

**Emergency Response Action Memorandum
Site 17, Former Fire-fighting Training Area
Naval Auxiliary Landing Field Fentress
Chesapeake, Virginia**

Purpose

This emergency response Action Memorandum for Environmental Restoration Program (ERP) Site 17, Fire-Fighting Training Area was prepared per Section 300.415(n)(2) of Title 40 of the Code of Federal regulations, as part of the National Contingency Plan (NCP). It is based on the Administrative Record (AR) File for Site 17 and documents actions taken in response to drinking water samples collected at nearby private residents to Naval Auxiliary Landing Field (NALF) Fentress. In accordance with the Naval Air Station Oceana (NASO) Partnering Tier I team¹ agreement, action was initiated on March 19, 2016 and May 19, 2016 and is still underway that includes providing bottled water for drinking and cooking purposed to these six properties after concentrations of perfluorooctanoic acid (PFOA) and perfluorooctanoic acid (PFOS) were detected in drinking water samples collected from these properties above USEPA health advisory levels.

Site Conditions and Background

NALF Fentress was initially investigated as part of the Initial Assessment Study (IAS) of Naval Air Station (NAS) Oceana, completed in 1984 (NEESA, 1984). The IAS identified Site 14, the Fentress Landfill, as a site requiring additional investigation to determine environmental impacts. In response to the IAS, the Round 1 Verification Step Study, which included investigation of the Fentress Landfill, was performed in 1986 (CH2M HILL, 1986). Subsequently, the 1989 Resource Conservation and Recovery Act (RCRA) Facility Assessment for NAS Oceana identified the Fentress Landfill (referred to as Solid Waste Management Unit [SWMU] 10 in that report), the Fentress Firefighter Burning Training Area (SWMU 64), and two waste fuel storage tanks at Fentress (SWMUs 76 and 77) as requiring additional evaluation (Kearney, 1989). A 1990 USEPA 3008(h) Corrective Action Order identified 60 SWMUs at Oceana for additional study, including the Fentress Sites identified in the RFA. In June 1992, the Work Plan for the RCRA Facility Investigation recommended no additional action under RCRA for the tank sites because they would be regulated under the Virginia Petroleum, Oil, and Lubricant Program (CH2M HILL, 1992). A 1992 Environmental Investigation was completed to determine the nature and extent of contamination at the landfill and the firefighting training area. The results of the investigation at the landfill (named Site 14 in that report) indicated no unacceptable impacts to the environment from landfilling activities and the report recommended no further action. Soils and groundwater at firefighting training area (named Site 17 in that report), were contaminated with fuel-related compounds and additional action was recommended to remove contaminated soils and monitor groundwater. Subsequent site inspections were completed and better defined the extent of contamination in soil and determined that impacts to groundwater did not require treatment (Baker, 1992). In 1994, over 5,000 cubic yards of petroleum contaminated soils were removed from Site 17 and treated onsite using bioremediation and the site was subsequently closed with no further action required (FWI, 1994).

Perfluorinated compounds (PFCs) are constituents historically found in aqueous film-forming foams (AFFF) which is used in firefighting operations and were not previously evaluated at Navy sites. PFCs are considered “emerging contaminants” and these chemicals do not adsorb readily to soils and are

¹ The NAS Oceana Tier I Partnering team consists of members from the USEPA Region 3, Virginia Department of Environmental Quality (VDEQ), and the Navy. NALF Fentress is under the command of NASO and considered within the NASO ERP.

consequently, frequently found in groundwater. In 2013, USEPA added new requirements PFC sampling requirements to the Safe Drinking Water Act (SDWA) Unregulated Contaminant Monitoring Rule 3 (UCMR3), requiring all large and 800 small public water supply systems to test for these chemicals before 2015. As a result of subsequent Navy policy, , former Sites 14 and 17 at Fentress were identified for further evaluation of PFCs. Because of the firefighting activities and disposal of AFFF that took place at the site, and the proximity of AFFF releases to water supply wells within the site boundary as well as on residential properties located off-site, additional sampling is necessary to ensure conditions protective of human health. Additionally, following interviews with the base fire department, additional possible sources of PFCs were identified that will require evaluation. Therefore, an investigation to determine the presence of absence of PFCs in the groundwater beneath and in the vicinity of NALF Fentress was implemented in December 2016.

While all sites at NALF Fentress were previously closed with no further action determinations, the additional PFC investigations at Fentress will be evaluated as part of the ongoing investigations at NAS Oceana, consistent with the original regulatory history of NAS Oceana and NALF Fentress. In July 1998, the Department of the Navy (Navy), the Virginia Department of Environmental Quality (VDEQ), and the USEPA agreed to conduct site remediation activities at NAS Oceana following the procedural and substantive requirements of the Comprehensive Environmental Response Compensation, and Liability Act (CERCLA) program (42 United States Code [USC] §§9601 et seq., 10 U.S.C. §2701 et seq., and Executive Order 12580 [January 23, 1987]). CERCLA work is currently being conducted with USEPA Region 3 as the lead regulatory agency. VDEQ is the State regulatory agency. Together, these three agencies form the NAS Oceana Partnering Team. As such, the CERCLA process will be adhered to during this and any subsequent investigations to evaluate PFCs at NALF Fentress.

Threats to Public Health or Welfare or the Environment, and Statutory and Regulatory Authorities

The analytical results of the December 2016 investigations indicated PFOA and PFOS were present in groundwater beneath the facility at concentrations greater than the USEPA provisional health advisories. Therefore an immediate investigation of drinking water was conducted for residents within a half mile radius of sample locations on the facility where PFOA and PFOS concentrations were greater than 25% of respective USEPA provisional health advisory levels. Out of the 53 drinking water samples collected in February and March 2016, two drinking water samples from nearby property owners detected PFOA and/or PFOS concentrations greater than USEPA provisional health advisories; these property owners were immediately provided bottled water on March 19, 2016 as an Emergency Response Action under CERCLA. Additionally, the USEPA established a lifetime health advisory for PFOA and PFOS on May 19, 2016. The Navy immediately reviewed the existing data collected at the nearby residences which revealed the drinking water at an additional four nearby properties contained levels of PFOA and PFOS greater than the lifetime health advisory and began providing bottled water to these resident on May 20, 2016. The bottled water will be supplied to these properties until a long-term solution is evaluated and implemented to provide drinking water with concentrations of PFOA and PFOS below USEPA health advisory levels.

Public information meeting sessions were held on March 24, 2016 and June 14, 2016 to provide the public the opportunity to discuss questions or concerns associated with PFOA and PFOS with subject matter experts; representatives from the Navy, USEPA, the City of Chesapeake, the Virginia Department of Environmental Quality, the Virginia Department of Health, and the Agency for Toxic Substances and Disease Registry were present at the meeting.

Estimated Schedule and Costs

On March 19, 2016, the Navy began providing bottled water to two nearby private properties for drinking and cooking purposes. In response to USEPA establishing lifetime health advisories for PFOA and PFOS, an additional four residences were delivered bottled water beginning May 20, 2016. Bottled water will be supplied to these residents until a long-term solution is evaluated and implemented to provide drinking water with concentrations of PFOA and PFOS below USEPA provisional health advisory levels. No ARARs apply to this action. A long-term solution has not yet been identified.

Costs associated with continual delivery of bottled water for drinking and cooking purposes to the six effected residents are estimated to be \$35,000/year.

Outstanding Policy Issues

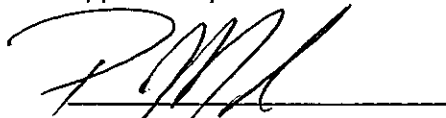
Since there are no regulatory standards governing concentrations of PFCs in drinking water, the EPA developed a health advisory establishing health-based hazard concentrations above which action should be taken to reduce exposure to certain PFCs, in particular PFOS and PFOA. This Emergency Response Removal Action in this case was initiated based on USEPA health advisory levels for PFOS and PFOA. The science surrounding PFCs is still evolving. As the scientific community learns more, the USEPA health advisory levels may change or additional standards may be developed by other federal, state, or local agencies. These changes may necessitate additional actions to be taken by the Navy.

Recommendations

This Action Memorandum documents approval of the Emergency Response removal action in association with ERP Site 17, Former Fire-fighting Training Area at NALF Fentress in Chesapeake, Virginia. It was developed in accordance with CERCLA and the NCP, and is based on the AR file for Site 17. Conditions at the site meet the NCP section 300.415(b) criteria for a removal action.

This action, which included the immediate supply of bottled water for drinking and cooking purposes to the six effected residents following the receipt of analytical results, was completed in accordance with NAS Oceana Tier I Partnering Team consensus. Bottled water for drinking and cooking purposes will continue to be supplied to these residents until a long-term solution is evaluated and implemented to provide drinking water with concentrations of PFOA and PFOS below USEPA health advisory levels. The Naval Facilities Engineering Command, Mid-Atlantic, approved and is undertaking this emergency response removal action. The estimated emergency response removal action is approximately \$35,000 per year.

Approved by:



CAPT R. J. MEADOWS
Commanding Officer
Naval Air Station Oceana
Virginia Beach, Virginia

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Date