WORK PLAN ADDENDUM
SUPPLEMENTAL INDOOR AIR TESTING, BASEMENT SEALING, AND INSTALLATION OF RESIDENTIAL VAPOR PHASE CARBON UNITS
NWIRP BETHPAGE, NEW YORK

INTRODUCTION

This work plan addendum has been prepared to address supplemental indoor air and subslab soil vapor testing, sealing of basement openings, and installation of portable vapor phase carbon units in residential housing east of Site 1 at NWIRP Bethpage. These activities are described under the Immediate Actions described below. Additional Interim Action and Long-Term Cleanup plans are summarized below and will be addressed under separate plans.

This work plan addresses an off-site area that has been affected by soil gas containing chlorinated volatile organic compounds (VOCs), and in particular, trichloroethene (TCE) and tetrachloroethene (PCE). Onsite soil gas testing conducted in January 2008 and offsite soil gas testing conducted in October 2008 and January 2009 identified elevated concentrations of VOCs mostly limited within one block bounded by 10th and 11th Streets and Sycamore and Maple Avenues (14 homes). In addition, two other homes are potentially affected, one home southeast of the intersection of 11th Street and Maple Avenue and one home northeast of the intersection of 11th Street and Sycamore (total of 16 homes), see attached figure. Peak soil gas concentrations were identified on Navy property in the southeast corner of Site 1. Based on the soil gas test results, VOC concentrations decreased significantly with distance from the Navy property (approximately one order of magnitude every 80 feet).

In January 2009, indoor air and subslab soil vapor testing was conducted in five homes, four bordering on 11th Street and one on 9th Street. Of the four homes on 11th Street, two of the four homes exceeded NYSDOH indoor air screening values for TCE by a factor of approximately 30 (140 and 180 versus a 5 micrograms per cubic meter screening value). The other two homes on 11th Street had TCE concentrations similar to the indoor air screening value (2.2, 6.8, and 2.9 micrograms per cubic meter). The home on 9th Street did not have detectable concentration of TCE and PCE in the indoor air. A comparison of the soil gas testing with the subslab soil vapor and indoor air testing found a good correlation between the two data sets.

Based on these results, the Navy is planning on conducting additional activities to address the soil gas and soil vapor intrusion into residential homes. The planned activities are as follows.

Immediate Actions (1 to 4 weeks)

1. During the weeks of February 16 or 23, 2009, conduct living space air testing in each of the four homes previously tested on 11th Street (date depends on scheduling with the resident). Sample duration will target a 24 hour period, but to minimize inconvenience to the residents, sample duration may be as short as 4 hours. This testing will be conducted at the same time that vapor phase carbon units (Item 2 below) and vapor barriers (item 5 below) are installed.
2. During the weeks of February 16 or 23, 2009, install portable vapor phase carbon units (residential model) and vapor barriers (Item 5 below) in four homes previously tested on 11th street, (date depends on scheduling with the resident). Depending on scheduling with homeowners, conduct basement indoor air sampling 2 to 7 days after the vapor phase carbon units and the vapor barriers are installed (week of February 16 or 23, 2009) to confirm the effectiveness of the actions. Samples will be collected over a 24 hour period.
3. During the weeks of February 16 to March 2, 2009, contact residents in 12 additional homes via fact sheet to request testing of subslab soil vapor, basement indoor air, and living space indoor air, and installation of vapor phase carbon units and vapor barriers.
4. During the weeks of February 16 to March 2, 2009, install portable vapor phase carbon units in the 12 additional homes identified for testing. Prior to starting the units, conduct subslab soil vapor and basement and living space indoor air testing in these homes. Depending on scheduling with homeowners, 2 to 7 days after the vapor phase carbon units and vapor barriers are installed (weeks of February 16 to March 2, 2009) collect basement indoor air samples. Samples will be collected over a 24 hour period.
5. During the weeks of February 16 to March 2, 2009. Install vapor barriers in 16 homes. The barrier will consist of placing sand in the cleanout pit to form a level surface, placement of a plastic sheet (approximately 20 millimeter polyvinyl chloride or polyethylene), installation of wooden plate to anchor the plastic, and sealing of the joint between the plastic and pit with a caulking material. The wooden plate will include a notice of potentially contaminated soil vapors. Based on a visual inspection, other cracks or openings in the basement will be sealed at the same time.

Interim Action (4 weeks to 4 years)

1. Install subslab depressurization units (radon mitigation systems) in up to 16 homes depending on the results of the subslab and indoor air test results (following the NYSDOH matrix). Soil slab depressurization units will target those homes with subslab soil vapor TCE concentrations greater than 250 micrograms per cubic meter or residents that request the units.
2. Continue to operate and maintain portable vapor phase carbon units for up to four years. For homes with the subslab depressurization units, the portable vapor phase carbon units will be discontinued once the effectiveness of the depressurization units is demonstrated.

3. For homes with only portable vapor phase carbon units, to address uncertainty with the time period that the units will be effective, conduct basement indoor air testing one month after installation, and then quarterly for up to four years.
4. For homes with subslab depressurization units, conduct basement indoor air testing one month after installation and then semiannually for up to four years.

Long-Term Cleanup (1 to 10 years)

1. Install and operate a Soil Vapor Extraction Containment System along the eastern fenceline of the Navy's property. The goal of this system will be to purge offsite soil vapors that could affect the homes and prevent additional off site migration of contaminated soil vapors. System should start operation prior to December 2009.
2. During system operation, conduct semiannual testing of subslab soil vapor in the residential homes (in conjunction with the semi-annual basement indoor air testing). As required, continue operating and maintaining individual home mitigation systems.