

NAVAL BASE VENTURA COUNTY

FY13 CHIEF OF NAVAL OPERATIONS ENVIRONMENTAL AWARD
SUSTAINABILITY – INDUSTRIAL INSTALLATION



INTRODUCTION

Naval Base Ventura County (NBVC) is located along the Pacific coastline in Ventura County, California, adjacent to the cities of Oxnard, Port Hueneme and Camarillo. NBVC is composed of three primary operating facilities: Port Hueneme (PH), Point Mugu (PM), and San Nicolas Island (SNI), and various remote sites, such as Laguna Peak, Fort Hunter Liggett and Santa Cruz Island.

Point Mugu consists of 4,500 acres, including Laguna Peak, and is bordered by parkland, a wildlife reserve, and intensively farmed agricultural lands. The primary runway at Point Mugu is 11,000 feet (ft) by 200 ft. The secondary runway is 5,500 ft by 200 ft. Port Hueneme covers more than 1600 acres and has more than 29 miles of roads and 10 miles of railroad track and a deep water port. SNI is approximately 13,370 acres, 8.7 miles long and 4 miles wide, lies in the Santa Barbara Channel 74 miles west of Los Angeles. SNI also has a runway, which is 11,000 ft by 200 ft.



An aerial shot of Naval Base Ventura County, Point Mugu

NBVC provides airfield, seaport and base support services to fleet operating forces and shore activities and employs more than 20,060 military and civilian personnel. These personnel work under 80 departments and/or supported commands all of whom support the diverse missions of the Department of Defense. These missions include combat and weapon systems testing on the 36,000 square mile Sea Test Range off the coast.

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NBVC supports a number of recreational activities including waterfowl hunting, bird watching, surfing, and fishing. Recognizing the aesthetic value and ecologically significant biodiversity of the estuary, NBVC continues to embrace it as an integral part of its mission by maintaining these areas with continual management support for the protection of coastal wetlands.

BACKGROUND

The Environmental Management System (EMS) is a fundamental component of NBVC's daily operations. The Environmental Division continues to enhance the way NBVC does business by standardizing methods and processes regarding NBVC practices that exhibit significant impacts to the environment. With 116 designated Environmental Coordinators (EC) from over 40 department and tenant commands, the EC Program was a critical component to NBVC's EMS. Designated ECs comprised the Environmental Management Committee (EMC), which facilitates a force-multiplier approach to achieving sustainability and pollution prevention (P2) goals. Over 100 practices throughout NBVC departments and tenant commands have been inventoried and documented for significant environmental aspects. For FY12-FY13, the three highest ranked aspects at NBVC were Hazardous Substances/Materials Management, Energy Conservation, and Recycling.

In September 2009, the Commanding Officer self-declared NBVC as fully conformed to ISO 14001, which met the goal for EO 13423, Strengthening Federal Environmental, Energy, and Transportation Management. Since then, NBVC continued to improve its programs by identifying new and innovative strategies to promote sustainable practices. To achieve the goals set forth in the Department of Defense Strategic Sustainability Performance Plan, Top Management has prioritized sustainable use of NBVC's resources with a focus on implementing sustainable practices (e.g. energy conservation and efficiency, use of renewable energy, etc.).

SUMMARY OF ACCOMPLISHMENTS

ENERGY CONSERVATION

NBVC has established an aggressive and effective energy and water program designed to drive down the consumption of utilities on the shore, in support of the Navy's commitment as a Global Force for Green. NBVC is continually focused on its energy and water reduction goals and is currently meeting and exceeding the Executive Order (EO) 13423 goal for its reportable energy and water usage. The EO requires a 30% reduction in energy intensity by 2015 from FY03 baseline, and a 16% reduction in annual water usage from FY07 baseline, by 2015. In FY12, NBVC reduced energy intensity 30.8% and water usage by 48.1% from FY03 and FY07 baselines respectively, which is well above the EO13423 of 3% energy, and 2% water per year reduction goals.

Although the EO13423 goals have been met, energy conservation efforts continue to play a key factor in resource sustainability.

ENERGY SHOWCASE PROGRAM

NBVC Port Hueneme was established as one of two Navy Energy Showcase facilities. The purpose of this program is to showcase NBVC's leadership in energy efficiency as an example for other Navy installations striving to meet EO 13423 through efficient design practices and aggressive energy management.

The Navy's Energy and Sustainable Design Demonstration Facility (Bldg. 850, Port Hueneme) is the centerpiece of the NBVC Showcase program. This facility highlights NBVC's leadership in the energy field, demonstrates "state of the shelf" technology, serves as a teaching and learning center, and demonstrates innovative and environmentally responsible design practices. Renewable technologies featured in this building include natural daylighting, photo-controlled dimmable T8 fluorescent lighting to supplement day lighting as needed, photovoltaic's, solar hot water and a Direct Digital Control system. One of the main objectives of the showcase program is to test new and emerging technologies and share results and "lessons learned" throughout the Navy.

LEADERSHIP IN ENERGY & ENVIRONMENTAL DESIGN

In FY13, a project to construct a building to support E2-D Flight Simulator missions was initiated. This building will achieve the Leadership in Energy & Environmental Design (LEED) Silver level certification under LEED 3.0 (2009), which requires that the design meets the following 6 criteria: 1) Must comply with Environmental Laws; 2) Must be a complete, permanent building or space; 3) Must use a reasonable site boundary; 4) Must comply with minimum floor area requirements; 5) Must comply with minimum occupancy rates; and 6) Must commit to sharing whole-building energy and water usage data.

In addition, there are four other buildings within NBVC that are LEED certified:



This is a photo of a Photovoltaic system on the roof of Building 401 at NBVC Port Hueneme. This is a 195 kW system, saving NBVC over \$54K per year in energy costs.



Building 850 in NBVC Port Hueneme

1. Bldg. PH100	Seabee Museum	LEED Silver (New Building)
2. Bldg. PH850	Public Works Department	LEED Gold (New Building)
3. Bldg. PH1100	EXWC Command	LEED Silver (Existing Building)
4. Bldg. PH1290	Working Dog Kennel	LEED Gold (New Building)

BUILDING IMPROVEMENTS

In order to generate fast payback energy projects, the NBVC energy team, and supporting staff conducted facility energy audits to locate operational and technology based inefficiencies, as part of NBVC’s effort to audit twenty-five percent of its facilities for energy and water efficiencies on an annual basis (as required under US Energy Independence Security Act (EISA) of 2007). Facility energy and water projects were programmed and executed at NBVC through a number of funding avenues. The main technologies utilized for effective energy and water reduction projects included high efficiency interior and exterior lighting, equipment and lighting controls, low-flow plumbing fixtures, remote-controlled evapotranspiration irrigation controllers, renewable energy systems, and high efficiency mechanical equipment.

In FY12, NBVC replaced lighting in seven buildings: PH61, PH1444, PH471, PH1191, PH1497, PM311, and PM20. This was the first of a series of projects which will replace existing T12 and first-generation T8/Electronic ballast lighting installations with dimming ballasts and current generation T8 lamps. The new ballasts default setting is 80% (which results in a 20% energy savings). Light levels can be further adjusted to lower light levels if too bright for occupants. This project also included installation of new spectrally enhanced, long-life, low-mercury T8 lamps.

Interior facility lighting presents one of the largest opportunities Navy-wide for energy savings. At NBVC, there is a focus on developing energy projects that utilize the latest and most efficient lighting systems for offices, warehouses, hangars, and workshops. In FY13, NBVC awarded two contracts to replace incumbent lighting technologies in 52 buildings with newer and more efficient systems that include advanced lighting controls with occupancy sensors, photocells, dimming control, and timers that will be completed in FY14.



Interior facility lighting improvements were made to the NBVC Port Hueneme Gymnasium.

In FY12, repairs were made at building PH-1000 NBVC, Port Hueneme to the heating, ventilation and cooling (HVAC) system to replace all Direct Digital Control (DDC) controllers, all DDC input and output devices, and all existing overhead lighting fixture ballasts with demand control dimming ballasts. Energy reduction resulting from this project will support NBVC’s initiatives to meet the goals of the Secretary of the Navy to reduce shore energy consumption 50% by 2020.

In FY12, irrigation improvements were made at NBVC Port Hueneme. This project replaced existing irrigation controllers with new evapotranspiration (Calsense) controllers including master valves and flow sensors at 68 locations throughout Port Hueneme. The flow sensors will aid in monitoring water output at each location, which will flag any abnormalities in systems.

RENEWABLE ENERGY:

WIND: In FY13, NBVC began construction of a project to install seven 100-kW wind turbine generators on NBVC SNI. This project will greatly offset the cost and emissions of fuel which is used to generate electricity on the island. This project also incorporates a zinc bromide battery storage system and a synchronous condenser. The overall goal of this project is to install up to nine 100-kW wind turbine generators on the island. The seven wind turbines will save 24,332 MBTU of energy per year, and save NBVC \$1.07 Million per year in utility costs.

SOLAR THERMAL: Also in FY12, a new a CoGenra solar thermal photovoltaic system was installed in NBVC Port Hueneme. 24 rooftop mounted hybrid solar collectors were installed for both solar hot water and electrical generation, located at southern-most portion of existing lower roof of Building 61 at NBVC Port Hueneme. This will result in hot water and electricity generated from a renewable energy source (solar) for the Port Hueneme Galley, which will offset the use of utility-provided gas and electricity energy sources. This will save NBVC considerable energy during hours of adequate solar radiation, since this facility has a high demand for hot water and electricity.

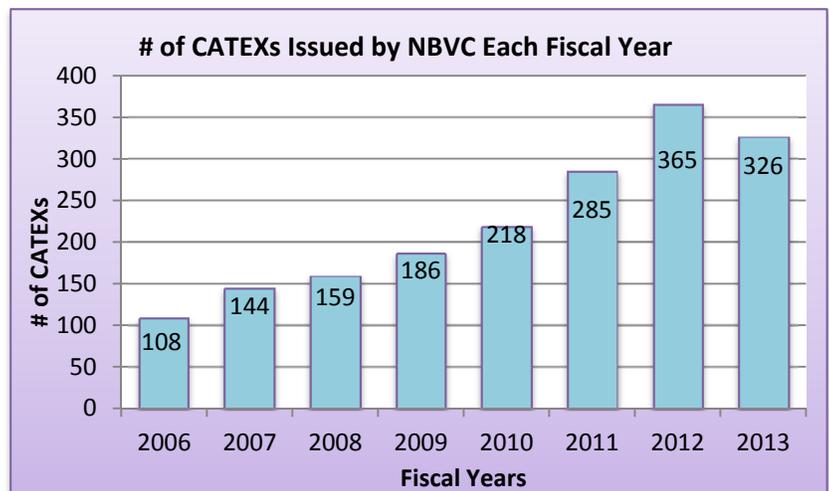


This is a photo of a CoGenra system at NBVC Port Hueneme, a rooftop mounted hybrid solar collector system for both solar hot water and electrical generation.

ENVIRONMENTAL PLANNING

The key to sustainability and effective project execution begins in the planning stages. All the checks and balances are required to be in place prior to executing a project. In order to sustain mission readiness, NBVC has three goals when reviewing proposed projects: (1) Ensure all projects are in compliance with the National Environmental Policy Act (NEPA); (2) Ensure projects are in compliance with health and safety regulations, security policies, and all other regulatory and environmental planning requirements; and (3) Ensure stewardship of natural and cultural resources and promote sustainable practices on NBVC. NBVC successfully completed a large number of environmental reviews by utilizing a standardized checklist to capture key requirements from the Project Review Board (PRB) review of proposed projects. The NBVC PRB process begins with a brief narrative of each proposed project. A review package with specific requirements (e.g. map, building number, proposed commencement date, etc.) is developed and provided to the PRB, along with the standardized checklist that includes resource/program specific requirements. Such resource or program media areas applicable at NBVC as listed in the PRB Checklist include reviews from Public Works, Fire Prevention, Industrial Hygiene, Safety, Physical Security, and Environmental.

In both FY12 and FY13, a combined total of 691 Categorical Exclusions were prepared at NBVC, which exceeded the combined total of 689 that were completed in FY09-FY11. Much of NBVC's Environmental Planning success is credited to the skilled professionals who are able to continually improve the standardized electronic review process.



Metrics are developed to review CATEX completions. In FY13, there has been a decrease in numbers due to sequestration.

POLLUTION PREVENTION

NBVC successfully integrated its EMS with the P2 Program. Designated (EC)s comprise the Environmental Management Committee (EMC), which also served as the P2 committee. In FY12-FY13, the EMC actively participated in reviewing NBVC Hazardous Materials (HM)/Waste (HW) management procedures and have brought their recommendations as to the table to discuss with other ECs such as alternatives to environmentally harmful substances or ways to reduce hazardous material costs at the work centers. As an example, in FY13, the ECs revisited Navy's Consolidated Hazardous Materials Reutilization and Inventory Management Program (CHRIMP) and its specific goals at NBVC in an effort to reduce HW generated at NBVC. Keeping the ECs active with their suggestions and solutions via the EMS facilitated the accomplishment of NBVC's P2 goals.

NBVC also incorporated P2 goals into project planning phases. As part of Environmental Planning, P2 is a criteria reviewed by the PRB, and to meet specific P2 goals, specific information is communicated to the project proponents via the PRB checklist.

FEDERAL GREEN CHALLENGE 2012 ACHIEVEMENT

NBVC received the Federal Green Challenge 2012 Achievement Certificate from the United States Environmental Protection Agency (US EPA) for its achievement in waste reduction, water conservation, and energy efficiency. The Federal Green Challenge is a national effort sponsored by the US EPA's Sustainable Materials Management Program, challenging EPA and other federal agencies throughout the country to lead by example in reducing the Federal Government's environmental impact. NBVC's conservation efforts have not only contributed to sustainability, but have also lowered base operating costs.

Pollution Prevention (P2)/EPCRA _____ (805) 989-3211

In accordance with Executive Order 13423 (Strengthening Federal Environmental, Energy, and Transportation Management), contractors and in-house personnel are required to comply with the Pollution Prevention Act of 1990 and the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986. The purpose of this section is to inform all Port Hueneme/Point Mugu/SNI and tenant personnel to incorporate Pollution Prevention (P2) measures into all activities, including construction projects, at all sites. The primary goals of P2 are to minimize the use of hazardous materials and to minimize the generation of hazardous and solid wastes.

____1. Contractors and in-house personnel shall minimize the use of hazardous materials, and shall choose materials that pose the lowest risk to human health and the environment.

____2. Building materials made with recycled products shall be included in construction projects to the maximum extent feasible.

____3. Project manager is to contact NBVC P2 Program Manager (989-3211) and be prepared to discuss:

____#1 above

____#2 above

____4. Project manager is to contact NBVC P2 Program Manager 989-3211 to discuss potential EPCRA 312/313 issues. EPCRA 312 deals with the storage of hazardous materials. Have the project number (example 07-123) handy when you make the call or include it in your e-mail message.

____6. No P2 or EPCRA issues.

A typical checklist for P2 and Emergency Planning and Community Right-To-Know Act for environmental planning as part of the electronic Project Review Board.



This is the certification NBVC received from the US EPA

SUSTAINABLE SOLID WASTE MANAGEMENT PROGRAM

NBVC has an established Qualified Recycling Program (QRP) in-place to meet the specific goals set forth by Executive Order 13514, Federal Leadership in Environmental, Energy, and Economic Performance. NBVC's Qualified Recycling Program promotes pollution prevention and elimination of waste with the goal of diverting from landfill disposal at least 50 percent of non-hazardous solid waste and at least 50 percent of construction and demolition (C&D) materials and debris by the end of FY15. The following items are recycled at NBVC and diverted from landfills: lead acid batteries (automotive), scrap metals (ferrous and nonferrous), plastics bottles types 1 and 2, cardboard, paper (color and mixed), paper shredded (white), office paper, aluminum cans, appliances, refrigerators, air conditioning units, stoves, water heaters, microwave ovens, toner cartridges, electrical wires, wood/plastic pallets, newspapers, small arms expended brass (.50cal or under), glass bottles, empty metals cans, office furniture or office furnishings. At NBVC, waste diversion from landfills totaled 4,023.13 tons in FY12 and 5,772.82 tons in FY13.



Recycling material distributed during FY13 Earth Day Events

At NBVC, recycling collection points have been established inside occupied buildings and industrial recycling collection points outside occupied buildings. All recycling collection points have been designated by the NBVC QRP Manager and have institutional controls to clearly delineate wastes that are collected in recycling bins or disposed in solid waste receptacles. All tenant commands are coordinated with to ensure recycling collection points are established and recycling bins are available. Regular bin pick-ups are scheduled with the tenant commands.

New initiatives completed in FY12-13 to boost waste diversion efforts at NBVC include the following: Installation Solid Waste and Recycling Instruction was updated; the NBVC Area Coordinator Program Instruction was updated to designate roles and responsibility (Area, Zone and Facility Managers) for property management, including oversight of recyclable waste; a reporting process was put in-place to track construction and demolition materials generated during contract execution and diverted from landfills and to report the information to the NBVC QRP Manager; contract modifications were implemented to ensure shredded material diversion rates were provided to the NBVC QRP manager; and NBVC hosted an installation-wide Household Electronic Waste Collection Event.

COMMUNITY ENGAGEMENT

NBVC took pride in community awareness initiatives to educate thousands of individuals on its environmental, energy conservation and sustainability programs. Throughout FY12 and FY13, NBVC participated in multiple community activities by hosting a photo and specimen display featuring NBVC's environmental programs to engage the local community by raising awareness and highlighting the success of integrating environmental stewardship with the Navy mission at NBVC. Events included: NBVC Electronic Waste Event, the City of Oxnard Earth Day Celebration, Naval Exchange



NBVC Environmental Logo

Earth Day Celebration, Bard Elementary School Earth Day Presentation, Annual Point Mugu Surf Contest presented by the Navy Region South West Sustainable Solid Waste Program, and beach clean-up events.

The annual surf contest was an exciting opportunity for NBVC to showcase its troops, their varied missions, and its award-winning stewardship of the environmentally sensitive beach and wetlands area inside its gates, while allowing the public and the surfing community to access some of the best waves in Southern California.

NBVC representatives also participated in judging student science projects in both FY12 and FY13 at the Hueneme High School and the Ventura County Science Fair, which included entries from students in grades 6 -12 and addressed science related topics, which included environmental subjects.



A surfer in the barrel as part of the 2012 NBVC Surf Contest.

In FY12, NBVC hosted the Energy Awareness Golf Tournament, the "Texas Scramble". It was held at the Seabee Golf Course at NBVC Port Hueneme and had over 80 participants. An NBVC tradition also required that each team participate in collaborating on answering an energy-related trivia question at each hole through the course of the game. Team responses either helped or hindered the team's overall score. The trivia questions were a fun way to make players aware of energy issues and facts. Each player also received a free "goodie" bag filled with useful golf and energy-related items. Participants were also treated to a free Utility sponsored lunch after the game, complete with prizes to winning teams.

During the award period, NBVC actively coordinated efforts with the following committees and groups: Calleguas Creek Watershed Task Force, Ormond Beach Task Force, Southern California Wetland Recovery Ventura Task Force, and the Western Snowy Plover / California Least Tern / Light-footed Clapper Rail working groups. NBVC also maintained an active Restoration Advisory Board (RAB), which fostered an atmosphere of mutual respect and cooperation between the Navy, regulators, and the local community. NBVC personnel and community members communicate and work closely together as a team on common goals of environmental cleanup. The RAB facilitated community support of NBVC Installation Restoration Program (IRP) initiatives and is used as the forum for public meetings required in support of IRP initiatives.

NBVC's success depends on adaptive management, innovation, collaboration, and support of the Navy mission. Fulfilling our mission in an environmentally sustainable manner is of fundamental importance and is necessary to sustain military readiness and foster a healthier and safer environment for all persons at NBVC and the surrounding community.



Military and civilian volunteers participated in the 2012 NBVC Electronic Waste Event. This event diverted 3.4 tons of electronic waste from the landfills.