

**FY06 POLLUTION PREVENTION AWARD
NAVAL STATION EVERETT
EVERETT, WASHINGTON**

Introduction

Naval Station Everett (NAVSTA Everett) is located in northwest Washington State with the main Waterfront Site on the Puget Sound at Everett, Washington. The station is home to the aircraft carrier USS ABRAHAM LINCOLN (CVN-72) and the five frigates and destroyers of Destroyer Squadron NINE (DESRON 9). It supports twenty-eight tenants including two U.S. Coast Guard vessels.



The station's Waterfront Site, commissioned in 1993, is a major presence along the Everett waterfront. A short distance west of downtown Everett with a popular marina and retail area along the north boundary and the Kimberly-Clark industrial facility immediately south, NAVSTA Everett is a 117 acre developed site supporting port operations and vessel maintenance plus recreation activities include a 90-slip marina with 2830 linear feet of space and about 13 acres of recreational areas.

The station's two nearby remote facilities are the Navy Support Complex at Smoky Point and Naval Radio Station (T) Jim Creek in Snohomish County. Including tenants, NAVSTA Everett is home to over 5,000 military personnel and their families and over 600 civilian personnel. It supports an active duty, spouse, and dependent population of over 14,000 and ranks as the second largest Snohomish County employer.

Naval Radio Station (T) Jim Creek is made up of 4,600 acres located about 25 miles north of Everett in the foothills of the North Cascade Mountains. The station operates a very low frequency (VLF) radio transmitting facility that relays communications from Naval Command to elements of the Pacific Fleet. The 4,600 acres includes old-growth conifer forest, lakes, streams, wetlands, fisheries, and threatened and endangered wildlife habitat. Morale Welfare and Recreation (MWR) supports outdoor recreational opportunities including camping, fishing, biking, and hiking.

The Navy Support Complex (NSC) site is located in Marysville, Washington on 52 acres, approximately nine miles northeast of the Waterfront Site. It has various support activities including the Navy Exchange and Commissary. The 52 acres consists of upland meadows, jurisdictional wetlands (native growth protective easement), detention ponds, bio-swales, improved and semi-improved grounds.

Background

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Port and fueling operations plus ship, facility and utility operations and maintenance to support the mission pose special environmental challenges at NAVSTA Everett's Waterfront Site. The operational tempo quickly shifts to a high pace upon the arrival and departure of the aircraft carrier and other ships. Operations are more variable than routine. Supporting a population that fluxes greatly with the arrival and departure of the aircraft carrier also presents unique challenges. Maintaining consistent environmental excellence during these rapidly expanding and contracting periods requires flexible and conscientious environmental management at all levels.

For Naval Radio Station (T) Jim Creek, environmental challenges are part of supporting operation and maintenance of the antenna field and facilities along with the recreational facilities in this relatively pristine area of old growth forest and salmon-bearing creeks. At the Naval Support Activity, Marysville the challenges are similar to those of a large shopping district with acres of parking and typical commercial and maintenance operations.

Operations at all three locations generate substantial amounts of solid waste and wastewater. The station accepts and processes hazardous and solid waste from the ships, making reduction and minimization especially challenging. In-port ship support includes fueling and collection of compensating ballast water. In the rainy Pacific Northwest climate, storm water runoff to Puget Sound and salmon-bearing creeks is a significant environmental aspect along with spills and other discharges. Air quality is highly regulated and monitored by agencies so that, while the station has relatively few emissions, these are significant due to the permit requirements. A systemic approach to environmental management is needed to meet these challenges.

While NAVSTA Everett had established a Washington State version of an environmental management system (EMS) in 1999, this program was essentially an annual report listing pollution prevention goals and tracking progress. The station successfully implemented important pollution prevention projects in those years but since NAVSTA Everett is a fairly new facility, a more scrupulous approach was needed to identify those pollution prevention priorities having the most benefit that would secure leadership's support. In addition, rigor in environmental management was needed to comply with new requirements in critical areas to avoid being vulnerable to regulatory penalty and to reduce risks to the environment. Upgrading the EMS to support mission and compliance became a top priority.

Program Summary

Program Management: Improvements to environmental program management has been a key NAVSTA Everett goal for the past two years. Shortly after taking command of NAVSTA Everett in July 2004, the Commanding Officer (CO) established new FY05 goals, objectives and targets for the solid waste program to reduce solid waste and expand recycling across the station, initiate composting, and dramatically increase education and promotion. In addition, the CO called for improvements in energy conservation and spill prevention based on review of the goals set under Washington State's EMS Alternative.

Early in FY05 the CO directed that the station establish an EMS that would conform to Department of Defense (DoD) and Component policy and guidance. This called for substantial progress in identifying aspects and impacts, and to establish operational controls, training and

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document control. It included expansion of compliance oversight through the Environmental Quality Assessment program with effective communication to work centers on results and to correct deficiencies. For FY06, the CO directed that additional progress be made in these same areas as well as for contracts and emergency preparedness and response. He also mandated improvements in spill prevention and efforts to protect water quality.

Orientation to Mission: The station initiated all elements of an EMS in the FY05 and FY06 with the focus being to directly support missions and reduce risks to operations through compliance and stewardship as well as protect the environment. Specifically, the station set new EMS goals and objectives, implemented operational controls, expanded work center and staff training and deployed a quarterly assessment program. The station updated critical plans such as the Spill Prevention, Control and Countermeasures (SPCC), Storm Water Pollution Prevention Plan (SWPPP) and Hazardous Waste Management Plan (HWMP). The Environmental Department set up a new process to evaluate multiple actions throughout the station needed to support operational requirements and projects.

Technical Merit: During the past two years NAVSTA Everett dramatically improved its solid waste recycling capability and participation so that it doubled the amount of recycled materials and reduced disposal by 400 tons. Energy conservation netted a 13.25% reduction in natural gas usage between FY04 and FY05. All SPCC and SWPPP actions are completed. Tighter controls are in place to prevent and respond rapidly to spills and to protect water and wastewater. These are particularly critical to minimize impacts to mission.

Transferability: The EMS elements especially the aspects and impacts project, equipment-specific checklists for air assessments, document control and the ballast compensating water treatment system continue to be considered and evaluated for benefits to other installations.

Stakeholder Interaction: Coordination with the community and stakeholders is on-going in multiple areas including environmental management. The community liaison and planning position established in 2005 is important in coordinating with local governments particularly to address environmental issues of mutual concern. The Earth Day, Energy Awareness and Jetty Island projects are just a few examples of the continuous interaction with the community.

Accomplishments

Recycling Program

NAVSTA Everett doubled the tonnage of solid waste materials recycled in the FY05/06 period from the previous two year cycle and increased its recycling rate from mid-40% levels in the FY03/04 period to now close to 60% in FY06. It decreased by 400 tons the total amount disposed off station. This achievement is remarkable because waste generation almost doubled in FY05/06 due to high operational tempo and special projects.

By substantially expanding the Recycling Center's capability and making recycling education and promotion a top command priority, the station was able to meet the challenge of the increased operational tempo and waste generation. Without these advances, the station would instead have seen its disposal amounts and costs sky-rocket.

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Recycled Materials	FY03/04 tons	FY05/06 tons
Food (kitchen grease)	20.9	74.3
Wood	164.9	402.3
Plastic	23.1	33.7
Paper	1016.0	1922.1
Metals	292.9	384.9
Glass	8.4	10.8

Process Improvement

NAVSTA Everett continues to improve its prototype processing of compensating ballast (comp) water collected during the refueling of ships with ultimate discharge to the City of Everett's sanitary system. Comp water has small quantities of oils and metals such as zinc. Virtually all other Naval Stations allow ships to discharge comp water directly into the marine waters during refueling operations.



NAVSTA Everett's coordination with the City of Everett in diverting and treating comp water in this unique pollution prevention project is challenging but the benefits to Puget Sound are substantial. The station uses a fuel barge that can collect up to 315,000 gallons of comp water directly from the ships.

The Compensating Ballast Water Treatment System on the barge was designed and installed as a Marine Pollution Control Device in support of the Uniform National Discharge Standards by Naval Facility Engineering Service Center, Port Hueneme. Rather than discharge directly to Puget Sound, NAVSTA Everett first diverted the water by pumping from the ships to an oily water separator that discharged to the sanitary system. Regulations required three people to monitor the entire evolution. The comp water treatment system in use today aboard the barge requires only one person to turn the system on and that person can walk away once the process begins. The treatment process saves over \$100,000 per year and the collection barge reduces the risk of oil spills during refueling.

In FY05 a sand filter was added to the system to bring zinc levels discharging to the sanitary system to below 4 parts per million. Zinc levels have now fallen to ranges of parts per billion when properly operating. Spill response and port operations personnel from several other Navy Bases have visited Naval Station Everett to evaluate technology transfer or modifications.

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Efficient Energy Management under E.O. 13123

NAVSTA Everett continues to reduce its energy usage rate. FY05 had a decrease of 21,768 Million British Thermal Unit (MMBtu) between FY04 and FY05, a 13.25% reduction in natural gas usage using the Secretary of the Navy (SECNAV) criteria and performance data guidance for energy reduction progress tracking. Recent success results from conservation projects, sound energy management practices and promoting energy conservation awareness. Projects included:

- Installed Energy Management Control System (EMCS) and upgrade to Direct Digital Control (DDC) in FY05 that upgraded heating, ventilation and air conditioner (HVAC) controls, installed remote monitoring system for gas and electric meters and performs energy reduction measures across the entire station. Savings total 428,000 kilo-watt hours (kW-h)/year. The EMCS/DDC upgrade automates meter reading and provides analysis and load profiling.
- Steam Plant Boiler Control Procedures: Implemented procedures to shut down steam plant boilers completely when ships requiring steam are not in-port. Shut down eliminates use of fuel oil as a back-up fuel during natural gas curtailments occurring in winter.
- Replaced boiler with energy efficient boiler and installed thermo blanket on water heater at Commons, a high energy/hot water usage facility.

Basic Energy Management Practices contributing to energy reduction included:

- Temperatures were set back during unoccupied times, shades used to block sun on hot days
- No incandescent lights with >20 hr/wk use and exterior lights were off during the day
- All steam lines checked for leaks, repairs complete or scheduled
- All HVAC controls systems tested for schedule/temp and adjusted

Leadership in Environmental Management under E.O. 13148

At the beginning of FY05 NAVSTA Everett's CO directed the station's Environmental Department to take the lead in establishing an EMS to conform to Department of Defense (DoD) and Component policy and guidance and aggressively promote major pollution prevention initiatives to reach its goals and objectives. In partnership with Navy Region Northwest and with cooperation from station departments and tenants, NAVSTA Everett initiated every element of an EMS to a level that either met or exceeded EMS implementation objectives and targets.

In 2005 the station and Navy Region Northwest carried out a comprehensive inventory of aspects and impacts of the station's activities as a regional pilot project. The station used that inventory to set priorities, expand its assessment program, improve its checklists, upgrade and target training and institute operational controls. The SPCC Plan, SWPPP and HWMP were updated and implemented in FY06 with improved understanding of the station's aspects and impacts. Document control was established with approval procedures for plans, permits and records. These efforts targeted those aspects and impacts that were found to have the greatest risk to the mission and environmental compliance.

In conjunction with the Region, NAVSTA Everett trained environmental staff extensively in EMS, how to conduct assessments and audits, emergency and contingency response and risk communication. For contracts, the Environmental Department and Public Works worked together to improve planning, design and construction coordination. The Environmental

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Department and Puget Sound Naval Shipyard also initiated efforts to improve contract coordination for ship repair and maintenance.

During FY05 Navy Region Northwest embarked on establishing a region-wide EMS that would provide EMS elements across the installations. Consequently, the station comes under and has adopted the region's environmental policy. Other regional elements such as training and Regional EQA bolster the station's efforts so that their EMS programs work in concert.

Education, Outreach and Partnership

The station's promotion of environmental stewardship and pollution prevention is evident in the success of the 2005 and 2006 Earth Day and Energy Awareness Week events and the creosote log cleanup on Jetty Island. Hailed as two of the most successful events at the station, the Earth Day celebrations featured participation by the City of Everett, Snohomish County and other agencies and civic organizations. The key speaker for the 2006 Earth Day was the chairman of the Stillaguamish Tribe who thanked the sailors and civilians for the joint Navy and Tribal projects undertaken that week. In September 2006 the station helped remove creosote logs from Jetty Island, an island owned by the Port of Everett near the Naval Station. The coalition of volunteers from Navy, city, county, port, tribes, state and numerous environmental organizations made this one of the most successful community pollution prevention projects of the year.

In both FY05 and FY06 the Energy Awareness Weeks promoted energy conservation and recycling. Starting in FY05 the program expanded activities to include: awareness training to sailors, week long static displays, one-day Energy Fair showcasing local companies' energy projects, and hybrid vehicle displays and energy fun run.

Summarizing other pollution prevention accomplishments:

Material Management - The Hazardous Material (HAZMIN) Center established a hazardous material reuse program to redistribute unneeded material across the naval station. The HAZMIN Center continues to work to add organizations to its management program.

Green Building – The Security Department's armory and indoor range completed an upgrade in FY06 to contain lead pollution that posed risks to air quality, storm water and personnel safety.



Federal Fleet and Transportation Efficiency under E.O. 13149 – Use of the 50 electric vehicles was expanded during the past two years. These vehicles both reduce air emissions and save over \$100,000 per year in fuel costs. NAVSTA Everett also uses a 20% blend of bio-diesel and low sulfur diesel for all its transportation vehicles and diesel equipment.

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Program Summary

NAVSTA Everett's efforts in pollution prevention over the past two years focused on systemic improvements that would bring about long-term benefits to the Navy. The overall purpose of these improvements is to reduce risks to the station and its ability to support operations, build relations with the community and reduce costs. The following demonstrates NAVSTA Everett's wide-ranging achievements in FY05 and FY06 that meets the award nomination criteria of improved program management, technical merit, orientation to mission, transferability and stakeholder interaction:

- Established EMS with all elements initiated to conform to DoD and Component policy and guidance.
- Doubled the amount of solid waste recycled and reduced the amount of waste disposed by 400 tons in FY05 and FY06.
- Reduced natural gas usage by over 13%.
- Instituted environmental planning, design and construction support process to provide timely operational and project support
- Upgraded spill prevention and response program with formalized training and drilling to minimize impacts to operations due to fuel spills.
- Improved ballast compensating water treatment process to substantially lower zinc levels discharging to sanitary system. Continued to evaluate this pilot project for transferability to other naval stations as solution for managing compensating water.
- Inventoried environmental aspects and impacts of all processes across the station. This was an EMS pilot project for regional evaluation of level of effort and viability of performing inventory across the Navy Region Northwest
- Partnered with local and state governments, tribes and civic organizations for successful Earth Day, Energy Awareness and pollution prevention projects. Established community planning and liaison position to continuously interact with governments and businesses such as the Port of Everett and Kimberly-Clark for mutual understanding and coordination on environmental and local issues.