

**NAVSUP FLEET LOGISTICS CENTER PEARL HARBOR  
ENVIRONMENTAL QUALITY TEAM**

**INTRODUCTION**

The mission of the NAVSUP Fleet Logistics Center (FLC) Pearl Harbor is to provide logistics support to Fleet and Air Force units, and shore activities in the mid-Pacific area of responsibility. The command provides a wide range of logistics services to include contracting for Navy, Air Force and Joint commands; Fleet supply assistance, food service and subsistence support to 28 homeported ships and submarines and transient vessels; ocean cargo loading and offloading services; postal services; materials handling equipment (MHE) maintenance/repair; material management services for Air Force and Navy commands; flightline cargo and personnel transportation; and personal property shipping services for all DOD and Coast Guard members in Hawaii. NAVSUP FLC Pearl Harbor is also designated as a Defense Logistics Agency (DLA) Energy defense fuel support point (DFSP) with responsibility to store, manage and provide fuel to all military and Coast Guard units in Hawaii. The command is comprised of over 100 Navy, Air Force and Army military members and 376 civilian employees. The command is a tenant of Joint Base Pearl Harbor-Hickam (JBPHH) and is responsible for over 120 facilities located on the islands of O’ahu and Kaua’i. Facilities and environmental programs for the command are managed by the Facilities Division under the cognizance of the NAVSUP FLC Pearl Harbor Fuels Department, with support from the Naval Facilities Engineering Command, Hawaii (NAVFAC HI).

The NAVSUP FLC Pearl Harbor Environmental Quality Team was organized by the Fuel Department Director to ensure that all command facilities and operations comply with environmental requirements. Recognizing the need to protect Hawaii’s fragile environment, the Team incorporated best practices from the public and private sectors and ensured mission capability was not impacted. Since its establishment, the Team has expanded its focus to include personal awareness and environmental stewardship beyond the installation and into the community.

**TEAM MEMBERS**

**LCDR Angela Watson, SC, USN:** Lcdr Watson is the NAVSUP FLC Pearl Harbor, Fuel Department Director responsible for all aspects of fuel operations at the bulk and airfield fuel terminals to include receipt, issue and storage of fuel products; inventory control and accounting; quality control; and maintenance of all fuel facilities. Lcdr Watson is also responsible for the command’s facilities sustainment, repair and maintenance program.

**Jeffrey (Scott) Hedrick:** As the Deputy Director, Fuel Department, Mr. Hedrick assists the Fuel Department Director in the management of the department.

**LTJG Christopher Hebert, CEC, USN:** LTJG Hebert is NAVSUP FLC Pearl Harbor’s Public Works Officer and also serves as the command’s Environmental Officer, Energy Conservation Officer, and Safety Officer.

**Devin Kim:** Mr. Kim is the NAVSUP FLC Pearl Harbor, Fuel Department, Technical Division Director responsible for managing the Fuel Laboratory. The Fuel Laboratory maintains the quality control of all petroleum products received and stored by the Fuel Department.

**Alan Sugihara, P.E.:** Mr. Sugihara is the NAVFAC HI Environmental Engineer assigned to NAVSUP FLC Pearl Harbor. As the Environmental Coordinator, Mr. Sugihara provides technical expertise and serves as the point of contact on environmental and natural resources protection programs.

### ACCOMPLISHMENTS

From 1 October 2011 through 30 September 2013, NAVSUP FLC Pearl Harbor made significant improvements in energy conservation, environmental protection, and natural resources protection through the efforts of the Environmental Quality Team. While budget reductions and sequestration affected funding of several environmental projects, mounting fiscal pressures underscored the need to find savings through energy conservation and waste reduction. The Team sought out experts from other Navy commands and federal agencies to identify best practices, review alternative courses of action, and determine the optimum solution to meet command mission requirements while ensuring environmental requirements and energy goals were met. The results of the Team's efforts are summarized below.

### Environmental Management System (EMS)



As a tenant of JBPHH and Commander, Navy Region Hawaii (CNRH), NAVSUP FLC Pearl Harbor is included in the Region's EMS. However, to ensure that proper attention is given to environmental program requirements, every NAVSUP FLC Pearl Harbor Commanding Officer since 2010 has issued a policy statement that clearly expresses the vision and expectations for environmental and natural resources protection. The most recent policy statement was issued in July 2013.

The command has established several working groups and committees to address specific operations with an environmental aspect to reduce generation of waste, energy consumption, and risk to the environment. One example, the Hazardous Materials Control and Management Committee, met regularly to resolve issues and discuss new initiatives. Members included the NAVSUP FLC Pearl Harbor Consolidated Hazardous Material Reutilization and Inventory Management Program (CHRIMP) manager, shipboard and shoreside hazardous

materials (HM) users, and CNRH Safety and Environmental representatives. Following several meetings to discuss compliance with Green Procurement (GP) requirements, changes to existing HM procurement procedures were implemented to ensure compliance.

### Waste Reduction Efforts

**- Fuel Oil Reclamation Process Change:** In FY 2012, the Team reviewed operations at the Fuel Department's Fuel Oil Reclamation Facility (FORFAC) to improve efficiency. The process required adding strong corrosives and other chemicals to the water after separating and removing the fuel, to meet the water fraction required for discharge to the wastewater treatment plant as industrial wastewater. After revising the reclamation process and issuing a new instruction that controlled the types of material that the FORFAC would accept, the FORFAC operators noticed a significant improvement in the quality of the water fraction after reclaiming the oil. Conferring with the wastewater treatment plant, it was determined that use of these chemicals was no longer required to meet industrial wastewater discharge standards. This was confirmed after several samples were tested and found to meet those standards. The FORFAC stopped using the chemicals completely. This change reduced

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processing time, saved dollars by eliminating procurement of these chemicals, and reduced chemical handling and storage hazards to the FORFAC operators, while maintaining environmental standards and meeting mission requirements.

**- Solid Waste Reduction:** In November 2012, NAVSUP FLC Pearl Harbor was designated the host facility for an installation-wide electronic device recycling event. Working with NAVFAC HI, CNRH and the Defense Logistics Agency (DLA), the Team ensured that staging areas were prepared, and the “e-cycling” event was advertised to all JBPHH tenants and DOD organizations on the island. The event promoted environmental stewardship and enabled DOD activities across the island to dispose of electronic items in an environmentally responsible manner in compliance with Executive Order (E.O) 13514. The Team plans to coordinate future “e-cycling” events with its NAVFAC HI, CNRH and DLA partners.



*Cell phones, radios and other excess electronic equipment are turned in at the NAVSUP FLC Pearl Harbor-hosted recycling event.*

This event supplemented NAVSUP FLC Pearl Harbor’s ongoing participation in CNRH’s recycling program implemented under E.O. 13423. Items that are regularly turned in by NAVSUP FLC Pearl Harbor offices and shops for recycling include office white paper, corrugated cardboard, paperboard, glossy paper, newsprint, ferrous and non-ferrous metals, approved plastics, beverage containers, and other recyclable items. This practice has reduced the amount of waste that is sent offsite for disposal as well as, raised funds for CNRH’s recycling program.



*The contractor for a major fuel storage tank refurbishment project diverted over 5 tons of steel piping from the landfill by recycling.*

The Team also ensured that all construction contracts for NAVSUP FLC Pearl Harbor facilities include the requirement to maximize recycling and minimize generation of waste.

In addition, the FORFAC continues to process not ready for issue diesel and military jet fuel, turning what is often considered a waste product into feedstock that can be used by commercial industry. In FY 2012 and FY 2013, over 571,000 gallons of off-specification petroleum were diverted from the waste stream and sold for \$242,900. Cost avoidance by reclaiming vice disposing of off-specification fuel is estimated to be almost \$10 million.

### **Environmental Compliance Assessment and Management Program**

**- Routine Self-Assessments and Follow-Up:** Through a partnership with NAVFAC HI, internal audits and inspections were conducted at facilities and operations that were identified as having potentially significant environmental impact. These areas were typically evaluated for management and handling of hazardous waste, storm water pollution prevention, and spill prevention control and countermeasure programs. Deficiencies were addressed and repairs were made when structural discrepancies were found. When procedural problems were discovered in the mislabeling of waste containers, refresher training was conducted for all accumulation point managers, not only those at the inspected facility. When appropriate, findings were used as training opportunities or for articles in the quarterly environmental newsletter to share “lessons learned” with a wider audience.

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- **Water Pollution Risk Mitigation:** The NAVSUP FLC Pearl Harbor Ocean Terminals Division performs a vital ocean cargo loading/offloading and shipment function for all DOD activities in Hawaii. With the constant delivery or staging of shipping containers and equipment pier side, it is a challenge to ensure that the wharves are free of dirt and debris. To prevent any of these pollutants from being blown into the harbor by the trade winds or being washed over the side during a storm, the Ocean Terminals Division procured a street sweeper in FY 2012. The sweeper is used frequently at the wharves to prevent storm water runoff or windblown debris from polluting the water. This propane-powered vehicle (shown at right) meets the spirit of E.O. 13514 regarding alternative fueled vehicles.



- **Potable Water Use Reduction:** The Team initiated several projects that specifically directed the designers to incorporate sustainable features. One such project to pave a gravel parking area near a fueling facility, incorporated xeriscaping vice standard landscaping. Several native Hawaiian plant species ("*naupaka kahakai*", "*pohinahina*", etc.) that are well suited to the particular site climate were planted. This resulted in estimated savings of 140,000 gallons of water. Other landscaped areas throughout the command are being evaluated for conversion to xeriscaping to further reduce water consumption as required by EO 13423, EO 13514 and the DOD Strategic Sustainability Performance Plan.



*Team Leader LCDR Angela Watson inspects pohinahina (beach vitex) plants in the xeriscaped area.*

- **Natural Resources Protection and Energy Conservation:** To reduce usage and cost of electricity, a project to alter the NAVSUP FLC Pearl Harbor crane shed along the waterfront included the installation of exterior light fixtures using compact fluorescent lamps in luminaires with a shielded light housing. The compact fluorescent lamps replaced conventional incandescent lamps, and complied with International Dark-Sky Association recommendations to reduce light pollution. The lighting change was critical to preventing injury or death to wedge-tailed shearwater fledglings, a nocturnal sea bird species that is protected by the Migratory Bird Treaty Act, and enabled compliance with E.O. 13186. Future retrofitting of other buildings and facilities with these "dark sky" compliant exterior light fixtures is now being considered for both energy efficiency and protection of migratory birds.

- **Alternative Energy Vehicles:** In September 2012, NAVSUP FLC Pearl Harbor procured 13 plug-in electric vehicles to replace gasoline-powered vehicles following an evaluation of vehicle needs and usage. Replacement of the vehicles reduced petroleum usage and improved air quality by reducing exhaust emissions. Gasoline engine-generated CO<sub>2</sub> green house gas emissions were reduced by an estimated 10 metric tons per year, helping the command comply with EO 13514.



*Electric vehicles reduced the petroleum fuel consumption.*

- **Energy Conservation:** NAVSUP FLC Pearl Harbor took aggressive measures to reduce energy usage. Through partnering with the NAVFAC HI Energy Conservation Team and Hawaii Energy—an energy conservation non-profit organization—the Team initiated a program to use timers on plug-in electronic devices drawing phantom loads in off hours and weekends. This program included installation of timers for 15 water coolers and power strip timers controlling printers, fax machines, and copiers. The return on investment (ROI) for purchasing the timers was two months, with annual savings estimated at 1421 KWH. Additional energy saving projects are being investigated.

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In addition to saving energy through timers on electrical devices, the Team sought other progressive ways to conserve energy. One example is the Red Hill Fuel Facility that includes a 3.2 mile long tunnel, lit 24 hours a day for security, safety, and operational purposes. In investigating alternative lighting options, a multitude of upgrades and retrofits were considered, vetted, and scrutinized for maximum efficiency and return on investment. From the short list of the leading theoretical options, a trial was conducted where eight combinations of different wattage fluorescent bulbs, single/double bulb configurations, different ballasts, and fixture lenses were examined. Ultimately, 1053 fixtures with two 32 watt bulbs, low efficiency ballasts, and semi-opaque lenses were replaced with single 25 watt high efficiency T8 bulbs coupled with efficient high-factor ballasts and transparent ribbed lenses. This effort translated to annual energy savings of approximately 262,500 KWH or \$147,000. When including the savings from using longer lasting bulbs requiring less frequent changing, the life cycle savings is estimated to be over \$160,000.

**- Environmental Training:** NAVSUP FLC Pearl Harbor maintained an effective environmental training program, tailored to the needs of personnel. Classroom instruction was provided on specific topics such as hazardous waste accumulation management and storm water pollution prevention. Other training, such as EMS awareness for all command personnel, was conducted via computer based training. For certain members of the Fuel Department, assistance from DLA was obtained to conduct oil spill response and underground storage tank manager and operator training. The Team also worked with the CNRH On-Scene Coordinator to secure additional spill response and spill management team training at no cost to the command.

To augment formal training, the Team utilized the quarterly environmental newsletter that was distributed to all NAVSUP FLC Pearl Harbor military and civilian personnel to provide just-in-time information on various environmental topics of general interest. For example, prior to the start of Hawaii's "rainy season," the newsletter included an article on storm water pollution prevention and best management practices. Environmental fact sheets on selected topics such as hazardous waste management were also written and distributed to all personnel. The annual Earth Day Fair was also used as another venue to educate the workforce on current trends and specific environmental program requirements.



### Effective Use of Funds

Sequestration and financial constraints emphasized the need for a detailed evaluation of mission requirements and the importance of finding less expensive alternatives to traditional methods of accomplishing work. Under the Team's direction, NAVSUP FLC Pearl Harbor achieved that goal, while promoting good stewardship and ensuring environmental compliance. In one instance, disposal of processed chemicals was diverted from hazardous waste to industrial treatment by NAVFAC HI, saving \$9,000. Replacement of traditional landscaping with xeriscaping is estimated to save \$330 annually with additional savings anticipated as more landscaped areas are converted to xeriscaping. Replacement of gasoline engine-powered vehicles with plug-in electric utility vehicles saved \$4,400 in annual fuel costs. As Team members continue to work with all departments, process improvements and implementation of best environmental practices that result in cost savings will be the key to ensuring future mission capability in an austere fiscal environment.

## Community Relations

- **Navy Exchange Earth Day Exhibit:** In April 2013, the Team participated in the Navy Exchange's Earth Day Fair for the first time. The event provided an excellent opportunity to showcase the command's environmental protection program to Sailors, their families, and members of the public who visited the booth which was located at the entrance to the main Pearl Harbor Navy Exchange. The event also enabled Team members to network with other participants at the fair, to include the Hawaiian Electric Company, National Oceanic and Atmospheric Administration (NOAA), and the State of Hawaii Department of Land and Natural Resources.

- **State of Hawaii Humpback Whale Awareness Month Proclamation:** In February 2012, Team leader LCDR Watson and NAVSUP FLC Pearl Harbor Commanding Officer, CAPT Polowczyk, represented Navy Region Hawaii at a ceremony at the State Capitol where Hawaii Governor Neil Abercrombie declared February as Humpback Whale Awareness Month. Following the ceremony, they discussed the Navy's protection efforts in the Hawaiian Islands with Governor Abercrombie and Dr. Lewis Herman, University of Hawaii professor emeritus and renowned expert on humpback whales.



Governor Abercrombie, LCDR Watson and CAPT Polowczyk listen as Dr. Herman describes humpback whale



NAVSUP FLC Pearl Harbor volunteer scans the horizon for humpback

- **Humpback Whale Count:** In March 2012, January 2013 and March 2013, Team Leader LCDR Watson organized military and civilian volunteers from the command to assist NOAA in their annual humpback whale count field surveys. Teams were assigned to various locations on Oahu to count the number of humpback whales that they saw as well as the type of activity that the whales were engaged in (e.g., tail slaps, spouting or breaching). These surveys helped NOAA in their research on whale populations in the Hawaiian Islands Humpback Whale National Marine Sanctuary. Participants had a great time and learned much about humpback whales.

- **National Public Lands Day:** In September 2013, NAVSUP FLC Pearl Harbor volunteers participated in the National Public Lands Day beach cleanup organized by Navy Region Hawaii at Nimitz Beach, Oahu. Almost 100 bags of cigarette butts, plastic debris, glass, and other trash were collected. This waste was disposed of properly before it could enter the ocean and harm marine life and sea birds.



NAVSUP FLCPH volunteers pose with crew members from USS LAKE ERIE with their "catch of the day".

## JUDGING CRITERIA

### Program Management

The Team was challenged during this period to continue expanding the NAVSUP FLC Pearl Harbor environmental program with minimum funding. The Team managed to sponsor the "E-cycling" and Earth Day Fair events at essentially no cost to the command, while achieving its goals of educating the workforce, promoting environmental stewardship, and ensuring the proper disposal of electronic devices. The Team succeeded in finding and implementing alternative work processes, waste disposal methods, and facility improvements that saved scarce financial resources, while meeting all environmental criteria and regulations. Continual dialogue with CNRH and NAVFAC HI environmental personnel ensured the command requirements were addressed in the applicable

regional environmental plans, to include spill prevention and storm water pollution prevention. The Team leveraged the capabilities and technical expertise of personnel within the command, NAVFAC HI, CNRH, DLA, other Federal and State agencies, and the private sector to effect positive results in pollution prevention, energy conservation, hazardous waste reduction, environmental protection, community involvement, and command awareness.

### **Technical Merit**

During this period, the Team initiated the use of xeriscaping concepts in facilities projects to reduce consumption of potable water. The success of this effort led to incorporation of native Hawaiian plants requiring minimal use of water in the design of other projects, such as a shoreline protection project. Process changes in the Fuel Oil Reclamation Facility (FORFAC) has improved workforce safety, reduced operating costs and processing time without sacrificing environmental quality. Use of timing devices on office equipment and replacement of lighting with more energy efficient and eco-friendly designs and fixtures will reduce energy consumption. These techniques enhanced environmental quality, and resulted in cost savings without impacting mission capability.

### **Orientation to Mission**

The command's mission and mission capability were primary considerations in the Team 's efforts to improve environmental awareness, ensure compliance, and promote sustainability. The budgetary issues encountered during this period created the opportunity for the Team to focus on waste reduction and operational efficiencies to reduce operating costs, while identifying low cost alternatives/solutions that complied with environmental regulations and policies. A prime example of this is the change in procedures that allowed the FORFAC to stop using corrosive chemicals in its fuel reclamation process. In addition, Team members worked closely with project designers and contractors on all facility projects to address environmental requirements at the onset, thereby minimizing change orders, keeping projects on track, and reducing the risk of any impact on mission.

### **Transferability**

All Team initiatives can be replicated at other commands. Information on these projects has been provided to NAVSUP, CNRH, NAVFAC HI, and DLA via command SITREPs, newsletters, and other means. The Team continues to conduct Earth Day events because of its value in "getting its message out" to the work force as well as, others that attend. In this way, other commands on JBPHH can learn of the NAVSUP FLC Pearl Harbor Environmental Program and adopt similar ideas, practices, and technologies within their commands.

### **Stakeholder Interaction**

The Team recognized that the successful implementation of environmental protection strategies required involvement with other commands, agencies at the federal, state and local level, private organizations and individuals. This engagement is demonstrated in the annual Earth Day Fair, beach cleanup and whale count events; participation in the signing ceremony for the State of Hawaii humpback whale proclamation, and partnership with NAVFAC HI, CNRH and DLA in various training events. The most important stakeholder in the success of the program is the NAVSUP FLC Pearl Harbor workforce and the Team has committed to the continuing education and training of our personnel.

### **Project Impact / Outcomes**

The success of the FORFAC operational changes, xeriscaping concepts, energy conservation efforts, and alternative energy vehicle replacement, clearly demonstrate that a viable environmental protection program can enhance the command's mission by reducing costs, increasing operational efficiency, and improving worker safety. Effective communications and community outreach initiatives will also have a positive impact on community relations.