

Oil Recycling Nothing New to Craney Island

Decades-Old Operation Saves Over a Million Dollars Annually

WITH AN EVER-INCREASING emphasis on reducing waste and environmental compliance throughout the Department of Defense (DoD), one program is ahead of the curve—and they've been there since the 1950s.

Located on picturesque Craney Island in Portsmouth, VA, Craney Island Defense Fuel Support Point (DFSP) is home to the largest fuel reclamation operation in the DoD. Although the program has been in place for over 50 years, this is no static program. Over the past five years, Craney Island's thriving operation has enjoyed a 71 percent growth in sales of their premier reclaimed product—Fuel Oil, Reclaimed (FOR).

Tried & True

As the Navy moves ahead with greening its petroleum supply chain with innovative drop-in solutions such as biomass fuels, it is easy to lose sight of highly successful green processes that have been in place for a long time.

By taking petroleum products destined for disposal and converting them into a usable product, Craney Island's oil recycling and re-use program reduces the waste stream

significantly. In a 1996 U.S. Environmental Protection Agency study involving a similar operation, it was determined that by establishing a formal oil marketing campaign, a Navy base could potentially reduce their industrial waste stream by 80,000 pounds.

Financial efficiencies are also a direct result of the oil recycling and re-use program. In 2008, FOR sales of 1.7 million gallons generated a flow of 1.78 million dollars directly back into the Defense Logistics Agency working capital fund. These regenerated dollars ultimately result in enhanced support for the warfighter. Conversely, had this product been sold to commercial vendors for disposal instead of bringing it back into the supply chain, DoD would have lost over one million dollars in potential revenue.

Savings are also realized by the Navy's own re-use of recycled oil. For example, in 2008, approximately 1.6 million gallons of recovered oil was recycled from regional Navy sites. As a result, Naval Facilities Engineering Command (NAVFAC) utilities used 1.7 million gallons of FOR, saving approximately \$600,000 in oil purchasing costs. Recycling oily waste also results in an annual disposal cost

avoidance of approximately \$500,000, resulting in annual savings of over a million dollars.

In addition, system maintenance costs of less than \$25,000 per year make Craney Island's oil recycling and re-use program economically efficient.

The Process

The oil recovery program at Craney Island consists of the recycling and re-use of oily waste water and waste oil from ship and shore activities. A truly regional recycling process, used and off-specification petroleum products are brought into Craney Island from many different sources and locations in the Mid-Atlantic area. Oily waste from ships is pumped from Naval Station Norfolk piers into the Public Works Center (PWC) oil recovery system, where it joins other used petroleum products, including used automobile oil from vehicle maintenance shops, into holding tanks. It is then pumped through a pipeline from Naval Station Norfolk to the PWC Water Treatment Plant at Craney Island, where the oil and water are separated.

Craney Island DFSP also receives oily waste and off-specification product from ships berthed pier-side

at Craney Island. Finally, a nominal amount of waste oil recovered from on-site remediation projects provides another input into the system. This multi-stream product is sampled and tested prior to being placed in a settling tank. As the product ages in the tank, water and other impurities drop out as a function of time and temperature (heat accelerates the process). The product is sampled and tested periodically until it meets the FOR specification.

Once the product meets proper fuel specifications, it is stored in Craney Island storage tanks until purchased by a customer, such as PWC Utilities, which burns FOR at a steam plant for power generation.

William “Jack” Jackson oversees all FOR testing at Fleet and Industrial Supply Center (FISC) Norfolk’s fuel laboratories, and brings a wealth of experience to the process. “Since starting work at Craney Island in 1972, I have tested FOR at least 500-600 times,” Jackson states. “Not a drop of FOR is issued to our customers unless it meets every specification.”

The Product

The FOR specification is approved for use by the Department of the Navy and is available for use by all



William “Jack” Jackson performs FOR testing while Lieutenant Konrad Krupa, FISC Norfolk fuel intern observes.

LCDR Dave Roddy

departments and agencies of the DoD. FOR is the product of a mixture of oils, and is subject to regulation by the Code of Federal Regulations (CFR) 40 CFR 266, Sub-part E. FOR can be used as a substitute for the American Society for Testing and Materials standard D 396 (the standard specification for fuel oils) either directly or as a blend in stationary fuel-burning furnaces for heating buildings, generating steam or other purposes.

Craney Island’s regional fuel operation partners with various organizations to ensure environmental compliance. Environmental oversight is provided in concert between NAVFAC Mid-Atlantic Regional Environmental Division and the Virginia Department of Environmental Quality.

The Bottom Line

Clearly, the Craney Island oil recycling program provides a viable, proven energy solution which saves taxpayer dollars while reducing impact on the environment. This unique program ultimately drives the goal which every program under the Naval Supply Systems Command shares—enhanced delivery of logistics support to the Navy’s operational forces. ⚓

Two FOR settling tanks on Craney Island DFSP.
Dale Devorss



CONTACT

LCDR Dave Roddy
Fleet and Industrial Supply Center Norfolk
757-322-9003
DSN: 262-9003
david.rodgy@navy.mil