (671) 339-2234



Blaise Koki, Naval Base Guam, Public Works, (671) 339-5314  
Domingo Cabusao, DZSP21, Envr Engr, (671) 333-2121  
Romeo Asuncion, DZSP21, Envr Engr, (671) 333-2133  
LT Chris Norton, Coast Guard, Chief of Inspections  
Dale Owens, DZSP21, Port Ops, Maintenance Supervisor

Guam Shipyard: Keith Carter, Shipyard Manager, (671) 339-3222  
Sonne Alston, Environmental Mgr, (671) 888-2190

Report Prepared By: Greg V. Arthur, Environmental Engineer, USEPA Region 9

October 25, 2010

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## 1.0 Scope and Purpose

As part of a comprehensive Clean Water Act review of the military and industrial installations around Apra Harbor, on April 28 and May 6, 2010, EPA conducted an NPDES storm water compliance evaluation inspection for industrial activities of the naval waterfront. The purpose of this inspection was to ensure compliance with the NPDES Multi-Sector General Permit (“MSGP”) for the industrial activities on the waterfront surrounding Apra Harbor at the Naval Base Guam and the Guam Shipyard.

This is the second of three reports. The first report covers the findings pertaining to the Apra Harbor WWTP, the contributing sewer system, and the service area sources within the Naval Base Guam and the Guam Shipyard. This second report covers the findings pertaining to the industrial storm water management of the naval port operations. The third reports will cover the industrial storm water management at the Guam Shipyard and the direct discharge of wastewaters from the Guam Shipyard floating dry dock to the ocean.

This NPDES storm water compliance evaluation inspection consisted of on-site inspections of the naval port activities for storm water at the Guam Shipyard and the Naval Base Guam. The inspection participants are listed on the title page. Arthur conducted the inspections on April 28 and May 6.

### 1.1 Naval Base Guam - Background

On November 24, 2008, EPA issued a Finding of Violation (CWA 309(a)-09-002) covering the Apra Harbor wastewater treatment plant and storm water management at the Naval Base Guam. The findings were based on a July 16-17, 2008 EPA multi-media inspection of the Naval Base Guam and the Guam Shipyard, as well as subsequent submittals by the Navy. For storm water, the Finding of Violation cited deficiencies in the Navy’s storm water pollution prevention plans (“SWPPPs”) for industrial activities in violation of the 2000 MSGP, and for construction activities in violation of the 2003 Construction General Permit (“CGP”).

| Storm Water – EPA 2008 Finding of Violation Summary |                             |   |
|---|-----------------------------|---|
| FofV § 25a  | MSGP Part 9.7.4             | SWPPP was not certified by a responsible official   |
| § 25b   | MSGP Part 4.2.7             | SWPPP does not include Section R for vessel repair activities   |
| § 25c   | MSGP Part 4.10.1            | SWPPP included some outdated maps and text  |
| § 25d   | MSGP Part 4.9.3             | SWPPP not updated with annual site compliance evaluation  |
| § 26a   | MSGP Part 1.3.1.2           | Drip pans not found in use at the transportation motor pool   |
| § 26b   | MSGP Part 4.11.12           | SWPPP and BMPs not available at the Apra Harbor WWTP  |
| § 32c, 33c, 34b                                     | CGP Part 3.1                | NOIs not filed by both the contractor and the Navy  |
| § 32e   | CGP Part 3.3.C              | SWPPP site maps were incomplete   |
| § 32f   | CGP Part 3.6.A              | Some sediment controls not maintained as operational  |
| § 32f, 33b, 33c, 33e-g, 34c                         | CGP Part 3.13 and CWA § 301 | Unpermitted discharge of construction related storm water (inadequate drain inlet and sediment controls, soil staining) |
| § 33d   | CGP Part 3.12               | SWPPP not available on construction site  |

These findings were based on 2008 EPA inspection reports, the 2000 MSGP, and the 2003 CGP.



The Navy appropriately responded to the November 24, 2008 EPA Finding of Violation by instituting a number of storm water management changes.

Industrial Activities – The Naval Base Guam qualifies for regulation under the requirements of the 2008 MSGP for industrial activities (MSGP ID No. GUR05A211). On December 31, 2008, after receipt of the Finding of Violation, and again on May 5, 2009, the Navy submitted a new Notice of Intent (“NOI”) for the Naval Base Guam that covers the following eight identified MSGP industrial sectors including Sector R for vessel repair activities.

Sector K – Hazardous Waste Treatment, Disposal or Storage  
Sector L – Landfills and Land Application Sites  
Sector N – Scrap Recycling Facilities  
Sector O – Steam Electric Generating Facilities  
Sector P – Land Transportation and Warehousing  
Sector R – Vessel Repair Activities  
Sector Q – Water Transportation  
Sector T – Treatment Works

The Navy also submitted a revised SWPPP on January 2, 2009, certified by the Commanding Officer, now incorporating Sector R related BMPs, and including updated facility maps and text. The Navy also delivered the SWPPP to the Apra Harbor Wastewater Treatment Plant and verified that the treatment plant operators understood the plan. Finally, in a January 15, 2009 submittal, the Navy also committed to institute and monitor the use of drip pans at the motor pool maintenance shop.

Construction Activities – The Naval Base Guam qualifies for regulation under the requirements of the 2008 CGP for construction activities (CGP ID numbers assigned per project). In November 2008, the Navy hired an environmental engineer to ensure construction storm water compliance including the oversight of the submittal of NOIs, the review of contractor SWPPPs, and the training of construction management and contract management personnel. The Navy now files NOIs for coverage along with the construction site contractors, and has committed to ensure all NOIs are filed prior to project start-ups. The Navy also developed a detailed inspection checklist based on the CGP to be used by the construction management personnel. Specific deficiencies at the three inspected construction sites were also addressed through the implementation of erosion controls, soil stabilization, and drain inlet controls.

## **1.2 Guam Shipyard - Background**

Industrial Activities - The Guam Shipyard qualifies for regulation under the requirements of the 2008 MSGP for industrial activities (MSGP ID No. GUR05A267). The Guam Shipyard submitted NOIs on April 12, 2001 and January 18, 2007 for coverage under the 2000 MSGP and on January 22, 2009 and November 5, 2009 for coverage under the 2008 MSGP. The NOI covers the following identified MSGP industrial sectors.

Sector K – Hazardous Waste Treatment, Disposal or Storage  
Sector R – Vessel Repair Activities



The Guam Shipyard developed a unified SWPPP to cover both the waterfront industrial activities under the MSGP and the on-ship industrial activities for the floating dry docks under a separate NPDES permit (No. GU0020362). The original SWPPP was developed and dated in 2001. Changes and notations of review have been made every December since then.

### 1.3 Description of the Naval Port Operations

Location - The Apra Harbor naval port operations consist of wharves and piers located at Orote Point, Polaris Point, the Fueling Depot, and the former Naval Ship Repair Facility.

**Figure 1.3**  
Apra Harbor Naval Ports – Wharf and Pier Locations



Operational Control – The naval port operations at the Naval Base Guam fall under multiple commands. Joint Region Marianas provides consolidated support management functions including port operations, environmental services, and administration of the Guam Shipyard lease agreement. A service detachment of the Fleet Industrial Supply Center (“FISC”) Yokosuka operates the fueling piers. The Naval Ordnance Annex operates the naval magazine pier. The Naval Facilities Engineering Center (“NAVFAC”) Marianas, under NAVFAC Pacific and Joint Region Marianas, provides public works, asset management, operations, engineering, construction management, and facilities management. A few portions of the



wharves also are operated by tenants, in particular, the Coast Guard and Quality Distributors for the Merchant Marine. The Guam Shipyard is a private leasee of the former Naval Ship Repair Facility (“NSRF”) including its associated naval port operations. In 1997 the Guam Economic Development Agency leased from the Navy the former NSRF after it was decommissioned from service. The Guam Shipyard subleased the former NSRF from the Guam Government. The Navy retains ownership.

Configuration – Listed below are the configurations and operational capacities observed during this inspection of the Apra Harbor naval port.

| Naval Base Guam Port Facilities |   | Bilge     | CHT       | Scrap  |
|---------------------------------|---|-----------|-----------|--------|
| Alpha Wharf                     | ships berthing, vessel repair                       | to risers | to risers | none   |
| Beta Wharf                      | ships berthing, oily water treatment, vessel repair | to risers | to risers | none   |
| Delta Pier                      | ships berthing, fuel terminal, vessel fueling       | to barge  | none      | none   |
| Echo Pier                       | ships berthing, fuel terminal, vessel fueling       | to barge  | to risers | none   |
| Kilo Wharf                      | under repair  | n/a       | n/a       | n/a    |
| Romeo Wharf                     | ships berthing                                      | to barge  | to risers | none   |
| Sierra Wharf                    | ships berthing                                      | to barge  | to risers | none   |
| Tango Wharf                     | ships berthing, SWOB berthing, vessel repair        | to barge  | to risers | none   |
| Uniform Wharf                   | awaiting repair                                     | n/a       | n/a       | n/a    |
| Victor Wharf                    | ships berthing, oily water treatment                | to barge  | to risers | none   |
| X-Ray Wharf                     | ships berthing, cold storage, cargo loading         | to barge  | to risers | debris |

| Guam Shipyard Port Facilities |   | Bilge    | CHT       | Scrap  |
|-------------------------------|---|----------|-----------|--------|
| Finger Piers                  | ships berthing, scrap yard                          | none     | none      | iron   |
| Lima Wharf                    | ships berthing, vessel repair, vessel storage       | to truck | to risers | iron   |
| Mike Wharf                    | ships berthing, vessel repair                       | to truck | to risers | iron   |
| November Wharf                | sub tender berthing, vessel repair, cargo loading   | to truck | to risers | debris |
| Oscar Wharf                   | ships berthing, vessel repair, vessel storage       | to truck | to risers | debris |
| Papa Wharf                    | ships berthing, dry dock berthing, oily water treat | to truck | to risers | n/a    |
| Quebec Wharf                  | ships berthing                                      | to truck | to risers | none   |

Drainage – The waterfront ships services at the wharves and piers include CHT connections, bilge wastewater collection, compressed air, steam, fresh water, and sea water for fire. The wharfs and piers are constructed with edge curbing facing the water and three types of built-in drainage controls. First, at regular intervals along the edge, there are breaks in the curbing that allow the discharge of drainage directly to the harbor. Second, there are storm sewer inlets sited further from the edge curbing draining through short outfalls to the harbor. Third, there are drains in the sumps for the CHT and bilge risers that discharge through valved outlets to the harbor.

### 1.3.1 CHT Ships Sanitary Services

The US Navy Apra Harbor sewage collection system and wastewater treatment plant handles 400,000 gallons per day on average of CHT ships sanitary generated from ships berthed at



Apra Harbor naval port. CHT risers on the waterfront each have one or more 4” hose coupling connections. The CHT risers drain by gravity sewers to lift stations for force main delivery to the Apra Harbor wastewater treatment plant. The flow estimates are based on a current average of 10 berthed ships (February 2010 NAVFAC ESC report, SSR-3450-ENV), and a United Facilities Criteria average estimate of CHT ships sanitary of ~30 gpm for per non-carrier ship (UFC 3-240-02N, 16 Jan 2004).

Naval Base Guam – Navy Port Operations (through DZSP21, a base support contractor) connect and disconnect the CHT hoses to the Naval Base Guam sewer system risers including those for the tenants at the Victor and X-ray Wharves. DZSP21 uses Annex 0600 Instruction POP-I-0026 covering the CHT systems. Ships personnel connect, fresh water flush, and disconnect the hoses on and off the ship’s risers. The flush just before disconnection lasts for around 10 minutes at full pressure according to the NAVFAC MO-340 Ship-to-Shore Hose Handling Operations Manual. The CHT risers operated by the Naval Base Guam included those found to be disabled (Uniform), and functioning in good condition (Alpha, Bravo, Delta, Echo, Victor, Sierra, Tango). See Photos #3-3 and #3-4 in Section 3.4 of this report on page 15.

Guam Shipyard – Guam Shipyard’s Pier Services Department connects and disconnects the CHT hoses on and off the shipyard sewer system risers under the lease contract with the Navy. Guam Shipyard does not have written operating procedures covering the CHT. The CHT risers operated by the Guam Shipyard included those found to be disabled (Lima), functioning in near disrepair (Oscar), and functioning in good condition (November). See Photos #3-1 and #3-2 in Section 3.4 of this report on page 15.

### **1.3.2 Bilge Wastewater Services**

Bilge is handled differently under different commands to five disposal destinations: (1) the Victor Wharf bilge oily water treatment system (“BOWTS”), (2) the Polaris Point BOWTS, (3) the FISC fuel reclamation system, (4) the Papa Wharf oil water separator, and (5) off-site hauling to Gresco or Unitek. All of the on-site treatment units discharge tail waters to the on-base domestic sewer system into the Apra Harbor wastewater treatment plant.

Naval Base Guam, Point Orote – The Navy Port Operations (through DZSP21, a base support contractor) off-loads bilge water from most of the berthed ships to SWOB barges or tanker trucks, and suction out the barges and tankers to the Victor Wharf BOWTS under Annex 0600 Instruction POP-I-0015. The 55,000 gallon capacity SWOB barges are floated to the Victor Wharf to be pumped out through pump station risers on the wharf which feed by underground pipe into the BOWTS. Tanker trucks are pumped out by hose directly into the BOWTS. See Photos #3-5 and #3-6 in Section 3.4 of this report on page 15.

Naval Base Guam, Polaris Point – The Alpha and Bravo Wharves have parallel bilge and CHT sewers. The bilge sewers include seven riser stations that feed to the Polaris Point BOWTS. The Navy Port Operations (through DZSP21) connect and disconnect bilge hoses to the waterfront bilge risers. See Photo #3-7 in Section 3.4 of this report on page 16.





Guam Shipyard, Papa Wharf – The Guam Shipyard’s Pier Services Department off-loads bilge from berthed or dry docked ships to truck tankers or on-shore tanks for delivery either to the Papa Wharf oil water separator or to off-site disposal by Gresco or Unitek. The Guam Shipyard SWPPP has specific BMPs for the waterfront. See Photos #3-8 and #3-9 in Section 3.4 of this report on page 16.

Naval Base Guam, Fueling Piers – The FISC fueling piers are constructed with containment pits built into the piers and located beneath the pumps and valving used in the off- and on-loading of fuel to and from ships at berth. Drainages, captured contamination, and off-loaded bilge all are conveyed by the dedicated „ballast’ pipeline to the fuel reclamation system. The Navy Port Operations have a specific SWPPP covering the operation of the fueling piers including the handling of bilge waters and drainages, and the deployment of booming. See Photo #3-10 in Section 3.4 of this report on page 16.

Contractors – Some non-military ships are serviced by contractors. One ship berthed at the Sierra Wharf during this inspection hired Unitek to off-load bilge and grey water to a tanker truck for off-site disposal. The waterfront operations were not under the oversight by Navy Port Operations. The contractor personnel did follow a check-list for waterfront services, called a Declaration of Inspection, issued by the Coast Guard.

### **1.3.3 Waterfront Vessel Repair Facilities**

The Guam Shipyard engages in vessel repair as part of the shipyard operations throughout the shipyard waterfront. The Naval Base Guam performs vessel repair boat maintenance at a few locations on the waterfront, in particular, in Bldg 3169 (Tango Wharf), and at Polaris Point (Alpha and Beta Wharves).

### **1.3.4 Waterfront Warehousing and Bulk Fuel Terminals**

The FISC fueling piers on the Apra Harbor waterfront (Delta and Echo Piers) are part of the Navy’s Sasa Valley fueling terminal and tank farm. Quality Distributors tenant-operates refrigerated warehousing on the waterfront (X-ray Wharf).

## **1.4 Facility SIC Codes**

The Naval Base Guam is assigned the SIC code for national security (SIC 9711). The Guam Shipyard is assigned the SIC code for ship building and repairing (SIC 3731).



## 2.0 MSGP Requirements

The 2008 Multi-Sector General Permit for storm water discharges associated with industrial activity (“MSGP”) advances general and specific requirements to facilities qualifying under certain industrial sectors by SIC code. The NOIs for the Naval Base Guam and the Guam Shipyard establish MSGP coverage for the following eight industrial sectors.

| Naval Base Guam Industrial Sectors | Applicability                             | SIC Code      |
|------------------------------------|---|---------------|
| K Hazardous Waste TSDF             | haz waste treatment, disposal, storage    | n/a           |
| L Landfills and Land Application   | muni/industrial non-haz land disposal     | n/a           |
| N Scrap Recycling Facilities       | scrap-waste recycling including used oil  | 5093          |
| O Steam Electric Generating        | steam electric including coal piles-cogen | n/a           |
| P *Land Transport and Warehousing  | truck-rail transport-warehousing-bulk oil | Gp40-43, 5171 |
| Q *Water Transportation            | freight transport-lighterage-pier maint   | Group 44      |
| R *Ship/Boat Building and Repair   | ship-boat building and repair             | Group 37      |
| T Treatment Works                  | sewage treatment plants over 1 mgd        | 4952          |

  

| Guam Shipyard Industrial Sectors | Applicability                          | SIC Code |
|----------------------------------|--|----------|
| K Hazardous Waste TSDF           | haz waste treatment, disposal, storage | n/a      |
| R *Ship/Boat Building and Repair | ship-boat building and repair          | Group 37 |

  

|   |
|---|
| * Only these MSGP industrial sectors apply to the waterfront. |
|---|

Sector P Land Transportation and Warehousing – This sector applies to the facilities that primarily engage in rail or truck freight transportation and warehousing. Within the qualifying SIC codes are the facilities that provide refrigerated cold storage warehousing, motor freight terminals, and bulk petroleum stations and terminals.

Sector Q Water Transportation – This sector applies to the facilities that primarily engage in ocean freight transportation services. Within the qualifying SIC codes are the facilities that provide cargo handling, transfer to barges, lightering, pier operation and maintenance, ships and ships hold cleaning, and marinas.

Sector R Ship and Boat Building and Repair Yards – This sector applies to the facilities that primarily engage in the building and repair of naval ships, tenders, tankers, barges, cargo vessels, boats, life rafts, pontoons, lighters, and floating dry docks.

Military Installations – For facilities under the national security SIC code, the MSGP has been applied to the industrial activities that would qualify independently by SIC code.

### 2.1 Applicability

Naval Base Guam – On May 5, 2009, the Navy submitted an NOI for the Naval Base Guam establishing coverage under the 2008 MSGP (Tracking No.GUR05A211) to take effect on June 4, 2009. Therefore, the MSGP applies to certain qualifying naval port operations on the Apra Harbor waterfront operated by the Navy and tenants. Sector P applies to the FISC



fueling piers (Delta, Echo), and the warehousing and cold storage facilities (X-ray). Sector Q applies to the cargo loading and unloading (Kilo, X-ray). Sector R applies to the boat repair facility in and near Bldg 3169 (Tango).

Guam Shipyard – On November 5, 2009, the Guam Shipyard submitted an NOI for the shipyard establishing coverage under the 2008 MSGP (Tracking No.GUR05A267) to take effect on December 5, 2009. Therefore the MSGP applies to the qualifying naval port operations on Apra Harbor waterfront under the shipyard’s operational control. Sector R applies to the entire waterfront (Lima, Mike, November, Oscar, Papa, Quebec, Romeo, and the Finger Piers), and floating dry docks (AFDB-8, AFDM-5).

## 2.2 General Control Measures

The 2008 MSGP requires the Navy and the Guam Shipyard to develop and implement SWPPPs that cover the Apra Harbor naval port operations. The SWPPP is required to incorporate the following general control measures.

Minimize Exposure – MSGP §2.1.2.1 requires minimizing the exposure of the manufacturing, processing, and material storage areas to rain and storm water runoff, with possible control measures for consideration to include protective roofing or covering, prevent runoff of contaminated flows, diversion away of run-on, containment and capture of leaks, prompt spill clean-up using dry methods, and the capture of process-related cleaning tail waters for discharge under a separate NPDES permit or to a sanitary sewer system.

Good Housekeeping – MSGP §2.1.2.2 requires all exposed areas to be kept clean through such measures as regular sweeping, orderly handling of materials, and storing materials in appropriate containers.

Maintenance – MSGP §2.1.2.3 requires regular inspection, testing, maintenance, and repair of all plant and equipment to prevent the inadvertent release of pollutants into storm water.

Spill Prevention and Response Procedures – MSGP §2.1.2.4 requires minimizing both the potential for pollutant releases and their exposure to storm water, as well as the development of spill response plans. This MSGP provision specifically requires plain labeling of containers, physical barriers between material storage and traffic areas, procedures for material storage and handling, procedures to remediate spills, and procedures for notification.

Erosion and Sediment Control – MSGP §2.1.2.5 requires site stabilization, runoff containment, and the placement of flow velocity dissipation devices to minimize on-site erosion.

Management of Runoff – MSGP §2.1.2.6 requires limiting the amount of storm water runoff to minimize the discharge of pollutants.

Salt Storage or Salt-Containing Piles – MSGP §2.1.2.7 requires enclosure or coverage of salt-containing piles, and measures to minimize the exposure to storm water resulting from the addition or the removal of materials from the piles.



Waste, Garbage, and Floatable Debris – MSGP §2.1.2.11 requires that there be no release of waste, garbage, and floatable debris through keeping all exposed areas free of these materials or by intercepting them before discharge.

Dust Generation and Vehicle Tracking of Industrial Materials – MSGP §2.1.2.12 requires minimization of dust generation and the off-site tracking of materials.

## **2.3 General Implementation Provisions**

SWPPP Revision – MSGP §3.1-3.4 requires the revision of the SWPPP in response to an unauthorized release, or violating discharge, or a legitimate determination of an inadequate or ineffective control measure.

Self-Assessments – MSGP §4.1-4.3 requires quarterly self-inspection of active sites for failing or missing control measures, quarterly visual assessment of storm water collected from identified outfalls, and annual comprehensive site inspections regarding the implementation of the control measures.

SWPPP Content – MSGP §5.1-5.4 requires the SWPPP to (1) identify the responsible people for the implementation of the control measures, (2) provide a site description with an annotated site map, (3) identify the material handling activities that could be pollutant sources, (4) describe the control measures, (5) set schedules for good housing, maintenance, spill prevention and response procedures, and training, (6) be signed by a responsible officer, (7) be available, and (8) include self-monitoring data and other documentation.

## **2.4 Specific Industrial Sector Control Measures**

The MSGP also requires the development and implementation of SWPPPs that incorporate additional BMPs that are specific to each of the qualifying industrial sectors.

Sector P Land Transportation and Warehousing – MSGP §8.P.3.1 requires (1) minimizing the exposure of vehicles and equipment awaiting maintenance to rain and storm water runoff, (2) minimizing contamination from fueling areas, and vehicle and equipment cleaning and maintenance, (3) plainly label and prevent contamination from storage vessels for used oil, oil filters, spent solvents, paint wastes, etc.

Sector Q Water Transportation – MSGP §8.Q.3.1 requires (1) capture of all pressure washing waters for separate discharge, (2) minimizing the release of blasting grit and paint overspray, (3) plainly label and prevent contamination from storage vessels for used oil, oil filters, spent solvents, paint wastes, etc, (4) minimize contamination from engine repair shops, materials handling areas, and (5) maintain and clean dry docks.

Sector R Ship and Boat Building and Repair Yards – MSGP §8.R.3.1 requires the same BMPs as Sector Q. MSGP §8.R.3.2 and 3 also require employee training regarding the control measures and the inspection and maintenance of storm water management devices.



### **3.0 Apra Harbor Naval Waterfront MSGP Compliance**

Most of the Naval Base Guam waterfront does not qualify for MSGP regulation under one of the identified industrial sectors. In the areas that do qualify, the Navy deployed the appropriate control measures for the subset of activities found present during this inspection. The Navy also deployed a number of effective built-in control measures and BMPs to prevent the inadvertent release of CHT ships sanitary and bilge water, two unregulated but much more significant potential waterfront sources of contamination into the storm water drainages. There were some inconsistencies in the written procedures for the connection and disconnection of the waterfront ships services, depending on the operator in charge.

The Guam Shipyard waterfront qualifies for MSGP regulation under Sector R for ship and boat building and repair. The Guam Shipyard deployed a number of effective control measures to prevent the release of debris, oils, bilge waters, and CHT ships sanitary into the harbor through the storm sewer drainages. However, some accumulation of debris and recyclable materials was found along the waterfront, and various parts of the ships services infrastructure were found to be in disrepair.

#### ***Requirements***

- None.

#### ***Recommendations***

- The Navy and the Guam Shipyard should consider standardizing the written procedures for the CHT ships sanitary and bilge wastewater services along the entire waterfront.
- The Navy should consider implementing the oversight of tenant storm water operations.
- The Guam Shipyard should remove accumulated materials and debris from the waterfront more frequently.
- The Guam Shipyard should repair all fire pump and fresh water line leaks.

### **3.1 Naval Base Guam Waterfront Control Measures**

Only parts of the Naval Base Guam waterfront qualify for MSGP regulation under one of the identified industrial sectors. Sector P applies to the FISC fueling piers (Delta, Echo), and the warehousing and cold storage facilities (X-ray). Sector Q applies to the cargo loading and un-loading (Kilo, X-ray). Sector R applies to the boat repair facility in and near Bldg 3169 (Tango). There may be other waterfront activities qualifying for coverage under the MSGP, however, this inspection was not comprehensive enough to make definitive determinations, and not all activities are always performed. Nevertheless, the Navy has not limited the deployment of control measures to the regulated industrial sectors, but rather has generally applied control measures to all portions of the naval waterfront.



General Waterfront – Listed below are the effective storm water control measures (+) and ineffective, improvable, or missing control measures (-) observed during this inspection of the waterfront. See Photos #3-3 and #3-6 in Section 3.4 of this report on page 15.

- + The SWPPP is detailed, up to date, with the procedures clearly described, and the control measures well understood by the NAVFAC personnel.
- + Navy Port Operations has written procedures for CHT and bilge wastewater service.
- + All CHT ships sanitary risers were found in good condition.
- + Drain lines from the CHT riser boxes are closed when the CHT risers are in use.
- + Bilge riser caps are locked and tagged out.
- + Nearly all wharves and piers were found free of debris piles, swept clean, and unstained by oily drainage. Only the Uniform Wharf was not in operable condition.

Polaris Point – Submarines were observed at berth during the April 28th inspection of the Polaris Point BOWTS, but all had departed by the May 6th inspection of the waterfront. As a result, there were no waterfront activities observed during this inspection and thus no control measures were needed or deployed. See Photos #3-7, #3-13 in Section 3.4 of this report on pages 16 and 17.

- + The Polaris Point BOTWS is surrounded by secondary containment.
- + There are dedicated bilge risers and delivery lines to the Polaris Point BOWTS.

Fueling Piers – There were no fueling operations observed during the April 28th inspection of the fueling piers, fuel farm, and fuel reclamation unit. Nevertheless, a number of effective control measures were observed in-place and in operation. See Photos #3-4, #3-10, #3-12, and #3-14 in Section 3.4 of this report on pages 15, 16, and 17.

- + Booming was deployed around the FISC fueling piers.
- + All fueling pier drainage is captured in large drainage sumps for pumped delivery to the FISC Fuel Reclamation System.
- + All fuel lines and line connections are constructed within the fueling piers drainage sumps.
- + Fueling hoses are washed in a dedicated wash pad which drains to FISC reclaim.
- + During fueling operations, absorbent pads are placed beneath all hose couplings.

Orote Point – There were ships berthed at the Sierra, Tango, and Victor Wharves, as well as MSGP qualifying industrial sector activities at the Tango and X-ray Wharves. See Photos #3-3 #3-5, and #3-6 in Section 3.4 of this report on page 15.

- + The Victor Wharf BOWTS is surrounded by secondary containment.
- + Boat repair activities are performed mostly inside Bldg 3169.
- Bldg 3169 prop test water drained through scupper drains at the Tango Wharf.
- + The scupper drains were sandbagged during construction activities at the X-ray Wharf.
- + Portable generators were operated within secondary containment.
- A shipping company used a contractor to off-load bilge to tanker truck without written procedures or Navy Port Operations oversight.
- Ships debris was left on the X-ray Wharf under the removal responsibility of the tenant.



### 3.2 Guam Shipyard Waterfront Control Measures

Shipyard Control Measures - The Guam Shipyard waterfront qualifies for MSGP regulation under Sector R for Ship and Boat Building and Repair. There were ships berthed at the Lima, Mike, November, and Oscar Wharves, and a floating dry dock at the Papa Wharf. Listed below are the effective storm water control measures (+) and ineffective, improvable, or missing control measures (-) observed during this inspection of the water-front. See Photos #3-11, #3-15, #3-16, #3-17 and #3-18 in Section 3.4 of this report on pages 16 and 17.

- + The SWPPP is detailed, up to date, with the control measures well understood, and the procedures clearly described.
- + Inland storm drains are covered during ship building and repair activities.
- + Storm water drain inlets have stenciled information signs.
- + Walk-throughs are performed weekly to identify the need to deploy control measures.
- + Debris on the waterfront is swept weekly to the center point between the crane rails.
- + Spill containment kits were deployed and ready for use.
- + No oily debris, oil staining, or oil sheen on the water was observed.
- Debris haul-off is on a weekly schedule but rusty debris was found on the wharves.
- Piers scupper are not sandbagged during ship repair activities.
- Recyclable materials have remained staged for off-hauling and thus exposed to storm water contact for long periods of time.

Ships Services – The Guam Shipyard provides ships services which have the potential to inadvertently release bilge waters, CHT ships sanitary, or compressor condensate into the harbor through the existing storm water drainages. See Photos #3-8 and #3-9 in Section 3.4 of this report on page 16.

- + Air compressor condensate is drained from the lines and collected to drums.
- + Portable bilge oily water storage tanks were deployed within secondary containment.
- Guam Shipyard does not have written operating procedures covering the CHT.
- Not all CHT ships sanitary risers were found in good condition.
- + Drain lines from the CHT riser boxes are closed when the CHT risers are in use.
- Piers scupper are not sandbagged during the transfer of bilge to tankers, or during CHT ships sanitary riser use.
- Observed fire pump and fresh water line leaks can carry contamination into the harbor through the storm water drains.

### 3.3 Guam Shipyard Floating Dry Docks

The Guam Shipyard has two auxiliary floating dry docks. The Machinist (AFDB-8), classified as a large auxiliary floating dry dock, is operational and berthed on the west side of the property. The Resourceful (AFDM-5), classified as a medium auxiliary floating dry dock, is berthed at Papa Wharf but is not now operational. The Machinist (AFDB-8) operates under a separate NPDES permit that covers discharges of non-contact cooling waters, dry dock deck drainage, and vessel hull washing. The storm water management for the floating dry docks will be covered in a separate inspection report.



### 3.4 Photo Documentation

The 33 digital photographs taken of the naval port are saved to digital file as *guam-\*number\*-\*date\*.jpg*. The photos on this page are of the CHT risers and bilge oily water handling.



Photo #3-1: Oscar Wharf - CHT Sewer Riser  
Taken By: Greg V. Arthur  
Date: 04/26/10



Photo #3-2: November Wharf - CHT Sewer Riser  
Taken By: Greg V. Arthur  
Date: 04/26/10



Photo #3-3: Sierra Wharf - CHT Sewer Riser  
Taken By: Greg V. Arthur  
Date: 04/28/10



Photo #3-4: Echo Fueling Pier - CHT Sewer Riser  
Taken By: Greg V. Arthur  
Date: 04/28/10



Photo #3-5: Victor Wharf - SWOB Bilge Barge  
Taken By: Greg V. Arthur  
Date: 05/06/10



Photo #3-6: Victor Wharf - Bilge Pump Station Riser  
Taken By: Greg V. Arthur  
Date: 05/06/10





The photos on this page are of the bilge oily wastewater handling and drainage control measures implemented on the Apra Harbor waterfront.



Photo #3-7: Bravo Wharf - Bilge Sewer Riser  
Taken By: Greg V. Arthur  
Date: 04/28/10



Photo #3-8: Lima Wharf - Bilge to Holding to Tanker  
Taken By: Greg V. Arthur  
Date: 04/27/10



Photo #3-9: Papa Wharf - Bilge Oily Water Separator  
Taken By: Greg V. Arthur  
Date: 04/27/10



Photo #3-10: Fueling Piers - Bilge and Ballast Line  
Taken By: Greg V. Arthur  
Date: 04/28/10



Photo #3-11: November Wharf - Covered Drain  
Taken By: Greg V. Arthur  
Date: 04/27/10



Photo #3-12: Delta Fueling Pier - Containment Sumps  
Taken By: Greg V. Arthur  
Date: 04/28/10



The photos on this page are of process and drainage control measures implemented on the Apra Harbor waterfront.



*Photo #3-13: Beta Wharf – Curbing Around BOWTS  
Taken By: Greg V. Arthur  
Date: 04/28/10*



*Photo #3-14: Echo Fueling Pier – Boom Deployment  
Taken By: Greg V. Arthur  
Date: 04/28/10*



*Photo #3-15: Mike Wharf – Swale Between Rails  
Taken By: Greg V. Arthur  
Date: 05/06/10*



*Photo #3-16: November Wharf – Condensate Capture  
Taken By: Greg V. Arthur  
Date: 05/06/10*



*Photo #3-17: Lima Wharf – Swept Outside Rails  
Taken By: Greg V. Arthur  
Date: 04/27/10*



*Photo #3-18: Finger Pier – Scrapyard  
Taken By: Greg V. Arthur  
Date: 05/06/10*