



ENVIRONMENTAL STRATEGIES CONSULTING LLC

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April 25, 2006

Ms. Henriette Hamel
Regional Coordinator
Environmental Health Assessment
New York State Department of Health
217 S. Salina Street, 3rd floor
Syracuse, NY 13202

Re: Indoor Air Testing Results for EPT Facility Buildings
Emerson Power Transmission Facility, Ithaca, New York
Order on Consent #A7-0125-87-09

Dear Ms. Hamel:

Environmental Strategies Consulting LLC, on behalf of Emerson, is submitting the results of indoor air and subslab soil gas testing conducted in the Emerson Power Transmission (EPT) facility buildings in Ithaca, New York, on February 15 and 16, 2006. The objective of this second round of indoor air testing was to verify the measurements of volatile organic compounds (VOCs) in select indoor air and subslab soil gas samples collected in December 2005. The testing activities were conducted in accordance with Environmental Strategies' revised work plan, dated November 8, 2005, which was approved by the New York State Department of Health (NYSDOH).

Scope of Work

The scope of work involved collecting concurrent indoor air and subslab soil gas samples at six locations within the EPT facility buildings and an outdoor air sample at a location selected in the field. The indoor air and subslab soil gas samples were collected from areas that are slab-on-grade, which are highlighted in yellow on Figure 1. The sample locations were some of the same as those used in December 2005.

Indoor Air Sampling

Indoor air samples were collected in Buildings 3, 4, 24, and 33. The sample locations and the corresponding building numbers are shown on Figure 1. Indoor air samples were collected using evacuated 1-liter Entech Instruments, Inc. (Entech), canisters positioned approximately 3 feet above the floor to be representative of the breathing zone. Physical and visual barriers were placed around the canisters, if deemed appropriate, so that they would not be disturbed during sample collection. The flow regulators were pre-set by the laboratory to collect the samples over 24 hours. The canisters were labeled with the sample name and the flow regulators were connected to the canisters to initiate sample collection. After 24 hours, the flow regulators were removed from the canisters to complete the sample collection. The sample name, location, time and date of sample collection, canister and regulator number, and analytical method was recorded on the chain-of-custody form and in the field log book.

Subslab Soil Gas Sampling

At each sampling location, soil gas samples were collected using a probe constructed of 3/8-inch outside-diameter Teflon®-lined tubing, a hydrated bentonite seal, and a surface seal consisting of non-hardening modeling clay. The probes were installed during the December 2005 sampling event.

Before the subslab soil gas sample was collected, a pre-sample purge was conducted to remove dilution air from the tubing and probe assembly. One to three probe volumes of air were evacuated from each sample location at a rate not exceeding 0.2 liter per minute using a hand pump. The purged air was collected in a Tedlar® bag. Following the pre-sample purge, vapor samples were collected using evacuated 1-liter Entech canisters and dedicated flow controllers that were pre-set by the laboratory to collect the soil gas sample over 24 hours. After 24 hours, the regulator was disconnected from the canister to complete the sample collection. The sample name, location, time and date of sample collection, sample regulator and canister number, and the analytical method to be used was recorded on the chain of custody form and in the field log book. The subslab sampling probes were left in place pending receipt of the sample results. However, Environmental Strategies intends to remove the subslab soil gas probes in the near future and patch the holes with concrete.

Outdoor Air Sampling

An outdoor air sample was collected at a location upwind of the facility buildings on the same day that indoor air samples were collected to assist in evaluating site-specific background outdoor air quality. The outdoor air sample location was selected in the field and is shown on Figure 1. In accordance with NYSDOH guidance, the outdoor sample was collected approximately 3 to 5 feet above the ground and away from wind obstructions (e.g., trees, brush, wooden fences). The outdoor air sample collection began within approximately 1 hour of initiating the indoor air sample collection activities. The outdoor air sample was collected with an evacuated 1-liter Entech canister over 24 hours using the same procedures and analytical methods described above for the indoor air samples. Outdoor conditions were documented during the sampling activities in accordance with Section 2.7.4 of the NYSDOH guidance.

Sample Analysis

All sample containers were shipped, or transported by courier, under ambient conditions to a NYSDOH Environmental Laboratory Approval Program laboratory under strict chain-of-custody procedures. The samples were analyzed for the complete list of VOCs specified in U.S. Environmental Protection Agency (EPA) Method TO-15. Analytical results for all VOCs detected by EPA Method TO-15 are reported in Tables 1 and 2. The minimum detection limits using EPA Method TO-15 for all sample types was 0.25 µg/m³ for trichloroethene (TCE) and 1 µg/m³ for all other VOCs.

Quality Assurance/Quality Control

The Entech canisters used for the sampling activities were certified-clean by the selected laboratory. This certification involves analyzing the ambient air inside a clean canister by EPA

Method TO-15. If no target compounds are detected at concentrations above the reporting limits, then the canister is evacuated again and all canisters from that lot are available for sampling. If target compounds are detected at concentrations above the reporting limits, then all canisters from that lot must be recleaned and a single canister is reanalyzed for the target compounds. A duplicate soil gas sample was collected from the basement of Building 3. In addition, a laboratory-prepared trip blank accompanied the sample canister for one of the indoor air samples from the laboratory to the field and from the field to the laboratory. The trip blank was used to evaluate the potential for sample cross-contamination during shipment or during sample collection.

Sample Results

The sample results for all VOCs analyzed are provided in Tables 1 and 2, which list the eight site-related compounds first. Of the eight site-related compounds, 1,1,1-trichloroethane (1,1,1-TCA), tetrachloroethylene (PCE), and TCE were detected most frequently, and the results are shown for each sample location in Figures 2 and 3. Vinyl chloride, trans-1,2-dichloroethene, and 1,2-dichloroethane were not detected in any of the subslab soil gas or indoor air samples.

The outdoor (ambient) air sample contained an estimated concentration of 0.827 ug/m³ of PCE and 1.09 ug/m³ of TCE. Both concentrations are slightly higher than those detected in the ambient air samples collected in December 2005.

Conclusions

The subslab gas and indoor air sampling results for the main EPT facility buildings conducted in February 2006 were comparable to the results detected in December 2005. Of the eight site-related compounds, TCE, PCE, and 1,1,1-TCA were detected most frequently. Emerson will further investigate these and other areas of concern on the main EPT site during a subsequent Phase II investigation.

Please contact us if you have any questions or comments regarding these sample results.

Sincerely yours,



James P. Bulman
Executive Partner

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Enclosures

cc\encl: Derek Chase, Emerson
 James E. Burke, NYSDEC







