



**DEPARTMENT OF THE NAVY**  
SOUTHWEST DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND  
1220 PACIFIC HIGHWAY  
SAN DIEGO, CA 92132-5190

N00296.000281  
MOFFETT FIELD  
SSIC NO. 5090.3

5090  
Ser 06CH.MP/0750  
July 20, 2001

Ms. Adriana Constantinescu  
Regional Water Quality Control Board  
San Francisco Bay Region  
1515 Clay Street, Suite 1400  
Oakland, CA 94612

Dr. Lynn Suer  
Regional Water Quality Control Board  
San Francisco Bay Region  
1515 Clay Street, Suite 1400  
Oakland, CA 94612

**Subject: CHANGES AND IMPROVEMENTS TO WEST-SIDE AQUIFERS TREATMENT SYSTEM (WATS) AND EAST-SIDE AQUIFER TREATMENT SYSTEM (EATS), MOFFETT FEDERAL AIRFIELD, MOFFETT FIELD, CALIFORNIA**

Dear Ms. Constantinescu and Dr. Suer:

The purpose of this letter is to outline corrective measures that will be incorporated to ensure compliance with the requirements of Order No. 99-051, NPDES Permit No. CAG912003 at Moffett Federal Airfield, Moffett Field, California. These process modifications at WATS will be incorporated into future permit renewals. In addition, in the interest of updating and clarifying our original notices of intent (NOIs) to operate under Order 99-051 and your authorization letter to do so dated August 25, 1999, modifications for WATS and EATS are included, as previously discussed.

#### **Facility Contact**

The current facility contact is Mr. Bill Ogle, the Site Superintendent, who can be reached at (650) 564-8968.

#### **Flows, Sources of Pollution, and Treatment Technologies**

In addition to the extracted volatile organic compound (VOC) contaminated groundwater, groundwater water from facility dewatering of Hangar 1 is being treated through WATS. In the event that WATS undergoes a shutdown for any reason, the Storm Drain Action Treatment System (SDA) will treat the Hangar 1 water through the granular activation carbon (GAC) system.

Investigation-derived waste (IDW) water from research projects within the Regional Groundwater Remediation Program (RGRP) area will be treated through WATS. This water has the same contaminants as the extracted groundwater currently being treated by WATS. This treatment is in accordance with previous work plans, such as the January 2001 approved "Stanford Study Work Plan," and previous conversations with you.

IDW water from gauging and groundwater sampling of groundwater monitoring wells associated with the EATS and WATS, as well as IDW from petroleum sites will also be treated by either EATS or WATS, as appropriate. Both EATS and WATS were designed to treat petroleum hydrocarbons, as well as VOCs. EATS design is appropriate for treating petroleum hydrocarbons, so IDW from petroleum sites in the eastern part of the base could be run through EATS. Previously, IDW was treated through WATS in accordance with the approved EATS Final Long-Term Groundwater Monitoring Plan dated July 3, 1997 and the WATS Final Long-Term Groundwater Plan dated July 20, 1998. Future work plans and addendums for this work will be in accordance with NPDES permit specifications.

Finally, the Navy is also requesting approval for water generated by NASA's redevelopment activities within the RGRP area to be treated through WATS when site contaminants and concentrations are appropriate for treatment.

### **Process Modification**

The Navy has implemented a few modifications of the WATS configuration in order to optimize the treatment system design and effectiveness. The modifications include: adding two additional GAC units, installing double check valve assemblies at each well head, and running all influent water from the wells and from Hangar 1 through an equalization tank prior to entering the treatment train. The attached process flow diagram identifies those modifications that have been implemented for WATS. Specific information on the process modifications is provided below.

The effluent from the air stripper will be rerouted for polishing through the GAC system. Two additional GAC vessels will be incorporated into the system to achieve the design flow rate of 120 gpm. While the original design drawings from the NOI for the WATS included a back-up air stripper and air stripper pump in the back-up treatment system, the current configuration for the back-up system uses only GAC units for treatment as the back-up air stripper and air stripper pump were never installed. It is noted that upon restart of the system, the new system configuration will also employ only GAC units for the back-up treatment system.

Additionally, the GAC in the existing vessels will be changed out with virgin carbon to enhance removal of any residual VOCs and trace hydrocarbons.

Once these modifications have been completed, the system will undergo a start-up process to ensure compliance with the discharge limits of the NPDES Permit prior to discharging to the stormwater retention pond, via the storm drain. Details of the start-up procedure will be provided in the written notification to the RWQCB in accordance with the NPDES Self-Monitoring Program.

In the Authorization to Discharge letter issued August 25, 1999, it is stated in Condition 2 that "Treated water will be discharged through a storm sewer to Northern Channel." As the RWQCB is aware this is an incorrect reference and should be revised in accordance with wording presented in the Notice of Intent to Discharge (October 14, 1998), which describes the WATS

discharge to the Moffett Federal Airfield storm drain. The effluent water then flows to the NASA settling basin and on to the stormwater retention pond (stormwater system). During excessive storm events, the water in the retention pond can be pumped to Stevens Creek. The Navy understands the Authorization to Discharge letter and the NPDES Permit for the WATS discharge are meant to address the above described storm water system, which during periods of heavy rain may require discharge to Stevens Creek through Outfall 001. Due to the upcoming remediation planned for Site 25 (Eastern Diked Marsh/Stormwater Retention Pond), the WATS effluent will be permanently discharged directly through the currently permitted Outfall 001.

In addition to these modifications, optimization of the facility influent will also be performed. The influent from the extraction wells will be rerouted to the existing Equalization Tank. This will be done to mix the influent from the extraction wells, giving more control of the influent flow rate and equalizing the concentration of the inlet constituents. This step will aid in optimizing dosage of treatment chemicals and controls of the system. These modifications will be made parallel to the GAC system modifications, but will not affect the start-up of the system.

It should be noted that the Navy is also clarifying that while the text within the original NOIs for the two systems stated that "any leaks from system components, pipes, and tanks will be contained by the treatment pad berm," the GAC units for both EATS and WATS (including the two new GAC units to be incorporated) are located outside the containment berm of the respective treatment pads.

Currently the extraction wells are designed with a single integral check valve to prevent the extracted water from draining back into the wells. The possibility of transferring contaminated groundwater between extraction wells (and potentially between aquifers) exists if an integral check valve fails and the pump is shut off while a pump sharing a common line continues to operate. Failure of an integral check valve may occur due to fouling by biological growth or sediment deposition. To reduce the chances of transferring contaminated water between extraction wells and aquifers, double check valve assemblies will be installed at each wellhead between the flow meter and flow control valve. This will be performed parallel to the treatment systems modifications, and will not effect the system start-up.

### **Specific Permit Conditions**

BT-543 is the specific brand name for the anti-scalant compound that is included in the Authorization to Discharge Letter, but other brand names of the same anti-scalant treatment additive could be more cost-efficiently obtained and used. The Navy is requesting the replacement of the BT-543 brand name with a generic reference to use of an effective anti-scalant additive.

The sampling requirements provided with the Authorization to Discharge letter for WATS stated that pH was to be monitored on a daily basis; however, the sampling requirements contained within the Self-Monitoring Program of the General Permit state that pH monitoring is only required monthly. The Navy is proposing to follow the monthly pH-monitoring requirement of the Self-Monitoring Program and General Permit.

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In accordance with the General Permit, NOI modifications require a revised O&M plan to be submitted along with the requested modifications. The Navy proposes submitting the revised O&M plan within 120 days of implementation of the described modifications.

## **Fees**

During the last year this project was transitioned from EFA West to Southwest Division. As part of the transition, the Navy's legal department evaluated existing fees being paid by the Navy at Moffett Federal Airfield. In accordance with CERCLA requirements for Federal Facilities, the Navy meets all substantive NPDES permit requirements, but does not pay NPDES fees. The Navy would like this information noted in the RWQCB's records so that the Navy is not billed in the future.

If you have questions or comments, please contact Ms. Andrea Muckerman in any of the following ways:

Ms. Andrea Muckerman  
BRAC Environmental Coordinator  
Southwest Division  
Naval Facilities Engineering Command  
BRAC Operations Office  
1230 Columbia Street, Suite 1100  
San Diego, CA 92101-8517

Telephone (619) 532-0911  
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[muckermanam@efdswnavfac.navy.mil](mailto:muckermanam@efdswnavfac.navy.mil)

Sincerely,



ANDREA MUCKERMAN  
BRAC Environmental Coordinator,  
By direction of the Commander

Enclosure: 1. Process Flow Diagram for WATS

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ROICC-SFBA Moffett Federal Airfield  
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Email/NPDES Permit Mod Letter July 01

## ENCLOSURE 1

### PROCESS FLOW DIAGRAM FOR WATS

THE ABOVE IDENTIFIED ENCLOSURE IS NOT  
AVAILABLE.

EXTENSIVE RESEARCH WAS PERFORMED BY  
NAVFAC SOUTHWEST TO LOCATE THIS  
ENCLOSURE. THIS PAGE HAS BEEN INSERTED  
AS A PLACEHOLDER AND WILL BE REPLACED  
SHOULD THE MISSING ITEM BE LOCATED.

QUESTIONS MAY BE DIRECTED TO:

**DIANE C. SILVA**  
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