

**2014 Chief of Naval Operations Environmental Award
ENVIRONMENTAL SUSTAINABILITY – TEAM AWARD**

INTRODUCTION

The NAVSUP Fleet Logistics Center (FLC) San Diego’s mission is to provide combat capability through unmatched logistics support to 86 home-ported ships, submarines, and transient vessels, and 11 over-the-horizon regional naval bases and air stations in California and Nevada. The command is comprised of over 221 Navy personnel and 581 civilian employees and provides a host of logistics services and support, including fleet supply assistance, food service and subsistence support, contracting support, cargo loading and offloading services, postal services, material handling equipment maintenance/repair services, material management services, flight line cargo and personnel transportation, and personal property shipping services for DON, DOD, and Coast Guard units operating in the Pacific Southwest.

NAVSUP FLC San Diego is also a designated Defense Logistics Agency (DLA) Energy Defense Fuel Support Point (DFSP). Operational control of the DFSP is performed by the FLC San Diego Fuel Division, charged with the responsibility of storing, managing, and providing fuel and petroleum products, as well as assurance that the fuel meets pre-determined quality standards for use by the Fleet, Homeland Security, and National Oceanographic and Atmospheric units operating in Metro San Diego. Additionally, it is responsible for providing logistics support to eight naval air bases located in the command’s area of responsibility (AOR). The FLC Regional Fuels Team, with support from the Naval Facilities Engineering Command San Diego, provides technical oversight for environmental regulatory compliance, facilities maintenance and construction, and technical oversight to all the regional bulk fuel and air stations located in California and its AOR. Regular comprehensive inspections and assessments are conducted to ensure regional advocacy for bulk and aviation fueling operations and quality assurance requirements are addressed and corrected as required.

THE TEAM MEMBERS

LCDR Ricardo Collazos, SC, USN: NAVSUP FLC San Diego Fuels Officer

Stephen Frey: NAVSUP FLC San Diego Fuels Department Deputy Director

Paulino Castro: NAVSUP FLC San Diego Bulk Fuels Operations Manager

Edward David: NAVSUP FLC San Diego Bulk Fuels Supervisory Facility Manager

Jim Skinner: NAVSUP FLC San Diego Regional Facility Management Specialist

Tommy Flores: NAVSUP FLC San Diego Environmental Protection Manager

Digna Feria: NAVSUP FLC San Diego Fuels Quality Assurance Chemist

Tracy Addis: NAVFAC Project Manager for the Facility Engineering and Acquisition Division (FEAD)

BACKGROUND

The DFSP is a tenant of Naval Base Point Loma and is the Navy’s busiest West Coast deep water fuel terminal. DFSP Point Loma is strategically located in the eastern Pacific and has been a major player in projecting naval power for more than a century. The fuel terminal at Point Loma first began its service as a coaling station in 1904 and has been in continuous operation since. In an effort to keep up with its ever-expanding military mission, the facility is undergoing several major construction projects that will upgrade an aging and failing bulk marine fuel storage terminal and, when complete, will ensure long term

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operational, mission, and environmental sustainability for the war fighter. This facility processes approximately 200 million gallons of fuel per year.



Closing One of Nineteen Underground Tanks

The fuels team has been relentless in its pursuit of upgrading this bulk marine oil terminal's superannuated and failing infrastructure to bring it into the 21st century, helping to continue projecting its continuity as a premier military fuel terminal. The Point Loma fuels team recognizes sustainability as the cornerstone for the more than 10 years of military construction and embraces four CORE values, defined as Cultural/Natural Resources, Operational Readiness, Resource Conservation and Social Responsibility, and Environmental Fidelity.

ACCOMPLISHMENTS

RESOURCE CONSERVATION AND SOCIAL RESPONSIBILITY: MILCON P-401 was the first of



After Construction Grading of Hillside

three major construction initiatives. This project modernized the tank farm and attained successes in material substitution and recycling. Focal points of this project have been on waste reduction efforts, conservation, and re-use construction retrograde.

The fuel farm project generated 55,839 tons of waste during the construction processes; however, 39,792 tons were diverted from the landfill and re-used on site. Another 4,448 tons were processed for off-site recycling. These actions eliminated some

1,870 trucks from transiting to and from the facility over a highly congested, narrow roadway within a high consequence urban environment, and more than 50,000 gallons a day of non-beneficial ground water were recycled daily. Since inception, more than 10 million gallons of reclaimed water have been used by the contractors as a dust suppressant, soil compaction agent, and to hydro test the integrity of the tanks and piping.

More than 59,000 metric tons of contaminated soils were treated on site using a low temperature thermal desorption unit. These treated soils were used to fill and decommission 40 underground tanks, saving the taxpayers about \$10 million. Sixteen above-ground tanks with the same storage capacity, replaced them in a smaller foot print. New support facilities were also added that included spill containment, leak detection; lube oil storage, tanker truck loading and unloading stands, a new power distribution system, fuel reclamation plant, pump house, and sedimentation basins to handle storm water. Seventy year old Canary palm trees were uprooted, temporarily replanted, and are now reinstalled and thriving. An arborist nurtured the trees over the four years it took to replant them within the new footprint. Where environmental stewardship was concerned, no detail was overlooked.

Another energy conservation effort was the EPA mandated use of ultra-low-sulfur marine diesel fuel standards. Current regulations apply for all diesel fuel, diesel fuel additives, and distillate fuels blended with diesel for on-road use. The challenge was to meet the advanced emission control technologies for maritime vessels before completion of the project. These fuel requirements, coupled with advanced emission control technologies, will decrease emissions by more than 90 percent. The CORE team was quick to recognize that the design blueprints did not have a provision for this new requirement, that the

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best time to correct this deficiency was while the facility was being built rather than retrofitting the equipment after the fact, and that it had a social responsibility to do something about it. The team was successful in obtaining sustainment dollars to correct this problem. A design and contract modification was initiated to insure that the facility was compliant with the new regulations.

Monthly energy consumption used to power fuel related systems, pumps, computers, and other equipment has been reduced by 33.21% and is directly attributed to the new fuel facility's design and construction.

Fuel Oil Reclamation efforts in 2014 resulted in improved efficiencies requiring treating a persistent hydrogen sulfide problem associated with the separation of the oil from the water fraction. The team spent the better part of the year devising a process and developing an SOP for meeting regulatory fuel permit requirements for dissolved sulfides. The overall result was the diversion and sale of 1,853, 488 gallons of off-specification fuel, which has generated \$4.2 million in revenue, saving an estimated \$50 million in waste disposal fees.

CULTURAL/NATURAL RESOURCES: A hallmark of environmental stewardship is the fact that Point Loma's natural resources remain intact because of limited Navy development and public access to Navy facilities. The Navy is the largest land holder on the Point Loma Peninsula. The tank farm construction, fuel pier replacement, and pipeline upgrades have been designed to minimize impacts to the natural resources located within the 650-acre Point Loma Ecological Conservation Area (PLECA).



View from PLECA looking north

The PLECA is managed by the National Parks Services. With a growing scarcity of native coastal habitat, protection of Point Loma natural resources is critical to maintaining a healthy population of native species, especially those vulnerable to non-native competition and predators. Balancing further development and use with habitat conservation was a particular challenge. Water resources, biological resources, visual resources, cultural and natural resources, socioeconomic issues, human health, safety, aesthetics, transportation, circulation, air quality, noise, and storm water management have all been addressed and well defined, and every effort is made to insure that the current and future construction efforts will have a minimal impact on the local residents, animals, and diverse biological life that call the peninsula home.

Mitigating impact to the diversity of the biological resources at Point Loma has been an extensive endeavor. All projects, including those to improve the mission at DFSP Point Loma, have required significant mitigation. Some of the birds indigenous to Point Loma include the Blue Herron, Red Tail Hawk, White Snowy Egret, Osprey, Brown Pelican, Seagull, and several other foragers like the Least Tern. The facility also is home to the red tail fox, California Sea Lion, and bottle nosed dolphin. The surrounding area also houses an assortment of rodents and reptiles, as well as vegetation like coastal sage, eel grass, and the rare Piperia Cooperia (Cooper's Rein) orchid.

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No violations of the National Pollutant Discharge Elimination System (NPDES) permit, nor any other regulatory violations, were issued from January 2004 to the present. The safety and health of all fuel pier personnel, customers, and protection of the environment remain of primary importance to the fuels management team.

SUSTAINABILITY: Sustainability must be both factual and scientific. The simple definition that sustainability simply improves the quality of human life, while nurturing the capacity to support diverse eco-systems is somewhat vague, but conveys the right idea. It also conveys the notion that it can somehow be quantified. Subscribing to the CORE sustainability values both describes and quantifies the sustainable values that are in motion at this vibrant and fully functional military fuel terminal. CORE sustainability is the capacity to endure. In ecology, sustainability describes how a biological system remains diverse and productive. Sustainability offers the promise that if we do our job of protecting the natural cultural resources, as well as the operational, social, and economic components of these strategic projects, we will not only sustain the facility but will also sustain the ecological balance within the PLECA and surrounding environment because sustainability involves ecological economics that have social, cultural, and financial implications.



New 2013 Automated Pump House

Sustainability has emerged as a major business model that is dramatically influencing DoD organizational thinking and policy making. It is an essential imperative for all government agencies at the federal level to become known as environmentally compliant and be respected as yardsticks for environmental sustainable practices.

OPERATIONAL READINESS: Operational readiness includes real property stewardship. In 2002, DFSP Point Loma embarked on a long range plan to replace failing and antiquated infrastructure. Three major fuel restoration projects totaling more than \$425

million are in play. All of them have been funded and are a work in progress. The five-year \$195 million project to demolish and replace aging and leaking bulk fuel tanks and assortment of related infrastructure, was completed in January 2014. The existing fuel pier and marine terminal, built in 1908, is now underway for replacement by 2017. The design and award of a \$64 million contract for an FY13 project known as MILCON P-1603 will replace the existing 106 year-old fuel pier that does not meet California Marine Oil Terminal Engineering and Maintenance (MOTEMS) standards with a new fuel pier that will be in full compliance.

Additionally, NAVSUP FLC San Diego has operational responsibility for the Navy-owned intrastate pipeline, a strategic resource in need of a major overhaul. This \$21 million sustainment effort is in the design stages to upgrade the strategic 17.3 mile intrastate fuel pipeline, and is expected to begin construction in 2015 and be completed by 2017. It will help bring the pipeline into compliance with the Federal Pipeline Hazardous Material Safety Act (PHMSA). Overall, these major assets and modifications are currently in play and will consume some 10 years of construction efforts. Despite all the construction, the facility has been able to meet all of its customer requirements on time and on specification.

Commercial innovation has been the key for achieving operational readiness and best value for upgrading the outdated fuel facility, one of the largest collaborative fuels construction efforts ever undertaken. It is a team effort between NAVSUP FLC San Diego, who maintains operational control of the site, the Naval Facilities Engineering Command (NAVFAC) Southwest, the Defense Logistics Agency (DLA), Commander Navy Region Southwest (CNRSW), and Commander, NAVSUP Global Logistics Support

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(GLS). The impressive undertaking was developed in collaboration with all five agencies. The project was in the planning and design stages for more than a decade and the overall construction will take almost another 10 years to complete.

A guiding principle of these various projects is to ensure that DFSP Point Loma maintains its vital support to the fleet while protecting the sensitive environment surrounding the MILCON projects and terminal infrastructure. These projects will extend the fuel facility's life expectancy by another 50-75 years, reduce operating costs, minimize maintenance actions, provide multi storage capability, and increase overall workplace safety.

Sustainability also conveys a call to action, which entails a long term work in progress with common goals and values. LEED "green" certification answers that call to action and is based on a factual and scientific paradigm that can be adopted elsewhere within the DoD. All the members of this CORE sustainability team have labored hard to ensure the continuity of this major Navy fueling operation will remain in compliance with all existing environmental, safety, and operational rules, laws, and policy. It is with great credit that the current team with diverse backgrounds and affiliations has remained committed to maintaining the focus on the successful execution of these CORE elements.

ENVIRONMENTAL MANAGEMENT: NAVSUP FLC San Diego team subscribes to an effective environmental training program that is suited to the needs of its personnel. Classroom instruction was provided on table top exercises specified by the Oil Pollution Act of 1990. Some other classroom training topics included Integrated Contingency Planning, Spill Prevention Control and Countermeasures, quarterly safety stand downs, HAZWOPER refresher training, and EMS awareness.



MILCON P-401 – Commissioned 2013

A CORE element of environmental management requires rigorous communications with all stakeholders which included federal, state, local government, and various environmental agencies and community groups. The goal for achieving operational sustainability could not be obtained without great communications. The team of fuels professionals trust one another to partner and achieve a common goal of building a world class bulk fuel facility. The solidification of this team five years earlier

Real property asset management is at the heart of the recently completed \$195 million MILCON P-401 project, closing 20 outdated bulk underground and aboveground storage tanks and reducing the overall foot print, has assisted with the relocation of other military assets, as mandated by the Base Realignment and Closure Commission of 2005. One of the main recipients has been the war fighter. Explosive Ordnance Disposal Team EMU4 now occupies 25% of the old fuel terminal's previous footprint.



MILCON P-1603 Scheduled for Completion 2017

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was the beginning; keeping the team together and staying focused has been a work in progress; working together has truly been a huge success and was a direct result of the ongoing lines of direct communication spanning across various command and control responsibilities.

Public relations meetings began with the discovery of a fuel plume that was the direct result of operating 75 year-old bulk fuel storage tanks that had exceeded their economic life expectancy. Extensive mapping of the plume determined that the bulk tanks leaked a variety of petroleum products, many of which were discontinued 20 to 30 years earlier. Over the past 12 years, a mitigation and remediation project has been ongoing to reclaim pools of AVGAS, MOGAS, JP-4, JP-5, and marine diesel. Soliciting residents' input on a regular basis with local government, community, and public organizations, as well as other stakeholders, has helped to quell the anxiety associated with the plume and MILCON project noise levels, traffic, and impact on their quality of life. Socioeconomic issues, human health, safety, aesthetics, transportation, circulation, air quality, noise, and storm water management issues are addressed, defined, and explained to all who call the Point Loma peninsula home. It is a model community outreach program that keeps the community at large aware of the various projects having the potential to impact their quality of life. Quarterly community liaison meetings (QCL) with the public are also conducted.

Both initiatives are intended to enhance public participation by involving the local community in the Navy's construction efforts, environmental restoration, and sustainability processes and are intended to bring together community members who reflect the diverse interests, enabling early and continued two-way communications regarding concerns, values, and needs between the community and the installation.



Public Communications Meeting

The core team is made up of environmental, safety, facilities, engineering, and operational managers who have focused their collective efforts on building a basic foundation for a more holistic approach for achieving overall sustainability. This CORE team has focused on *cultural natural resources, operational readiness, resource conservation, operational excellence, and environmental fidelity* as the cornerstone of what will eventually become a guiding light for strengthening this facility's commitment in meeting basic mission requirements while building a viable and compliant bulk marine oil terminal that promotes sustainability and respects quality of life.

During periods of construction, daily noise and emissions remain below city ordinance thresholds. To help suppress construction noise and emissions, field stations throughout the site were erected to collect noise and emission readings and ensure the surrounding community was not unduly affected. Special monitoring equipment and periodic surveys are routinely conducted to insure that construction commotion of earth moving and other equipment stays below statutory and design limits, and that the biological diversity of the site is not unduly impacted. As a result, construction efforts are having a minimal impact on the facility's vast array of biological resources.

Despite the tumultuous times and discontinuity brought about by the myriad of military construction projects requiring extensive demolition and construction, unit cohesiveness was achieved with regular partnering sessions between all stakeholders, allowing NAVSUP FLC San Diego to meet operational and mission demands for all of its customers. The concept has worked well for the five-year MILCON P-401 project and will now serve as the model for the fuel pier demolition and construction, MILCON P-1603, and the sustainment, repair, and modernization project that will renovate the 17.3 mile intrastate Navy-owned pipeline project.

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These sensible partnering sessions include the community, contractors, and Navy stakeholders, and help foster a cohesive environment that has allowed the fuel terminal to remain fully operational.

Another source of synergy is co-locating the Naval Facilities Engineering Command (NAVFAC) Facility Engineering and Acquisition Division (FEAD) on site with the prime contractors. This has afforded a high level of quality assurance and continuous oversight, allowing each segment of all projects to meet rigid requirements and specifications. Staffed with only seven people, the FEAD is comprised of a diverse group of credentialed professionals working in the fields of acquisition management, safety, environmental protection, engineering, construction management, and project management. Quarterly liaison meetings are held with the general public to discuss concerns and issues regarding current and future construction efforts.

SAFETY AND HEALTH: The emphasis on safety has resulted in an amazing accomplishment. MILCON P-401's safety record is outstanding. This project has achieved an excess of 1,600 days (500,000 man-hours) without a lost day attributed to a construction accident. Six months into MILCON P-1603, that record remains intact. This is a tribute to the government's and contractor's commitment to safety. These successes clearly demonstrate that safety is everyone's responsibility. Both the contractor and operating personnel have a safety and health program that conforms to the best practices in industry. The program embodied fostering proper attitudes within the workforce that are focused on safety practices, accident prevention, and insuring that mechanical and physical equipment required for personal safety and health are maintained at the highest possible standards. As such, the contractor and facility utilize a documented process by which the steps and procedures required to accomplish a work activity are outlined and embraced by all involved. The same philosophy is in use today, with the construction efforts of the new fuel pier and to date achieving the same results. The actual or potential hazards of each activity are identified, measured, and communicated to the various workforces elements charged with eliminating or controlling those hazards and to federal employees working those spaces.

OTHER ACHIEVEMENTS: DFSP Point Loma won the 2013 American Petroleum Institute's (API) Navy Bulk Terminal Award for excellence in fuel management. The API awards program recognizes significant contributions to Department of the Navy bulk fuel operations and fleet fuel support.



LEED Silver Certification – June 2014

The facility received LEED Silver certification in June 2014 for the P-401 MILCON, which was designed using LEED standards. LEED is an internationally recognized green building certification program, providing third-party verification that a building or community was designed and built using strategies intended to improve performance in energy savings, water efficiency, CO₂ emissions reduction, improved indoor environmental quality, and stewardship of resources and sensitivity to their impacts. In doing so, it is now the Department of Defense's first "GREEN" fuel depot achieving LEED certification.