

Commander, Navy Region Southwest  
**NAVAL BASE SAN DIEGO, CA**

2014 SECRETARY OF DEFENSE ENVIRONMENTAL AWARDS  
SUSTAINABILITY - NON-INDUSTRIAL INSTALLATION NOMINATION

**INTRODUCTION**

Naval Base San Diego (NBSD) encompasses the NBSD main-site, the Broadway Complex in downtown San Diego, the Mission Gorge Recreation Center, the Balboa Complex which houses Naval Medical Center San Diego, NAVFAC SW Headquarters, and 18 family housing sites. NBSD occupies approximately 1,600 acres of land and 326 acres of San Diego bay, with 12 Piers and two channels offering 56,000 feet of berthing. NBSD has an on-base population of 35,000 military and civilian personnel and 5,500 single sailors housed in the Navy's largest PPV housing complex and other on base barracks. NBSD is divided into two distinct areas: the maintenance and repair area along the shoreline and the community facilities complex east of Harbor Drive. NBSD supports 57 ships, and 156 tenant commands. NBSD is also home to Military Sealift Command, Maritime Administration, and U.S. Coast Guard ships, as well as numerous other U.S. vessels. NBSD provides services, including housing, security, public works, environmental, supply, and administrative facilities for tenant units.

San Diego is America's sixth largest city and has become home to technology, telecommunications, and biotechnology companies. San Diegans take tremendous pride in their community and the local environment. In the spirit of community partnership, NBSD is a vigilant caretaker of its property, steadfast in compliance with environmental laws and regulations. NBSD has assumed this responsibility with an aggressive compliance oversight program and has developed superior relationships with San Diego's elected officials and the regulatory community.

**BACKGROUND**

**Sustainability** NBSD continues to work to define shore structure to effectively and efficiently meet projected Fleet requirements. NBSD analyzes requirements with regards to consolidation of like-services, demolition of inefficient structures, security enclaving, and energy independence/assurance to establish itself as a Top 50 workplace and community leader in environmental stewardship.

**Green Procurement Program** Following Executive Order and SECNAV energy guidance, NBSD has pursued an aggressive energy and green procurement campaign

designed to drive down the consumption of utility commodities and establish the Navy as a Global Force for Green.

**Community Involvement** NBSD has established working relationships with the City of National City, the City of San Diego, General Dynamics/NASSCO, and local community organizations. CO, NBSD has hosted San Diego Interim Mayor Todd Gloria and his community/veteran representative Mr. Chet Barfield, National City Mayor Ron Morrison and his staff, National City Chamber of Commerce President Jacqueline Reynoso and Chairman of the Board Mr. John Snyder, and San Diego Councilmember David Alvarez (SD-8) and his Deputy Chief of Staff, Ms. Lisa Schmidt to focus on the positive role of the Navy in the community. Emphasizing its environmental stewardship as a good neighbor allows the Navy to build critical strategic relationships and permits discussion of areas where cooperation between Navy and the community can work to the benefit of both stakeholders.

**Environmental Aspects** NBSD manages 70 San Diego Air Pollution Control Board (APCD) permitted sites and/or equipment, 37 San Diego County Department of Environmental Health permitted hazardous waste (HW) collection sites, a conditionally authorized Bilge and Oily Waste Treatment Facility permit, nine underground storage tank (UST) permits, 29 MWR and contractor Food Establishment Wastewater Discharge permits, two Industrial Wastewater (IWP) permits, and a National Pollution Discharge Elimination System (NPDES) permit. In the past fiscal year, NBSD has had 298 site visits by six different regulatory agencies.

## SUMMARY OF ACCOMPLISHMENTS

### **LIVABLE COMMUNITIES, MASTER PLANNING AND GREEN BUILDINGS**

Contractors worked with facilities specialists and energy managers to visit 30 buildings to identify building system heating requirements for FY15 steam conversion to natural gas heating, with an estimated return-on-investment ratio of five and a simple payback in less than five years in addition to upgrading building systems with new energy efficient localized equipment.

NBSD's Training Support Center (TSC) San Diego began the Energy Conservation through Behavior Pilot Program developed in partnership with NBSD's Public Works Department (PWD). All Centers within TSC will compete against one another to reduce energy usage by educating staff and students on behavioral changes that can save resources. The pilot program's results will determine the potential for base wide-expansion of the initiative.

To meet regulatory benchmarks for storm water runoff, NBSD installed two new filtration systems that divert and capture storm water to eliminate pollutants entering San Diego Bay.

NBSD continues to identify opportunities to consolidate and dispose of existing assets. With diligent and innovative planning, NBSD was able facilitate demolition, upgrades and energy projects through consolidation of activities and demolition of excess structures. Such efforts have led to reduced net energy consumption through intelligent site planning, variable air volume HVAC systems, and photovoltaic panels.

NBSD awarded a \$3.3M contract to upgrade restrooms at Snyder Hall, the largest Unaccompanied Housing (UH) facility. The plumbing upgrades will significantly reduce water consumption intensity.

In May 2014, base energy managers initiated building walk-through inspections for the FY14 Restoration-Modernization-energy (RMe) program. The inspections focused on HVAC equipment, such as package A/C units and heat pumps, for 12 high energy using facilities on base. These systems will be replaced with new, energy efficient units.

### **COMPLIANCE WITH E.O. 13514**

NBSD aggressively executes its Energy and Water Management Plan around three key components: reducing consumption, executing facility projects through multiple funding sources, and pursuing new technology and innovations.

NBSD has partnered with San Diego's electrical utility provider, San Diego Gas and Electric (SDG&E), to alleviate power shortages. When necessary, SDG&E will deliver a Demand Response notification detailing the time and duration of critical electrical periods. In response, NBSD will take predetermined measures to reduce the power requirement of base facilities for the duration of the Demand Response period. This effort includes securing lighting, increasing A/C cooling set points above established set points, and securing non-critical and redundant equipment. By doing so, NBSD is doing its part in reducing the likelihood of blackouts and failures within the Southern California electrical infrastructure.

All new buildings on NBSD are at least LEED Silver certified in order to advance green technology.

NBSD conducted a groundbreaking ceremony for construction of a new Child Development Center (CDC) at Murphy Canyon Housing Facility, to be completed in December 2014. The CDC incorporates an array of elements in support of Leadership in Energy and Environmental Design (LEED).

Building 3663, the newest unaccompanied housing (UH) building within the NBSD area of responsibility, opened on 3 Feb. In support of the Secretary of the Navy's energy reduction goals, total energy usage for this building is 30% less than a typical facility of its occupancy and size. Solar-thermal panels also provide the building's hot water. This is a LEED Platinum building. The associated six level parking structure features roof-top photovoltaic carports. NBSD received the American Public Works Association Green Building of the Year Award 2014 for Building 3663.

Naval Base San Diego's EMS program supports NBSD main-site, the Broadway Complex in downtown San Diego, the Mission Gorge Recreation Center, the Naval Medical Center San Diego at Balboa Park, and all tenant commands within the NBSD footprint. NBSD's EMS program received its most recent external audit in June 2012 which resulted in no major findings and NBSD subsequently received its EMS Declaration of Conformance Memorandum 20 January 2013 and NBSD's EMS program continues to remain in full conformance with EO 13423 and ISO 14001.

Training is fundamental to the effective execution of the NBSD EMS. Therefore, NBSD has a monthly training program focusing on personnel in NBSD work-centers whose operations have been determined to have, or contribute to, a significant environmental impact. NBSD has established a training program with the following self-contained modules designed for specific applications:

Business Plan Training	SPCC/APSA Training
CDO/EDO Training	Storm Water Training
Emergency Response Training	SWPPP/NPDES Training
Hazmat Training	UST Operator Training
Hazardous Waste Annual Training	EMS Training
Contractor Training (as required)	Marine Coatings Rule Training
Medical Waste Training	Re-use Training: Surplus Property,
Pollution Prevention (P2) Training	Unused Hazardous Materials and
Ships Forces Training	Recyclables

Over 400 personnel have been trained this FY.

NBSD is recycling used cooking oil, which includes all cooking oil used at the Galley, reducing costs for oil collection and eliminating it from the waste stream.

NBSD environmental personnel teamed with Project Handclasp personnel to process for disposal over 51,000 pounds of products classified as hazardous waste which had accumulated over the course of several years.

## **MATERIAL MANAGEMENT**

NBSD and SPAWAR jointly conducted a particle tracking demonstration to study the use of fluorescent magnetic particles for linking sources to sediments at Navy sites. SPAWAR placed 35 magnetic collectors in the area around NBSD Pier 8 and Paleta Creek to map a tracer plume. Magnets were placed in roughly concentric rings positioned 30, 60, 120, 180, 270, and 400 meters from the outfall. SPAWAR then released 750 kilograms of particle tracer from their vessel Ecos as it moved between the quay wall and about 60 meters out from the quay wall and conducted 2 hours of water column sampling to capture the tracer suspended in the water column. The magnets, with the collected tracer showing where the tracer sank and was deposited in the bottom sediments, were recovered. Sediment samples were then collected to measure the amount of tracer deposited on the bottom, and to compare to magnet

collections previously done. Samples were then sent for laboratory analysis. This study will allow the Navy to determine the extent to which potential releases may spread from Navy sources and to which clean-up efforts must be concentrated.

All Navy installations were directed to implement a three-step program for sampling and testing drinking water in priority areas following guidance provided in technical references and guidance issued by CNIC. Sampling and testing under this directive was completed by NBSD Environmental Office 60 days in advance of the required completion date. A total of 352 sites were sampled. Of the 352 sites, five sites exceeded the threshold and were immediately taken offline. NBSD had the largest number of required samples in the southwest region.

### **COMPLIANCE WITH E.O. 13423**

NBSD's very successful Electronics and Appliance Recycling events in a cooperative effort with DRMO, Clean Harbors, and Sustained Solid Waste continued in 2014. DLA Dispositions (DRMO) accepted government issued e-waste including CPUs, monitors, scanners, printers, copiers, plotters, office telephones, cell phones, and other electronic equipment. Sustained Solid Waste (NBSD Recycling) accepted appliances, general scrap metal, toner cartridges, lead acid batteries, cardboard, office paper, glass bottles, plastic bottles, aluminum cans, and other recyclables. Over 8 tons of recyclable electronics from waterfront ships and tenant shore commands were collected at NBSD's E-Waste Fair and were diverted from hazardous waste landfills to provide local schools equipment for refurbishment/reuse. Unusable items were recycled, saving thousands of dollars in disposal costs.

In 2014, NBSD continued to fund and execute numerous projects to reduce water and energy use. These projects will achieve a positive return on investment through reduced grounds contracts and reduced energy consumption. In addition, NBSD has continued to execute an aggressive demolition program to reduce maintenance costs and effectively utilize existing infrastructure. NBSD has also increased efficiencies and improved space usage through relocation and consolidation of commands.

The Bilge Oily Waste Treatment System (BOWTS) processed nearly 15M gallons of bilge water recovering \$.9M in fuel over the past 12 months, making the NBSD facility completely self-sufficient.

NBSD initiated a Marine Coating Pilot Study encompassing all ships homeported at NBSD. OPNAV M-5090.1 requires Navy ships to track and maintain records of coatings, solvents, and cleaning agents used aboard ship to minimize quantities and streamline usage, and these records are subject to regulatory oversight by local air quality management authorities. NBSD has established standard recordkeeping forms, and these Marine Coating Inventories are being collected from ships forces for creation of a master coatings list, a regulatory requirement. The project scope includes compliance oversight (e.g., conduct training, perform internal inspections, respond to

and assist with corrective actions, data maintenance), preparation of permit applications, permit fees, and regulatory interaction.

## **RECYCLING PROGRAM**

The Integrated Solid Waste Management Program (ISWMP) at Naval Base San Diego (NBSD) is composed of several divisions, all determined to reduce the amount of solid waste taken from NBSD to the local landfill while utilizing the diverted material in the most environmentally sustainable manner. 89 tons of DLA solid waste were diverted from the San Diego Landfill and over 619 tons of solid waste were diverted over the past 12 months by SSWP.

The NBSD ISWMP Qualified Recycling Program (QRP) collects, processes, and sells eligible recyclable materials diverted from the Municipal Solid Waste (MSW) stream. QRP materials include office paper, newspaper, cardboard, glass and plastic bottles and cans, pallets, scrap metal, toner cartridges, etc. In addition to the recyclable materials diverted from the landfill directly by the QRP, MSW has been diverted from on base programs such as DECA, NEX, and DRMO.

USS MAKIN ISLAND was the host for the 22nd Annual Recycling Awards for the City of San Diego. Over 100 local executives and representatives from various companies attended the event that recognized local stakeholders for their recycling efforts. Navy Region Southwest Sustainable Solid Waste Program, Naval Medical Center San Diego and USS MAKIN ISLAND were among the winners from the Navy.

## **COMPLIANCE WITH SUSTAINABLE LANDSCAPING**

NBSD completed installation of Xeriscaping in the areas surrounding the NBSD Galley. NBSD Xeriscaping projects currently in place save 7.5 million gallons of water and over \$88K annually in water/maintenance costs. This landscaping initiative also eliminates the use of lawn care chemicals that could potentially constitute as run-off to the San Diego Bay. Projects of this nature are critical in meeting the Secretary of the Navy's energy and water conservation goals.

## **EDUCATION, OUTREACH, AND PARTNERING**

NBSD's Environmental Office "Green Team" continues its outreach program, participating in numerous events throughout San Diego County to promote the Navy's environmental leadership. In FY14, NBSD Environmental Office personnel manned public relations booths at seven large San Diego metro environmental/community events. Volunteers provided handouts and used visual displays to communicate the Navy's commitment to being a good neighbor. Some highlights of these events were:

- NBSD hosted the bi-annual Main Street Clean Up at Mariners Park. With the help of over 250 volunteers from 27 different commands, 1,900 lbs. of trash and debris were collected from four square miles near the base. The event focused

on the Barrio Logan area, and Councilmember David Alvarez helped to kick off the event. The event reinforced NBSD's commitment to the local community and the environment, and enhanced the Navy's image as a "good neighbor."

- Naval Base San Diego's Global Force for Green Team celebrated Legacy Week onboard the USS Midway during Memorial Day weekend for the third year in a row. The NBSD display showcased the positive impact of the Navy's environmental programs including endangered species, energy initiatives and community outreach events. NBSD's exhibit drew over 400 guests.
- NBSD Sailors, civilians and families participated in the San Diego Port Tenant Association's "Operation Clean Sweep." Prior to the event, NBSD promoted the event via social media and volunteer networks to encourage maximum participation by local commands. Over 500 military families participated in the event this year, helping to collect 16,000 pounds of trash and debris from the San Diego Bay and tidelands.

Participation in other events by NBSD's Environmental "Green Team" included:

Earth Day Green Booth at NBSD Waterfront Recreation Center  
Wings over Gillespie Air Show  
Safety Fair Exhibit  
Earth Fair  
Electronics Recycling Event  
Clark Middle School Field Trip

45,213 pounds of debris were removed over the past 12 months from bay, creek, and waterfront cleanup efforts. In addition, NBSD removes 10 tons (20,293 lbs.) of debris from surrounding areas each year.

NBSD also conducted its own trash cleanup events, such as the Base Pride Clean-Up event, an opportunity for Navy personnel to clean trash from streets around NBSD. During the Base Pride Clean-Up, NBSD personnel managed to collect over 90 pounds of trash including cigarette butts, candy and food wrappers, and paper.