

Naval Submarine Base – New London, Groton, CT
“The First and Finest”

INTRODUCTION

The Naval Submarine Base New London (SUBASENLON) mission is to provide the facilities, deliver the services, and create the environment for the Fleet, Fighter, and Family to: homeport and put combat-ready submarines to sea and train professional submariners. SUBASENLON is home to more than 70 tenant commands and activities including the Submarine Learning Center; Naval Submarine School; Naval Undersea Warfighting Development Center; Naval Submarine Medical Research Laboratory; Naval Undersea Medical Institute; and Naval Branch Health Clinic Groton. SUBASENLON employs 6,500 active duty sailors, 2,000+ civilian employees and contractors, and supports some 12,000 family members who contribute so much to SUBASENLON, the Navy, and this Nation through daily sacrifice and service. It supports submarine training, repair and maintenance, and medical facilities, military offices, 350+ acres of housing in Groton, Connecticut (CT) and recreation at the Admiral Fife Naval Recreation Area in Stonington, CT for Navy personnel and their families.

SUBASENLON, located in the towns of Groton and Ledyard, CT, consists of 687 acres with more than 200 buildings, 15 submarines, and 11 piers is situated on the east bank of the Thames River, 6 miles north of the Long Island Sound. It is bordered on the east and south by roads, on the west by the Thames River, and on the north by a low ridge from the Thames River to Baldwin Hill. The Providence-Worcester Railroad bisects SUBASENLON and infrastructure west of the railroad is referred to as “Lower Base” and infrastructure east of the railroad is referred to as “Upper Base”. Land use adjacent to SUBASENLON is residential and commercial. The Thames River is used for commercial maritime, recreation and fishing.



ENVIRONMENTAL TEAM BACKGROUND

The SUBASENLON Environmental (EV) Division originated in the early 1980's under the SUBASENLON Public Works Department (PWD). After a transition from a PWD Division to a SUBASENLON EV Department, today the Team resides with the Naval Facilities Engineering Command (NAVFAC), Mid Atlantic (MIDLANT), PWD New London EV. The PWD EV is comprised of three Branches, Compliance, Planning and Hazardous Waste (HW) Operations. The EV Compliance Branch employs 5 managers covering Clean Air, Clean Water, Stormwater, Bulk Storage (Tanks), and Spill Prevention, and Drinking Water and Pest Management programs. The Planning Branch employs one manager responsible for Natural and Cultural Resources (NR/CR), National Environmental Policy Act (NEPA) and Installation Restoration (IR). The HW Operations Branch is comprised of four employees; the HW Branch Supervisor, Lead EV Protection Specialist (EPS), one EPS and an EV Technician.

In addition to providing EV oversight and support at SUBASENLON, the Team provides these same services for Naval Support Activity (NSA) Saratoga Springs and the Mitchel Field complex, both in New York State.

POSITION DESCRIPTIONS

Major routine duties and responsibilities during this achievement period by the EV Team are summarized in the table below.

Environmental Team	Duties and Responsibilities
EV Director– Michael Brown	Provides oversight of and guidance to media managers. Promotes Team work. Conducts monthly briefings with the CO.
Clean Air – Matt Travisono	Manages Title V Permit Program. Conducts record review for permit compliance of fuel use, architectural and marine coating use, and equipment operating hours. Prepares and submits quarterly, semi-annual and annual compliance reports. Conducts quarterly audits of air emission sources.
Clean Water – Leo Kokoszka	Manages National Pollutant Discharge Elimination System (NPDES), State Pollutant Discharge Elimination System (SPDES) and various Wastewater General Permits (GPs). Conducts records review for permit compliance of discharge operating data; flow, pH and conducting monthly discharge sampling. Prepares and submits monthly Discharge Monitoring Reports and conducts inspections of discharge sources.
Stormwater – Tony Zaharias	Manages Industrial Stormwater Permit. Conducts semi-annual stormwater discharge and quarterly stormwater discharge visual sampling. Prepares and submits stormwater discharge results and takes corrective action if discharge results exceed permit benchmark limits. Conducts Semi-annual Site Compliance Evaluations and periodically updates the base Stormwater Pollution Prevention Plan. Conducts annual stormwater training for the SUBASENLON Stormwater Team.
Bulk Storage – Tony Zaharias	Manages underground and above ground tanks for regulatory compliance. Maintains regulatory oversight of monthly contractor storage tank inspection reports and submits corrective action documentation (work request, service call, etc.) to correct identified deficiencies.
Spill Prevention, Control, and Countermeasure (SPCC) – Tony Zaharias	Manages and maintains base SPCC and Facility Response Plan. Coordinates response exercises, training and notifications. Responds to and manages clean-up of on base hazardous material spills and releases.
Pest Management – Rich Massad	Monitors pesticide applications and promotes the use of integrated pest management techniques. Coordinates between NAVFAC, Army Veterinarians and Navy Medicine personnel in efforts to control disease vectors and maintain health standards at the installation.
Drinking Water – Rich Massad	Monitors drinking water quality and ensures federal and state public health standards regarding water consumption are being followed. Coordinates sampling requirements with water. Ensures that distribution system operation includes proper maintenance and repair and work is being performed by trained and qualified individuals.
NR/CR/NEPA/IR – Tracey McKenzie	Completes NEPA analyses and Environmental Assessments. Prepares federal and state permit applications and supporting documentation for in-water projects. Conducts annual surveys of NR/CR sites. Implements and updates annually the Integrated Natural Resources Management Plan (INRMP) and Integrated Cultural Resources Management Plan (ICRMP). Conducts quarterly inspections of Installation Restoration (IR) land fill sites. Periodically assesses Land Use Controls to ensure effectiveness at IR sites. Facilitate coordination between SUBASENLON personnel and contractors on IR clean-up actions.
Hazardous Waste – Brian Hendrickson	Manage all HW operations from storage to disposal in accordance with Federal and State regulations. Manages the Part B HW permit. Daily collects and processes HW from sites and pier side. Conducts monthly HW storage site inspections.

SUMMARY OF ACCOMPLISHMENTS

Environmental Management System (EMS)

The SUBASENLON EMS is central to managing the EV Program. Since implementation in FY03 and declaration of conformance with ISO in FY09, SUBASENLON has achieved many successes directly resulting from EMS processes.

Objectives and Targets (O&Ts) executed in FY14 and FY15 include Expanding Alternative Fuel consumption and Improving Recycling (Solid Waste Diversion Rate). In FY14, SUBASENLON installed the second E85 fuel dispenser in CT. Since the official opening in January 2015, SUBASENLON has replaced 5,200 gallons of unleaded gasoline with E85 each month. SUBASENLON began single stream recycling in FY10. Since then,

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the solid waste diversion rate has continually increased and achieved a 59% diversion rate in FY14 and a 51% rate in FY15. SUBASENLON employs multiple waste diversion strategies to include single stream recycling, mattress recycling and food waste recycling from the Galley and Commissary.

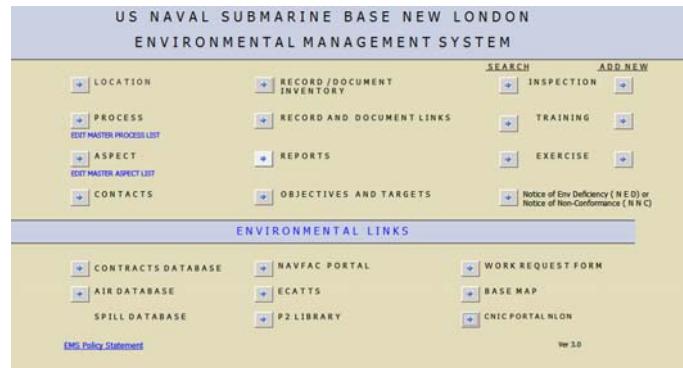
In addition, the Team designed and developed an **in-house** EMS database. The EMS database tracks all SUBASENLON practices and processes together with location, process owner, command responsibility and resulting EV aspect. The ability to track all practices and aspects lets the Team manage the multitude of SUBASENLON practices, and assess and track EV compliance and EV impacts. This database improves the Team's ability to manage in excess of 500+ EV records and documents by type (e.g., permit, report, management plan, etc.) EV media (e.g. clean air, clean water, tanks, etc.)

regulating entity (e.g., state, EPA, Navy), and frequency of update. This dynamic method of tracking records and documents make it nearly impossible to miss and report a permit deadline, which is essential to overall EV compliance.

The corner stone of the SUBASENLON EMS and vital to EV compliance is the Team's Notice of Environmental Deficiency (NED) and Notice of Nonconformance (NNC). The NED is a written notification to document non-compliance with a regulatory requirement or Navy Policy and is issued to the practice/process owner responsible for compliance with the requirement.

The NNC is used to document a nonconformance with EMS. In accordance with the EMS NED/NNC policy, a reply from the process owner is required within three days and must include the actions taken to correct the deficiency or nonconformance and actions to be taken to prevent the deficiency or nonconformance from repeating.

The NED/NNC procedure has resulted in a consistant decrease in deficiencies at SUBASENLON beginning with 251 deficiencies in FY09 down to 114 deficiencies identified in FY14 and 77 deficiencies in FY15.



EMS Management

Communication with all tenant commands and contractors operating at SUBASENLON is crucial to ensure EV compliance is maintained. In accordance with SUBASENLONINST 5090.23, EMS Management consists of the Environmental Management Committee (EMC), chaired by the Installation Commanding Officer, and the Environmental Operations Board (EOB), chaired by the Installation Environmental Program Director (IEPD). Commands who sit on the EMC include the Naval Branch Health Clinic, Naval Submarine Support Facility, Naval Submarine School, and NAVFAC Public Works and Commands/Departments who sit on the EOB include Naval Branch Health Clinic, Naval Submarine Support Facility, Naval Submarine School, NAVFAC Public Works, Naval Exchange, Port Operations, and MWR. The Team also sits on the EOB. The EMC meets semi-annually and the EOB meets quarterly.

The SUBASENLON EMS Management Committees create a forum for discussion, development and execution of EV management practices. Through these two Committees, stakeholders from departments and tenant commands address compliance issues. Discussion of impending EV regulations and possible solutions designed to comply with those regulations result in proactive planning of EV policies at SUBASENLON. Involving all stakeholders in the planning and execution of EV programming is essential to developing EV management


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practices that address EV concerns and allow for the greatest flexibility in facility operations and SUBASENLON mission readiness.

Audits, Inspections and Record Reviews

The Team conducts EMS audits and compliance inspections to ensure conformance with the EMS and compliance with regulatory requirements. EMS audits are conducted annually and inspections are conducted on a periodic schedule depending on the media program. The Team also performs daily, weekly and monthly records review and inspections for a variety of EV media. In FY14, the Team conducted 998 inspections. In FY15, the Team conducted 1,266 inspections.

The Team tracks deficiencies by command, media, and root cause. In this way, the Team can focus corrective actions where needed, for the greatest impact. The Team regularly presents these results during quarterly EOB and semi-annual EMC meetings. Since this process began in FY09, SUBASENLON has observed a decrease in compliance deficiencies every year.

PWD ENVIRONMENTAL DIVISION Inspection / Audit Report From: Oct 1, 2013 To: Sept 30, 2014	
INTERNAL INSPECTIONS	2014
<i>TITLE V Quarterly Inspections</i>	78
<i>Storage Tank Inspections</i>	122
<i>Stormwater Comprehensive Inspections</i>	34
<i>Hazwaste Site Inspections</i>	733
<i>Installation Restoration Inspections</i>	15
<i>Natural Resources Assessment</i>	2
<i>Pest Management Program Review</i>	4
<i>Radon Mitigation Functionality Inspection</i>	8
<i>Lead-based Paint</i>	2
<i>Total:</i>	998
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EXTERNAL INSPECTIONS	
<i>REGULATORY INSPECTION - WASTEWATER - CTDEEP</i>	1
<i>REGULATORY INSPECTION - AIR - CTDEEP</i>	1
<i>REGULATORY INSPECTION - Multi-Media - EPA</i>	1
<i>REGULATORY INSPECTION - QUARANTINE WASTE - DHS/CBP</i>	1
<i>Pest Management Program Review</i>	1
<i>Total:</i>	5
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AUDITS	
<i>EMS INTERNAL AUDIT</i>	1
<i>EMS EXTERNAL AUDIT</i>	1
<i>Total:</i>	2
GRAND TOTAL: 1005	

Training

An integral part of the SUBASENLON EMS and overall EV compliance program is training. Examples of Team training within this achievement period include the following:

Training	Dissemination of Information
Indoctrination	Occurs monthly and gives the sailor their first brief of the EV program, EMS awareness and Team contact information. Each sailor is provided with a one-page “do’s and don’ts” document covering the typical EV issues they may be faced with on a daily basis (e.g., how to report a spill, where they can perform maintenance and wash their vehicles, what to do when encountering wildlife, etc.).
Building Monitoring	Occurs quarterly. EV covers everyday EV issues a Building Manager may experience and provides instruction regarding the correct way to address them. Examples include discovery of an unusual discharge, drinking water, and pest management issues.
HW Coordinator	Conducted monthly to assure coordinators are up to date on all regulations and requirements for HW storage and disposal.
Stormwater	Conduct annual refresher for Stormwater Team. This training is critical to maintaining EV compliance at SUBASENLON and the results are reflected in the consistent positive results from the many regulatory compliance inspections conducted for FY 14 and 15.

Stakeholder and Community Involvement

The Team has a long history of community involvement. Examples include the following:

The Air Media Manager is a member of the CT Department of Energy and Environmental Protection (CT DEEP) State Implementation Plan Regulatory Action Committee (SIPRAC). Membership on the SIPRAC affords the Air Media Manager the opportunity to proactively review regulations during the rule making process to determine impact on SUBASENLON operations and mission readiness. In FY15, the Air Manager worked

directly with the SIPRAC in drafting new boiler regulations to ensure the final rule accounted for SUBASENLON's unique operation, thus avoiding the need to retrofit the boilers to meet the rules emission limits. SUBASENLON is also an active stakeholder in the Norwich Clean Cities Program, an organization promoting the use of alternative fuels and technology to reduce the use of petroleum consumption in transportation.

The NR Manager is a member of the Long Island Sound Dredge Disposal Material Management Plan Working Group comprised of federal, state, and local agencies and private maritime entities to develop least damaging practicable alternatives to open water disposal while recognizing the need for cost effective disposal alternatives. The NR Media Manager is also involved in multiagency and community meetings related to the development of a NEPA Supplemental Environmental Impact Statement (SEIS) to designate a dredged material disposal site in Eastern Long Island Sound and provides data requested by EPA and reviews technical documents included in the SEIS.

The Pest Management Coordinator supports efforts by Navy medical personnel to participate in the CT's Mosquito Management Program through a mosquito trapping program, both on and off-base. This work assists in monitoring infectious diseases within the state and is an important tool in maintaining public health standards in southeastern CT.

The Team participates in quarterly conference calls scheduled with the DoD Regional Environmental Coordinator for EPA Region 2 and the State of New York Department of Environmental Conservation and monthly MIDLANT Regulation and Legislature calls. This allows the Team to stay informed of upcoming and potential federal and state regulations and initiatives within the regional area, and coordinate early with internal stakeholders on implications for processes and mission readiness.

The Team also participates in the Annual 4H & "Meet Your Navy" Day Celebration. This is a proven outreach program that provides interactive EV displays and information directly to youth groups in the southeastern CT community. Young children are shown examples of how SUBASENLON is actively practicing EV stewardship and is a valued member of the community.

SUBASENLON hosts an annual Earthday Challenge. This brings the SUBASENLON community together with the surrounding community to promote EV stewardship projects. SUBASENLON received the FY15 MIDLANT Community Service Award for Environmental Stewardship Flagship for a large installation.

EPA Rain Garden

In 2014, EPA teamed with SUBASENLON to host Rain Garden Training for Federal Facilities. The focus of the one and half day, first of its kind within DoD, training event, was to introduce New England Federal Facilities Managers to the Federal and State stormwater regulations and communicate the benefits of designing and implementing Rain Gardens. The event was well attended with local New England Federal Facilities and included the installation of a 2,300 square foot Rain Garden. As a result of the success of the SUBASENLON event, the EV Division Director traveled to Westover Air Force Base, Chicopee, MA to make a presentation on the SUBASENLON Rain Garden at a similar Rain Garden training event.



Annual Earth Day Challenge

SUBASENLON hosts the annual Earth Day Challenge. The challenge extends to all installation commands and partners with State and local parks, towns and land conservancies to undertake EV stewardship projects. In FY14, more than 240 Sailors and Navy civilians invested greater than 1,400 hours of community service to improve and promote the EV. Parks were a prime focus in FY14. The FY15 challenge resulted in successful completion of 8 off-base community involvement clean-up projects involving over 150 SUBASENLON sailors dedicating nearly 850 community service hours. Each year this program successfully motivates SUBASENLON sailors to think globally, act locally and support the EV and local communities.

Clean Water Pollution Control

The Wastewater Program is one of the more heavily regulated programs within EV. All wastewater discharges are permitted by CT DEEP. In 2014, CT DEEP issued a new General Permit (GP) for Miscellaneous Wastewater Discharges (MISC). This new GP incorporated many of the existing CT DEEP Wastewater GPs into one permit. The GP was long, confusing and often contradictory in language. The Water Media Manager spent in excess of 80 hours deciphering the GP and conducted multiple conversations with CT DEEP to ensure the SUBASENLON application was accurate and complete. The Team surveyed the entire base (e.g., flow data, material inputs) to ensure many existing un-permitted discharges were included in the GP. The result was the submission of a complete and accurate GP that covered all SUBASENLON discharges. This in-house effort saved the Navy in excess of \$80K. During this same period, the Water Media Manager had discussions with CT DEEP in an effort to move discharges from the State Individual Discharge Permit to the MISC GP. To date all indications are that this effort will be successful, with the result being reduced monitoring, sampling, and regulatory oversight which will result in reduced man-hours in managing this labor intensive program.

In 2014, SUBASENLON eliminated a 30 MGD Non-contact Cooling Water Discharge to the Thames River through installation of a new closed-loop cooling tower and replacement of a 30 year old 1500 KW generator with two state of the art, clean-burning, low emission 750 KW generators. The combined project reduced the wastewater pollutant load to the Thames River and resulted in a reduction in Nitrogen Oxide emissions from 14.9 tons to 2.8 tons and a reduction on Sulfur Dioxide emissions from 12 tons to less than 0.01 tons.

Clean Air

EPA increased the recordkeeping and monitoring requirements required for Emergency Generators in May 2013. As a result the Air Media Manager created a new process and Excel based application for tracking engine run times and engine tune-up dates. This process was well received by the Commands and Contractors who use it to track EPA generator compliance because it simplifies recordkeeping and saves man hours and improves compliance.

In addition a contract was recently awarded to install wireless monitors at each generator. Once installed, the wireless monitors will replace the manual labor required to record and track engine start and stop times, and duration of operation. The monitors will also provide real-time email notification if an engine trips a fault code, which will increase operational readiness in the event of power loss. Cost savings to SUBASENLON resulting from this installation is estimated to be close to 30K.

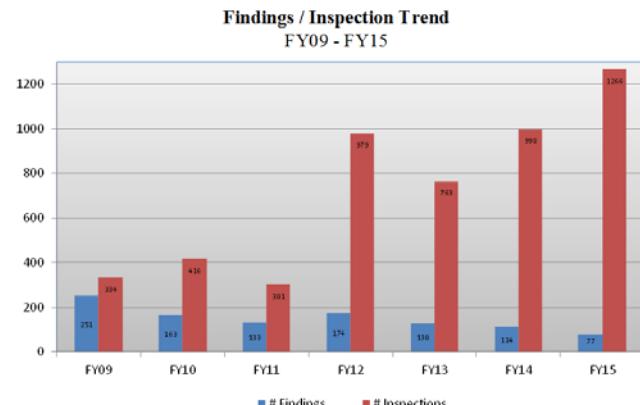
Building 75 - Kohler Lift Station Generator		Options	GEMU-003 EMU-424
Category:	Emergency Engine		X
Capacity:	154 KW		
Generator Make and Model:	Kohler: 150REOZJF		
Engine Make and Model:	John Deere: 6068HF285KL		
Engine Family:	CJDXL06.8120		
Displacement:	6.8 L		
Date of Engine Manufacture:	March 2012		
Engine Family:	CJDXL06.8120		
Max Allowable Fuel Sulfur Content:	0.0015 % by weight		
Year of Installation:	2012		
Fuel Consumption Rate:	11.7 GPH		
Tank Capacity:	316 gallons		
Max Operation without Refueling at 100% Load: 27 hours			

Hour Records								Directions	Hour Calculator
Month / Year	Read Error	Hour Meter Reading (Non-Resettable)	Run Hours ¹	Maintenance Hours	Emergency Use Hours ²	Fuel Consumed ³ (gallons)	?		
Jan 2015		82.9	3.5	0.6	2.90	40.95			
Feb 2015		84.6	1.7	0	1.70	19.89			
Mar 2015		86.2	1.6	0.7	0.90	18.72			
Apr 2015		87.9	1.7	1.7	0.00	19.89			
May 2015		97.6	9.7	3	6.70	113.49			
Jun 2015		99.3	1.7	0	1.70	19.89			
Jul 2015		102.5	3.2	0.4	2.80	37.44			
Aug 2015		104.2	1.7	0	1.70	19.89			
Sep 2015		105.9	1.7	0	1.70	19.89			
Oct 2015		108	2.1	< >	< >	24.57			
Nov 2015			< >		< >	< >			
Dec 2015			< >		< >	< >			

Tune-up Records		Directions

Continuous Compliance Improvement

The Team can boast multiple achievements during FY14 and FY15. Most notable being continued compliance improvement. The combination of all Team efforts has resulted in a marked improvement in compliance and a reduction of regulatory deficiencies through increased inspections. This trend has remained consistent since FY09 and it is most notable during FY14 and FY15, where deficiencies fell to 114 and 77 in FY14 and FY15, respectively with an increase in inspections, 998 in FY14 and 1,266 in FY15.



Wildlife Management

Managing wildlife resources is essential to ensure mission readiness at all times. In 2014, EV was contacted and asked to remove federally protected nesting Canada Geese and eggs from the exterior hull of the USS Pittsburgh to ensure no delay of its impending departure. Successful removal was done by the EV Biologist and CT DEEP and eggs were relocated to an off-site nest. EV was also called in 2014 to respond to a fawn in the water by Pier 12. Sailors rescued the fawn and after hours of treatment from the SUBASENLON veterinarian the fawn was released to the wild off base in coordination with CT DEEP Wildlife Officers. Upon release the fawn joined a doe with two fawns. EV training to sailors on NR issues enables the Team to effectively respond and manage NRs.



CONCLUSION

The SUBASENLON EV Team is a dedicated professional Team focused on EV compliance to maintain mission readiness. Mounting environmental regulations require prompt planning and insightful process improvements to maximize environmental compliance and facility operation concurrently. The SUBASENLON EV Team is committed to demonstrating environmental leadership through smart planning and common sense management which meets environmental compliance and minimizes operational impacts. Maintaining a proficient environmental program at the oldest Naval Submarine Bases with shrinking resources requires ingenuity and determination. EV has implemented numerous improvements designed to enhance environmental compliance and streamline current operations.