ATTACHMENT J-1604000-06 REV1
PERFORMANCE WORK STATEMENT
GRANULATED ACTIVATED CARBON (GAC) SERVICES
ANNEX 16, SPEC ITEM 3.1.7

SECTION 1 - GENERAL INFORMATION

The purpose of this attachment is to provide more details for the work required in Annex 1604000 Wastewater, Spec Item 3.1.7, Granular Activated Carbon and Services. This scope of work is to provide granulated activated carbon (GAC) services, including in the operation and maintenance of pollution control devices at the Industrial and Oily Waste (IW/OW) treatment plants at Naval Facilities Engineering Command, Southwest (NAVFAC SW) facilities in the San Diego geographical area. All references identified in the basic contract remain in full effect.

SECTION 2 – BACKGROUND

The US Navy fleet and shore activities generate industrial and oily wastes. NAVFACSW operates several IW/OW treatment plants in the San Diego area to treat the wastes. Wastes that are treated are HW under Federal and/or California law and are pervasively regulated and permitted by numerous agencies. In order to meet regulatory requirements, several pollution control devices operate at the largest plant, located at Naval Base Coronado (NBC).

Among the pollution control devices are numerous GAC adsorption air pollution control devices that, as GAC becomes spent and unsuitable for continued use, must be serviced at irregular but frequent intervals on an ongoing basis. IW/OW plants also use wet GAC adsorption devices and mixed media filter beds through which treated water is discharged, thereby maintaining compliance with sewer discharge limits. Those devices are serviced at less frequent intervals but, when serviced, are much larger in scope than routine service of air pollution control devices. All mixed media filters and wet GAC adsorption devices are typically serviced at approximately the same time on an infrequent basis, but as a matter of routine, no more frequently than once every five years during an engineering inspection and certification cycle.

SECTION 3 - PERFORMANCE OBJECTIVES

The main objectives of this Task Order are to:

(1) Furnish a crew to remove spent GAC from pollution control devices from the IW/OW treatment facility at Naval Base Coronado (NBC).
(2) Provide and install fresh GAC of various types into pollution control devices, depending on devices being serviced.
(3) Provide transportation of both fresh GAC and spent GAC to regeneration facilities.
(4) Remove spent GAC from site on same date of service for regeneration at an authorized GAC regeneration facility. Carbon or mixed media that cannot be regenerated shall be disposed of at a site authorized to accept the waste.
(5) Provide, upon request, analyses of spent GAC.
(6) Re-profile spent GAC at intervals of no greater than two years, or if significant process changes occur.

SECTION 4 - WORK ELEMENTS/SCOPE OF WORK

Work Element 1 - GAC Service - The Contractor shall provide GAC service to pollution control devices at the IW/OW treatment plants located at Naval Base Coronado (NBC). GAC service includes: replacement of spent GAC of various types with fresh GAC; labor and equipment necessary to affect replacement; delivery of fresh GAC and transport of spent GAC offsite on the same date of service for regeneration at a facility that specializes in GAC reactivation; and analyses of spent GAC, as requested.

Work Element 2 - Removal of Spent GAC - The Contractor shall furnish a qualified crew to remove spent GAC from pollution control devices. Units to be serviced may be added or subtracted during the course of this contract.

Work Element 3 - Provide and Install Fresh GAC - The Contractor shall provide and install fresh GAC of various types into pollution control devices, depending on devices being serviced. The Contractor shall furnish a qualified crew to install fresh GAC.

Work Element 4 - Remove Spent GAC to Treatment Facility - The Contractor shall remove the spent GAC from the Navy site on same date of service for recycling at a fully permitted HW treatment facility specializing in GAC recycling/reactivation/regeneration. Among other GAC types, spent GAC includes a caustic-impregnated coal-based type. Facilities accepting spent GAC must be able to accept such GAC type for recycling/reactivation. Carbon for pressure vessels will be left on-site in plant roll-off bins while awaiting the profiling and analytical results. If the spent carbon can be regenerated, it will be taken off site in the roll-off bins to the regeneration facility If the spent carbon cannot be reused, it will either go to a landfill or will stay onsite in the roll-off bins for disposal through the DRMO contract, via the Navy's Job Order Number (if deemed hazardous waste).

Work Element 5 - Provide Analyses of Spent GAC - The Contractor shall provide an analysis of the spent GAC removed. Carbon will be profiled every two years for each carbon unit type. Analytical results will be provided to the Navy and be used for final disposition of the carbon. The analysis shall be performed by an accredited laboratory. Contractor shall provide analysis for 12 samples per year.

Work Element 6 – Re-Profile Spent GAC – At intervals of no greater than two years, or if significant process changes occur, the Contractor shall re-profile spent GAC. Mixed media and the wet carbon will be profiled after it is removed from the vessels and final disposition will be determined by the profiling process.

SECTION 5 - EQUIPMENT

Currently, 14 units are serviced under this Task Order, as follows:

Naval Base Coronado (NBC): Service 16 total units; including 9 vapor GAC units, 4 wet GAC units, and 3 mixed media filters.

> **9 vapor GAC units:** Vapor GAC units BTF-1 & BTF-2 each contain approximately 1,500 lbs of GAC. The current product used is US Filter VOCarb VCP60 4mm. The remaining 7 GAC units are vapor units each containing approximately 350 to 400 lbs of potassium hydroxide-impregnated GAC. The current product used is US Filter VOCarb UOCH-KP KOH 4mm. The BTF units are serviced at irregular intervals, but at least a few times per year, based on readings of capture efficiency.

The other vapor units serve as backup to the BTF units and are changed out every 168 operating hours as determined by fan hour meters.

4 wet GAC units: The 4 wet GAC units each contain approximately 20,000 lbs of aqua-reactivated GAC. Service interval is determined by a regulatory reinspection requirement of at least once every 5 years. Intervals may be shorter if equipment failure or other non-routine events necessitate change out of GAC in one or more of the wet GAC units on an accelerated schedule. Intervals may be longer if inspections can be accomplished by external methods.

3 mixed media filters: Each of the 3 mixed media filters contains 5 layers, consisting of approximately 2,000 lbs of 3/4 x 3/8 gravel, 1,500 lbs of 1/4 x 1/8 gravel, 1,100 lbs of #12 sand, 8,000 lbs of #30 sand, and 3,650 lb of anthracite. Service intervals for each of the 3 mixed media filters are determined by a regulatory reinspection requirement of at least once every 5 years. Intervals may be shorter if equipment failure or other non-routine events necessitate change out of media in one or more of the mixed media filters on an accelerated schedule. Intervals may be longer if inspections can be accomplished by external methods.

Unit Type	Change Out Requirements	Per Year
2 BTF Vapor units	Approximately 6 change outs per year	12
7 Small Vapor units	Typically fewer than 1 change out per year	<7
4 Wet units	Change out once every 5 years	
3 Mixed units	Change out once every 5 years	

SECTION 6 - EMPLOYEE REQUIREMENTS

The Contractor shall provide experienced, qualified, and capable personnel to perform the work in this contract. Personnel shall be fully knowledgeable of all safety and environmental requirements associated with the work they perform. Personnel required to perform under this contract shall meet HW operations training standards and all endorsements and/or medical certificates required to transport GAC materials, including spent GAC.

GAC service crews will be entering and working in permitted HW treatment, storage, and disposal facilities. In addition, personnel required to perform under this contract will be conducting operations aboard US military installations and must comply with all security policies and instructions that may be issued by security officials.