MANCHESTER FUEL DEPARTMENT – THE BEST FUEL TERMINAL IN THE WORLD

INTRODUCTION

The Manchester Fuel Department (MFD) of the Fleet and Industrial Supply Center Puget Sound (FISCPS) is the largest CONUS underground fuel storage facility, storing product in 44 bulk fuel tanks (33 Underground Storage Tanks and 11 Aboveground Storage Tanks) on 234 acres. The facility is also a Defense Fuel Support Point for the Defense Energy Support Center (DESC). Our primary mission is to provide bulk fuel and lubricants to military and government vessels and activities including:

- US Naval Vessels
- MSC Tankers
- USCG Cutters, Icebreakers & Facilities
- US Air Force Activities
- US Army Activities
- NOAA Research Vessels
- University Research Vessels
- Foreign Military Vessels & Installations

Additionally, we support DESC activities by providing fuel and war reserve storage. MFD is also a training location for drilling reservists and a site for Army petroleum mobilization exercises (Americas Contingency Energy Solutions).

MFD is located in unincorporated Kitsap County, on the Puget Sound, approximately 7 miles (by water) West of Seattle, Washington. With a population of approximately 1,500, the unincorporated village of Manchester lies to the South and West. A National Marine Fisheries Service research facility, the US Environmental Protection Agency Region X marine laboratory, and a state park lie to the North on former Navy property. The remaining neighbors are mostly low density rural properties.

The facility sits on approximately two miles of Puget Sound shoreline and is made up of two distinct areas separated by a 26-acre tidal lagoon, Little Clam Bay, and a county road. The property also contains a perennial stream, Beaver Creek, which runs through the north end of the facility and various man-made spill containment ponds (Franco Pond, North Dike, South Dike) which converted over time to wetland habitat.

We provide a full range of operations, maintenance, inventory control and administrative services in support of our customers. The staffing at MFD consists of two military and 26 full-time civilians, three full-time contract staff and two part-time clerical staff.

BACKGROUND

Our Environmental Management System (EMS) was developed in 2005 to meet the requirements of Executive Order 13148. While not an “appropriate facility” as defined in the executive order, we determined that an EMS would complement and enhance existing management system elements currently in use. Additionally, the EMS was incorporated into the Facility Operations Manual, which contains the Standard Operating Procedures (SOP) for all activities conducted at MFD. We completed the six DOD metrics (Gap Analysis, Signed Policy, Aspects Ranking, Implementation Plan, Management Review, and Personnel Training) and continue to work on further implementation of our EMS.
FISCPS employs a full-time Environmental Director (ENVD) responsible for the full range of environmental compliance programs at MFD. While the ENVD is the

only environmental position on staff, environmental work is accomplished through a combination of other MFD personnel, local Navy resources including NAVFAC, Navy Region NW, and contractors. As the EMS Manager, the ENVD ensures implementation of and compliance with the EMS.

We keep several regulatory plans and permits up-to-date and implemented. Currently we are updating the Facility Operations Manual to comply with Washington State rules which go into effect in February 2007. The Navy Region Northwest Integrated Contingency Plan (MFD is a part of this umbrella plan) is being updated to incorporate changes to state rules, with a submission date of May 2007. All storm water and wastewater discharges are regulated under the facility National Pollution Discharge Elimination System (NPDES) Permit, which is currently under review for renewal by the Environmental Protection Agency.

PROGRAM SUMMARY

We designed our Environmental Management Program to comprehensively and effectively sustain all current and future mission requirements while simultaneously exceeding all environmental requirements and performing as a "Good Neighbor" with the resources available. Although staffing was reduced to the absolute minimum to meet our primary mission requirements, we continue to be a leader in assertive environmental protection and natural resource infrastructure sustainment.
An EMS to support the entire base and fuels operations was established and incorporated into the Facility Operations Manual – a unique approach to the DOD fuel community and Navy shore operations. The EMS provides SOPs which individually identify operational controls, recordkeeping requirements, safety issues, environmental impacts and aspects with mitigation actions for the specific operations.

The EMS incorporates all organizations at the terminal: Operations, Maintenance, Administration, Laboratory, Engineering, Environmental, and Management. Using the Aspects and Impacts identified during the aspects ranking process and the Management Review, the following EMS objectives were developed:

- Zero discharge of contaminants from fueling operations (No Spills)
- Maintain and improve MFD's spill response capability
- Improve the Oil Water Separator Systems to meet discharge requirements
- Improve MFD Spill Prevention facilities
- Detect/Repair and validate the potential leakage of field constructed underground bulk tanks
- Improve the Natural Resource Infrastructure through partnerships, assertive effective use of funds and innovative design/build methodologies
- Aggressively approach recycling, reclamation and pollution prevention efforts
- Aggressive training to include EMS (Aspects/Impacts, Objectives), spill response and prevention, drill participation, and employee qualification.

We fully implemented our EMS and completely rewrote the Facility Operations Manual to include all aspects of the EMS (issued in September 2006), completion of the first independent review of the EMS (January 2006), Aspects and Impacts ranking, setting of objectives and targets, and training on the EMS.

ACCOMPLISHMENTS

During fiscal years 2005/2006, we pumped 163,327,000 gallons of petroleum products for customers including barges, large Roll On/Roll Off vessels (e.g., USNS Bob Hope), tugs, USCG Ice Breakers, trucks, National Oceanic Atmospheric Administration (NOAA) vessels. Additionally, we performed remote barge operations at Naval facilities at NAVSTA Everett, NAS Whidbey Island, Port of Tacoma, Port of Olympia, and USCG Sector Seattle Pier 36.

During the same period there were no releases caused by MFD personnel during fueling evolutions; however, eight releases totaling less than 4.5 gallons were reported. Five of the eight releases were the result of heavy rains overwhelming one of the oil water separator systems which has since been modified to preclude further releases. The other releases were caused by internal vessel operations while moored at the MFD fuel pier. This performance is a direct result of the attention to detail our personnel exercise to ensure protection of the environment.

We continue to provide exemplary spill response services. The entire staff of the Department has received training in Incident Command System (ICS) methodologies. ICS has been adopted by all US government agencies as the emergency management system used to organize and execute responses to all disaster scenarios.

Indicative of our technical acumen in the spill response arena, the Washington State Department of Ecology (WDOE) recognized MFD for its commitment to oil spill response readiness in a 25 July 2006 letter addressed to the Department Director.

In an effort to further develop our skills the Naval Facilities Engineering Support Command (NFESC) three-day Facility Response Team (FRT) training has been adopted as the annual refresher training for MFD spill responders. The training provides students an opportunity to practice spill response, set spill containment and implement diversion strategies to prevent and contain oil spills, and test new strategies under the watchful eye of an experienced third-party trainer. The NFESC trainer stated:

> ”The response was the most thorough I have witnessed to date” and “the FISC facility response team is highly capable of responding to spill scenarios. . . The Entire Team are true professionals.” (Tageson Maritime Ltr of 14 July 2006 to Kevin Frantz, NFESC).

We have also developed modifications to the NFESC provided work boats that enhance our spill response capabilities. The use of sail rollers (traditionally used on recreational sail boats for sail adjustment and handling) as an anchor line operating tool has resulted in improved safety and reduced physical stress on employees.

We continually develop facilities to prevent releases to the surrounding environment. During fiscal years 2005/2006, we developed an innovative protocol for determining where potential fuel leaks could originate. The resulting treatment system incorporated an innovative cloth filter and separator system that reduces the velocity of incoming storm water and allows more complete treatment when used in conjunction with the existing oil water separators.

We also replaced old open top coalescing plate separators, which depended on the ability of floating weirs to remove oil, with new tank type separators which contain the residual oil and allow easy removal of the separated product.

Our innovations also included the development of testing protocols for the large field constructed concrete tanks. We are a leader in the application of coating technologies in large field constructed underground tanks (2.1 million gallon capacity). This tank type constitutes the majority of the storage at the terminal. We also aggressively monitor the tanks for "unscheduled movements" which are unaccounted for losses or gains within these tanks. On one tank, we had visual indications of potential fuel leakage in a valve vault. We used a combination of precision leak testing technology (provided by Vista Technologies), cleaning, visual inspection of the coating system and high voltage holiday testing of coatings to identify potential leaks. This testing protocol identified a leak rate of 0.25 quart/hour (equivalent to 1/100,000 of an inch loss per hour) with the tank at its maximum fill capacity. The tank coating was repaired and the repair was validated by refilling the tank and conducting precision leak detection. All testing and repairs were completed for under $300,000. This testing was conducted in partnership with WDOE. The subsequent environmental investigation outside the tank revealed one isolated area that required some minor soil remediation.

The natural resource infrastructure at MFD was significantly improved during fiscal years 2005/2006. We worked with our partners, Mid Sound Fisheries Enhancement Group, the Suquammish Tribe, and GeoEngineers Inc., to secure a Salmon Recovery Funding Board grant of $485,000 for the construction of more than 1500 ft of new salmon stream at Beaver Creek and new estuary at the mouth of the creek while eliminating two fish passage barriers. We were the first Navy activity to be awarded this type of grant. The importance of this project was recognized by RADM Daniel H. Stone, Commander of Naval Supply Systems Command, in a groundbreaking ceremony for the final phase of the project. This work also required innovative construction of a bridge over Beaver Creek. The bridge was constructed by "sliding" it under existing utilities.

We also worked to enhance the natural resource infrastructure by conducting reforestation of the tank farm. This reduced our grounds maintenance costs and provided additional cover/habitat for the station wildlife population.

We have also taken significant steps to reduce the quantity of wastes generated and to recycle/reclaim metal and wood debris. Large amounts of metals including old pipe, sheet pile, fencing, and valves were unearthed on the Beaver Creek construction project site. One hundred percent of this material was reclaimed and sent to the Navy metal reclamation facility at Naval Base Kitsap - Bremerton. Terminal repairs and operations which generate excess metals are also reclaimed in the station recycling center. We also use paper recycling and wood debris recycling to return cellulose materials to recycling centers for reclamation.

MFD operates an oil reclamation plant where waste oils and water mixes are processed and reclaimed. The resulting products are either placed back into stock as on-specification fuels or processed and sold as Fuel Oil Reclaimed (FOR), a refinery feedstock. In fiscal years 2005/2006, we returned over 949,675 gallons of fuel to stock and sold 594,157 gallons of FOR. This sale returned over $445,000 to the government.

We are also a leader in the use of alternative fueled vehicles and equipment. MFD was one of the first Naval facilities to convert all diesel powered equipment including trucks, spill prevention boats, and construction equipment to B20 biodiesel blend. In addition, we were the first regional activity to acquire GEM ™ electric utility vehicles for use at the fuel terminal and other FISCPS sites. All small utility vehicles are either biodiesel or electric vehicles.

Fleet and Industrial Supply Center Puget Sound, Manchester Fuel Department has taken its environmental responsibilities seriously and continues to innovate, improve, and model how a small industrial installation can show environmental leadership. With a very small staff, we have successfully completed more environmental projects than significantly larger commands.

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