Explanation of Significant Differences

TNT Red Star Express Site

Town of Kirkwood / Broome County / Site No. 7-04-028 / July 2007

Prepared by the New York State Department of Environmental Conservation
Division of Environmental Remediation

1.0 INTRODUCTION

The purpose of this notice is to describe the progress of the cleanup at the TNT Red Star Express Site and to inform you about a change in the Site remedy. The TNT Red Star Express Site is located at 97 Industrial Park Road in the Town of Kirkwood within an industrial park area owned by the Broome County IDA. On February 23, 2001, the New York State Department of Environmental Conservation (NYSDEC) issued a decision document or Record of Decision (ROD) which selected a remedy to utilize a groundwater pumping and treatment system including bioremediation.

This industrial site has a small defined plume which migrates off-site under a portion of the neighboring Harris Industrial Building. Since the Remedial Investigation (RI) in 1999, tetrachloroethylene (PCE) contaminant concentrations in the groundwater have decreased, and the science of in-situ bioremediation of chlorinated solvents has improved. Based on the July 2006 Bioremediation Bench Test Study and the results of the February 2007 Bioremediation Pilot Field Study, the groundwater pumping and treatment system called for in the ROD no longer appears to be the best remedy for this site.

The February 2001 ROD remedy calls for the PCE-contaminated groundwater to be pumped out of the ground, treated through a biological reactor and re-injected back into the ground. However, based on the recent studies noted above, in-situ bioremediation may achieve the remedial goals for this site more rapidly than the ROD-selected remedy involving groundwater extraction. Therefore, the significant difference or change to the ROD remedy that the NYSDEC is making is to biologically treat the contaminated groundwater in-place with no pumping. All the other elements of the ROD remedy will remain the same and be implemented.

This Explanation of Significant Differences (ESD) will become part of the Administrative Record for this Site. The information here is a summary of what can be found in greater detail in documents that have been placed in the following repositories:

NYSDEC Central Office
625 Broadway, 12th Floor
Albany, NY 12233-7016
Contact :Mr .John Durnin
Project Manager
(518) 402-9774
M-F: 8:30 am to 4 pm
APPOINTMENT NEEDED

NYSDEC
Region #7 Headquarters
615 Erie Boulevard West
Syracuse, NY 13204
Telephone: 315-426-7400
APPOINTMENT NEEDED

Kirkwood Town Clerk's Office
70 Crescent Drive
Kirkwood, NY 13795-9654
Phone: (607) 775-1966
Attn: Ms. Gayle Diffendorf, Town Clerk
Hours: M-F: 9 am-1 pm and 2 pm -4 pm

Although this is not a request for comments, interested persons are invited to contact the Department's Project Manager for this site to obtain more information or have questions answered.

2.0 SITE DESCRIPTION AND ORIGINAL REMEDY

2.1 Site History, Contamination and Selected Remedy

2.1.1 Site Location, Size and Significant Features

The TNT Red Star Express Site is located at 97 Industrial Park Road in the Town of Kirkwood within an industrial park area owned by the Broome County IDA. The industrial park is located adjacent to and southwest of US 81, and northwest of Route 11. The site occupies approximately five acres and consists of a single story truck terminal and maintenance garage. The site is currently used as a trucking terminal where goods are transferred between trucks for distribution. The Susquehanna River is approximately one-half mile south of the site. Park Creek, a small tributary to the River, is less than 500 feet east of the site. Public water and sewage utilities serve the area. The closest major water supply well, Conklin Town Well No. 2, is located on the other side of the Susquehanna River. The next closest public water supply well serves the Town of Kirkwood. The Town currently operates an air stripper on these wells because of prior contamination from other sources.

2.1.2 Site Activities That Led to Contamination

In January of 1991, approximately 100 gallons of PCE was accidentally spilled at the loading dock. The PCE soaked into the adjacent soils. Prompt clean-up work involved the removal of approximately 120 tons of contaminated soil. Three monitoring wells were installed on the property and a soil vapor extraction (SVE) system was constructed.

2.1.3 Nature and Extent of Contamination

During the completion of the RI, a second contaminant plume was discovered and found to originate from the area of the waste oil tank and oil/water separator located next to the maintenance garage. Groundwater sampling has confirmed that PCE has impacted the aquifer, and has migrated off-site onto the adjacent property in a southwesterly direction.

2.1.4 Results of Investigation, Alternatives Analysis and Remedy Selection Process

The objectives of the Remedial Investigation/Feasibility Study (RI/FS) were to identify, develop, evaluate, and select a long-term, cost-effective, environmentally-sound and comprehensive remedial action for the Site. The results of the RI showed no significant soil contamination remaining at the site as a result of the prompt cleanup work in 1991. The main contaminants of concern are PCE and 1,1,1-trichloroethane in the groundwater. Since the need for remediation at this Site is restricted to volatile organic compounds (VOCs) in groundwater, alternatives were developed accordingly. The remedial

alternatives evaluated in this FS were developed with the objective of remediating groundwater under the Site to Part 703 Class GA groundwater quality criteria levels which will be protective of both human health and the environment. The Proposed Remedial Action Plan (PRAP) process was completed and formalized in a ROD. The Citizen Participation Plan was also followed which allowed for public comment on the PRAP for the site.

2.1.5 Components of Selected Remedy

On February 2001 a final selection of the remedial action for the clean-up was made and documented in the ROD. The elements of the ROD are as follows:

- Installation of a groundwater extraction system, a bioremediation treatment system and a treated groundwater reinjection system.
- Installation of injection wells around the source areas to introduce nutrients and/or microbes into the groundwater to enhance the biodegradation of the contaminants.
- A treatability study to effectively design the bio-remediation system.
- Implementation of a long-term monitoring program to evaluate the effectiveness of the remedy.

3.0 CURRENT STATUS

The responsible party for the TNT Red Star Express Site has been progressing toward site remediation since early 2005. The Site is currently in the pre-design stage which has involved the following activities:

- Bioremediation Bench Test Study completed July 2006
- Bioremediation Pilot Field Study completed February 2007
- On-going Soil Vapor Intrusion Investigation
- Fact Sheet mailed to the Citizens Participation (CP) Contact List in November 2006

The Department is negotiating a Consent Order with the responsible party for the Remedial Design/Remedial Action phase of this project.

4.0 DESCRIPTION OF SIGNIFICANT DIFFERENCES

4.1 New Information

In March 2005, the consultant for the responsible party completed a round of groundwater samples at the site. The results showed that the groundwater concentrations of PCE decreased since the time of the RI in 1999. In addition, the science of in-situ bioremediation of chlorinated solvents and aromatic hydrocarbons has advanced and

proprietary products are now available to enhance the in-situ bioremediation process. Based on the July 2006 Bioremediation Bench Test Study and the results of the February 2007 Bioremediation Pilot Field Study, the groundwater pumping and treatment system now appears to be unnecessary and the in-situ bioremediation alone can achieve the remedial goals for this site in a reasonable time period.

4.2 Comparison of Changes with Original Remedy

4.2.1 Scope

The scope of the remedy will only change from an emphasis on the groundwater pumping and treatment system to the bioremediation portion of the ROD remedy. The ROD remedy calls for the contaminated groundwater to be pumped out of the ground, treated through a biological reactor and re-injected back into the ground. The only significant difference will be that the contaminated groundwater will now be treated biologically in-place with no pumping. For this relatively small plume and now lower contaminant concentrations, the groundwater pumping and treatment system no longer appears to be the best remedy.

4.2.2 Performance

The Bioremediation Bench Test results were very positive in demonstrating the potential for bioremediation to work at this site. In addition, the Field Pilot Study showed that the use of bioremediation is effective at this site.

4.2.3 Cost

There will be a cost savings associated with this modification of the selected remedy because the pump and treatment system will not be designed or constructed. Using the Remedial Alternative Costs in Table 2 of the ROD, the cost of the In-Situ Bioremediation and Groundwater Pumping and Treatment System has a present worth of $120,000 while the In-Situ Bioremediation System alone has a present worth of $98,500. There is a savings of $21,500.

4.2.4 The reasoning behind the change and why the remedy remains protective of human health and the environment.

The goal of the remedy has not changed and continues to be a groundwater clean-up remedy. The use of injecting a proprietary product such as Hydrogen Release Compound (HRC) into the contaminated groundwater for in-situ bioremediation should attain the same results as a combination of pumping with a bioremediation treatment. Therefore, the remedy remains protective of human health and the environment as per the ROD.

5.0 SCHEDULE AND MORE INFORMATION

5.1 The Next Steps, Scheduling and Sources for More Information

A Fact Sheet will be mailed to everyone on the CP Contact List explaining the significant difference in the ROD remedy. The implementation of the bioremediation system portion of the ROD will begin with the submission of a formal design to inject the groundwater with a HRC treatment. The design will include details of the number of injection points, the locations, spacing and depth of the HRC injections as well as the frequency and concentration of each HRC application. This design will be reviewed for approval by NYSDEC and NYSDOH. Implementation of a long-term groundwater monitoring program will also be required to monitor the effectiveness of the HRC injections. An approved schedule will follow and reporting to NYSDEC will be part of that schedule.

5.2 Additional Information

If you have questions or need additional information, you may contact any of the following:

John Durnin
Project Manager
NYSDEC, Central Office
625 Broadway, 12th Floor
Albany, NY 12233-7016
(518) 402-9774

Diane Carlton
Public Affairs and Education
NYSDEC Region 7
217 South Salina Street, 3rd Floor
Syracuse, NY 134202
(315) 4267413

Melissa Menetti
Public Health Specialist
NYS Department of Health
Bureau of Environmental Exposure Investigation
Flanigan Square
547 River Street
Troy, NY 12108
(518) 402-7860

7/12/2007
Date

John Durnin, P.E., Project Manager
Remedial Bureau B, Section B

7/19/7
Date

James Quinn, Section Chief
Remedial Bureau B, Section B

7/19/7
Date

Robert Cozzy, Acting Bureau Director
Remedial Bureau B

7/24/07
Date

Salvatore Ervolina, Assistant Director
Division of Environmental Remediation

JUL 30 2007
Date

Dale Desnoyers, Director
Division of Environmental Remediation