

August 15, 1996

Mr. Donald Gonyea
Environmental Analyst
CT Department of Environmental Protection/PERD
79 Elm Street
Hartford, Connecticut 06106-5124

Re: Temporary Discharge Permit
Oil & Grease Reduction Project

Dear Mr. Gonyea:

Enclosed is the Site Information Form and Initial Screening Monitoring Results for authorization of a temporary water discharge under Public Act (PA) 93-428 (see Attachment I "Site Information Form and Initial Screening Monitoring Results"). This request for temporary authorization is for the AlliedSignal Stratford Army Engine Plant (AlliedSignal). The facility is located at 550 Main Street in Stratford, Connecticut. See Attachment II "Location Map and Site Sketch" for the facility location. The requested authorization is for the temporary discharge of groundwater from an excavation for the construction of an oil/water separator and associated piping as part of an Oil & Grease reduction program as required by a 1993 Notice of Violation (NOV) from the U.S. Environmental Protection Agency (EPA).

The AlliedSignal facility property is owned by the U.S. Army and operated by AlliedSignal, Inc. The site consists of approximately 126 acres along the western bank of the Housatonic River. AlliedSignal manufactures and assembles turbine engines for tanks and aircraft on-site. Processes include machining operations, plating, and engine assembly and testing. The AlliedSignal site is surrounded by a mix of recreational, residential, commercial, and light industrial uses. There are no known drinking water wells or drinking water intakes within one mile of the facility.

In addition to the appropriate forms described above, as you requested, in a telephone conversation with AlliedSignal environmental staff on August 11, 1996, the following information for the temporary discharge authorization is also included:

- a description of the construction project and discharge;
- a description of the approximate project schedule;
- a description of groundwater treatment;

- a summary of groundwater sampling and laboratory analytical results;
- a USGS map showing the location of the project;
- a site sketch showing the proposed project; and
- an understanding of the expected monitoring program and effluent contaminant limits based upon the August 11 conversation.

PROJECT DESCRIPTION

As part of its National Pollution Discharge Elimination System (NPDES) permit (Permit Number CT0002984; CT DEP facility I.D. Number 138/023), AlliedSignal is required to up date its on-going Oil & Grease reduction program required by the 1993 EPA NOV. Based upon Connecticut Department of Environmental Protection (CT DEP) comments concerning AlliedSignal's January 15, 1996 permit renewal application (Application Number 199600133), continuous progress on the Oil & Grease reduction program must be reported. As part of the Oil & Grease reduction program, AlliedSignal will construct an oil/water separator under the floor of Building 13, near the scrap yard, in the east central portion of the AlliedSignal property (see Attachment II "Location Map and Site Sketch" for the project location within the AlliedSignal site).

The oil/water separator will be a pre-cast McTighe Model POWS-550 Separator with Water Compartment. The unit is 13 feet long and 3.5 feet in diameter (see Attachment III "Oil/Water Separator Construction Diagrams and Manufacturer's Description"). The excavation for the project will be approximately 15 feet long, six feet wide, and eight feet deep. The extra space to allow for work and to perform connections with the drainage system. Due to the shallow depth of groundwater at the facility, estimated to be between four and five feet during groundwater sample collection activities, it will be necessary to pump groundwater from the excavation during construction of the oil/water separator (thus the need for a temporary water discharge permit). It is estimated that no more than 50 gallons per hour of groundwater will be pumped from the excavation. An estimated maximum of 200 gallons per day of groundwater will be pumped from the excavation.

PROJECT SCHEDULE

It is assumed that pumping activities (and thus the discharge) will occur during normal working hours for eight hours a day five days a week. The project is expected to be completed between ten and thirty working days, depending upon site conditions. It is estimated that the project will commence around August 25, 1996 and end around September 24, 1996. When it is known, AlliedSignal will contact you verbally with the exact date the discharge will commence.

GROUNDWATER DISCHARGE TREATMENT

Groundwater pumped from the excavation will be discharged to AlliedSignal's on-site Oil Abatement Wastewater Treatment System (Abatement System). The Abatement System was installed in 1973 to treat wastewater for oil, grease and suspended solids. Stormwater and wastewater generated from certain facility operations are collected by the facility's drainage system and discharged to one of six pump houses (depending upon the water's source) and subsequently pumped to the Abatement System. Upon entering the Abatement System, water is pumped to the Abatement System's surge tank. From the surge tank, water enters a flash mixer where coagulant is added. The pH of water in the flash mixer is measured and sodium hydroxide or sulfuric acid is added as needed for adjustment. After passing through the flash mixer, the water enters the flocculation chamber where floating oils are skimmed from the surface for off-site disposal and a polymer is added. Finally, the water enters one of two floatation chambers. In these chambers, compressed air is added for aeration to assist in particle separation and to force particles to the surface. The particles are skimmed off and contained with material from the flocculation tank for off-site disposal. A metal analyzer provides continuous monitoring of copper levels in the floatation tanks and initiates an on-demand calcium polysulfide feed to remove copper as necessary. See Attachment IV "Oil Abatement Wastewater Treatment System" for a diagram showing the Abatement System. Treated effluent is ultimately discharged from the Abatement System to the mouth of the Housatonic River at Long Island Sound.

GROUNDWATER SAMPLING ANALYTICAL RESULTS

To determine potential contaminants in the groundwater discharged from the excavations, two groundwater samples were collected from underneath Building 13 on July 22, 1996. The samples were collected at the north and south ends of the approximate area of excavation. Groundwater samples were collected in two borings by advancing a drive-and-wash boring utilizing a cathead mounted tripod with a hydropunch sampling assembly consisting of a drive point and PVC well screen. The assembly was advanced to a depth 8 feet below the groundwater table. Unfiltered groundwater samples were collected from the borings using a pre-cleaned bailer.

Groundwater samples were analyzed for Volatile Organic Compounds (VOCs) using EPA Method 8240, Total Petroleum Hydrocarbons (TPH) using EPA Method 418.1, and Total Metals including Cadmium, Total Chromium, Hexavalent Chromium, Copper, Mercury, Nickel, Lead, and Zinc. The groundwater analytical results are summarized in the table below.

GROUNDWATER SAMPLE ANALYSIS SUMMARY

Parameter	Sample #001	Sample #002
Benzene	17.0 ug/l	28.0 ug/l
Ethylbenzene	14.0 ug/l	13.0 ug/l
Total Xylene	9.0 ug/l	5.5 ug/l
Total Cadmium	0.066 mg/l	BDL
Total Chromium	0.23 mg/l	2.2 mg/l
Total Copper	0.21 mg/l	0.020 mg/l
Total Nickel	BDL	0.15 mg/l
Total Lead	0.35 mg/l	BDL
Total Zinc	2.3 mg/l	1.2 mg/l
Total Petroleum Hydrocarbons	35.0 mg/l	77 mg/l

ug/l = micrograms per liter
mg/l = milligrams per liter
BDL = Below Detectable Limits

Complete analytical results including all parameters analyzed for are included in Attachment V "Sample Analytical Results".

USGS SITE LOCATION MAP AND FACILITY SITE SKETCH

A map (using a USGS topographic map base) showing the location of the AlliedSignal site and a site sketch showing the location of the construction project within the AlliedSignal site is included in Attachment II "Location Map and Site Sketch".

UNDERSTANDING OF MONITORING PROGRAM

As you suggested in your August 11, 1996 conversation with AlliedSignal environmental staff, included in this section and based upon the telephone conversation, is AlliedSignal's understanding of the monitoring and reporting requirements for this temporary discharge. It is AlliedSignal's understanding that monitoring samples should be collected at both the discharge point, prior to treatment, and at the discharge pipe after treatment.

AlliedSignal understands that the samples will be tested for VOCs using EPA Methods 601 and 601, TPH using EPA Method 418.1 and for total metals including Cadmium, Total Chromium, Hexavalent Chromium, Copper, Mercury, Nickel, Lead, and Zinc. AlliedSignal also understands that the sample collected prior to entering the Abatement System will be collected at the time the discharge commences. The "after treatment" samples will be collected on the first and third days of discharge and on a weekly basis subsequent to the third day of discharge for the remainder of the duration of the discharge. These "after treatment samples will be collected from the

Mr. Donald Gonyea
CT DEP/PERD

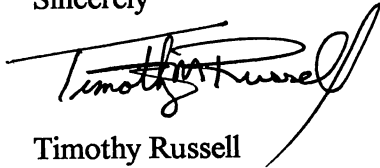
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Abatement System outfall. As stated previously, AlliedSignal will contact the CT DEP when the discharge starts and when the project is complete (and the discharge is discontinued). AlliedSignal understands that approximate parameter limits within the effluent will include, approximately 10 mg/l for TPH, approximately 100 ug/l for VOCs, and at levels determined by the CT DEP for metals. In addition, all of AlliedSignal's parameters and limits under its current NPDES permit will apply. The discharge will also be free of any visible oil sheen and petroleum odors.

If you have any questions concerning the material included in this Authorization Request or require additional information, please do not hesitate to call either myself at 385-3741 or Keith Knauerhase at 385-5124.

Sincerely



Timothy Russell
Team Leader
Health, Safety & Environmental

Attachments: