U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Roosevelt Drive Oil Site - Removal Polrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region I

Subject: **POLREP #18**
Roosevelt Drive Oil Site
696
Derby, CT
Latitude: 41.3228000 Longitude: -73.0958000

To:
From: Gary Lipson, OSC
Date: 11/10/2010
Reporting Period: 11/13/09 - 11/10/10

1. Introduction

1.1 Background

Site Number:	696	**Contract Number:**	
D.O. Number:	ERRS Task Order #: 0042	**Action Memo Date:**	
Response Authority:	OPA	**Response Type:**	Time-Critical
Response Lead:	EPA	**Incident Category:**	Removal Action
NPL Status:	Non NPL	**Operable Unit:**	
Mobilization Date:		**Start Date:**	8/25/1994
Demob Date:		**Completion Date:**	
CERCLIS ID:		**RCRIS ID:**	
ERNS No.:		**State Notification:**	
FPN#:	014504	**Reimbursable Account #:**	01R0X08302D91CHRZ108

1.1.1 Incident Category

Time Critical Removal Action

1.1.2 Site Description

The site consists of a large warehouse type building which takes up the majority of the plot footprint on the eastern bank of the Housatonic River in Derby, CT. The facility, which was constructed along with an adjoining canal at the turn of the 20th century has served as a hydroelectric plant since its inception and currently houses two electric producing turbines which are powered by outfall from the canal located just across Route 34 (east of the building). Due to an increase of oil being released into the river when the turbines have operated in the past, these turbines are currently off-line at the request of the EPA and Connecticut Department of Environmental Protection. It is currently non-operational due to the continuing presence of subsurface oil migrating out from under the facility.

1.1.2.1 Location

The site is located on the eastern bank of the Housatonic River along Route 34 (140 Roosevelt Drive) in Derby, CT. The Site is bordered by the river to the west and south, Route 34 and a canal to the east and the Derby Cellular Products facility to the north. The site latitude and longitude is 41.3228 and -73.0958 respectively.

1.1.2.2 Description of Threat

The discharge of No.6 fuel oil product from the Site was first discovered to be impacting the Housatonic River in July 1994. An oil recovery system (Derby 1) was constructed in the fall and winter of 1994 and consists of an oil collection trench in conjunction with a recovery well. After contaminated soils and sediments were removed, this system was constructed on the south side of the structure where

the impact to the river was first seen.

The No.6 oil impact to the subsurface and the Housatonic River was soon determined to be the result of a leaking underground oil pipe which connected a 20,000-gallon UST, located on the northern portion of the Hull property, with an on-site pumphouse. A second oil recovery system (Derby 2) was installed in 1999, over and adjacent to this source area, consisting of a y-shaped trench, five recovery wells, and a ground water treatment system. Although the two systems are still operating and recovering subsurface oil, there is a continuing discharge of oil into the facility tailrace. The amount of oil entering the tailrace appears to be dependent upon the tidal influence. When the tide is low, there is less head pressure against the tailrace walls which allows oil to flow into the race. During the high tide phase, the additional pressure of the river water keeps the oil from seeping in. In recent years, a dam was constructed to physically separate the tailrace from the river and a tube skimmer installed to remove oil as it surfaces in the tailrace. The tailrace is still tidally influenced, but there is a lag time as the river water works its way through the sandbag and earthen dam. Although the dam and skimmer are keeping oil out of the river, it does not allow for continuing use of the two electric producing turbines which are powered by outfall from a canal located just across Route 34 (east of the building).

2. Current Activities

2.1 Operations Section

2.1.2 Response Actions to Date

EPA's clean-up contractor, Environmental Restoration, conducts operation and maintenance (O & M) activities approximately every three weeks at the site. Activities include repairing or replacing pumps, heaters, motors, belts, hoses, bag filters, meters, gauges, and computer software on the three existing oil recovery systems (Derby 1, Derby 2, and the tailrace belt skimmer) and transportation and disposal of collected oil. In addition, the timing and operation of the groundwater depression wells and skimmer belts are modified to take advantage of current site conditions.

During the summer of 2007, the OSC began working with the Tennessee Valley Authority (TVA), utilizing a Pollution Reimbursement Funding Authorization (PRFA) to subcontract an engineer with expertise in horizontal well design. Since there has been difficulty in installing traditional vertical wells due to the footprint of the building and the amount of concrete in the foundation, horizontal wells were considered as a possible alternative for additional oil extraction.

After reviewing background information including existing well logs and recent well data, along with a series of newly installed observation wells, a series of on-site pump tests were conducted which allowed the engineer to develop a series of groundwater flow models. These models indicated that the placement of a horizontal well(s) at the correct elevation would change the groundwater flow pattern, redirecting the subsurface oil from the tailrace towards the new well.

Once the flow models were completed and there was sufficient evidence that a horizontal well would redirect the flow of oil and oily water away from the tailrace, the subcontracted engineer began to work on plans for installation of the well. The engineer has also been working on plans for a receiving vessel, a vault where the oil will be separated from the water. The oil will be contained for eventual disposal and the clean water discharged to the River.

2.2 Planning Section

2.2.1 Anticipated Activities

The design engineer is in the final stages of completing the plans that will be used for the field construction of the horizontal well and receiving vessel. When completed, the plans will be turned over to the EPA OSC who in turn will transmit them over to EPA's cleanup contractor. It is expected that these transactions will occur in this calendar year. When the cleanup contractor has received the plans, they will place a request for proposal (RFP) and accept bids on the horizontal well installation, a specialized construction activity. It is anticipated that the EPA's cleanup contractor will construct the receiving vessel and work with the new subcontractor to tie it in to the well. It is expected that the design engineer will be retained to work with the construction contractors through this next phase.

Other ancillary construction activities may include blocking and draining the canal (complete with a bypass back to the river) and reworking the gates which allows water to flow from the canal to the turbines.

2.3 Logistics Section

No information available at this time.

2.4 Finance Section

No information available at this time.

2.5 Other Command Staff

No information available at this time.

3. Participating Entities

No information available at this time.

4. Personnel On Site

As stated earlier in this POLREP, the only current site activity is O & M on a periodic basis. The ERRS contractor typically utilizes one or two field technicians and potentially a supervisor to conduct these tasks.

5. Definition of Terms

No information available at this time.

6. Additional sources of information

No information available at this time.

7. Situational Reference Materials

No information available at this time.