DANSVILLE FORMER MGP SITE – OPERABLE UNIT 1
SUPPLEMENTAL PRE-DESIGN INVESTIGATION
WORK PLAN

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INTRODUCTION

1.1 BACKGROUND

This Supplemental Pre-Design Investigation Work Plan (Work Plan) summarizes the elements of the field investigation to be conducted as part of the supplemental pre-design investigation (PDI) by NYSEG (New York State Electric & Gas Corporation) in support of the New York State Department of Environmental Conservation- (NYSDEC-) selected remedy for Operable Unit 1 (OU1) of the Dansville former manufactured gas plant (MGP) site located in Dansville, New York. The NYSDEC-selected remedy is presented in the Dansville OU1 Record of Decision (OU1 ROD) dated March 2008 (NYSDEC, 2008). This Work Plan has been prepared in accordance with the Order on Consent (Order) between NYSEG and NYSDEC (Index No. DO-0002-9309) and the Dansville OU1 ROD and supplements the PDI investigation performed in November 2008 and summarized in the Pre-Design Investigation Report for Operable Unit 1, NYSEG Former MGP Site, Dansville, New York (PDI Report) dated June 2009 (Ish Inc., 2009).

In March 1994, NYSEG entered into an Order with the NYSDEC to investigate and, where necessary, remediate 33 former MGP sites in New York. The Dansville former MGP site (Site No. 8-26-012) is included on this list of the 33 sites. Section VI of the Order states that NYSEG shall submit to the NYSDEC a remedial design to implement the NYSDEC-selected remedial alternative for the site. This initial PDI activities summarized in the PDI Report (which is Phase I of the overall remedial design development work) were required to further delineate the lateral and vertical extent of excavation areas tentatively identified in the OU1 ROD, and to obtain geotechnical data required to complete the remedial design (as Phase V) of the NYSDEC-selected remedy. Since that work was completed, NYSEG decided that the existing service center building at the site will be demolished. The purpose of this Work Plan is to supplement the subsurface investigations performed in the PDI to delineate NAPL impacts in the footprint of the service center building and northward to fully define the subsurface soils containing over 2 feet thickness of NAPL to be removed during the OU1 remediation.

1.2 PHASES FOR DEVELOPMENT OF OU1 REMEDIAL DESIGN

On August 29, 2008 NYSEG submitted to NYSDEC a five-phase approach to describe the process for developing and completing the remedial design of the selected remedy described in the ROD for the Dansville former MGP site OU-1 in response to the request by NYSDEC on a conference call held on August 13, 2008. On completion of the five phases a remediation contractor will be selected to implement the NYSDEC approved remedial design. Appropriate coordination and NYSDEC concurrence would be sought throughout the various phases in the form of review, comment and approval of work plans for remedial design investigations, the preliminary (50%) design report, and the 95% design report.

The five phases are described briefly below. This work plan was developed to supplement the previously completed work presented in the PDI Report for Phase I, for review and approval by the NYSDEC.

Phase 1 – Pre-design Work Plan: Phase 1 consists of development of the Pre-Design Investigation (PDI) Work Plan (completed in 2008) as well as this Work Plan for Supplemental PDI activities. These plans define the various field activities required in support of subsequent phases for the detailed remedial design activities. The primary focus of this task will be the performance of soil borings to accomplish the following:

1. Delineate the limits of the source materials as needed to establish the location/alignment of the sheet pile or CB (cement bentonite) hydraulic barrier wall;
2. Determine the volumes of the source materials;
3. Obtain geotechnical data necessary to select wall installation materials and methods of construction, and to complete the design of the barrier wall; and
4. To provide for preliminary waste characterization of the soil layers in the source area.
5. This Work Plan in particular is designed to extend the knowledge related to items 1 through 4 above to include the footprint of the service center building and to the northern and western property lines that forms the boundary of OU1.

The previously completed PDI investigation included delineation of impacts, geotechnical borings, and waste characterization sampling. These results were reported in the PDI Report (Ish Inc., 2009). The field work for this Work Plan will involve using direct push Geoprobe® Macro-Core® sampling technique in the footprint of the demolished service center building, as well to the north and west of the demolished building location. Test borings will be performed to obtain visual observations on the extent of visible tar and oil, sheens and staining which will be used to define the source material containing soils for removal. Follow-up in-situ waste characterization sampling and analysis may be required as noted in Phase 3 below.

Soil samples were previously collected for preliminary waste characterization; selected representative composite samples were submitted to the laboratory for analysis of volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), toxicity characteristic leaching procedure (TCLP) VOCs, British thermal unit (BTU) content, diesel range organics (DRO), and sulfur/sulfate content. All analytical work was carried out by an NYSDOH-certified laboratory.

Phase 2 – PDI Implementation: This phase consists of implementing the scope of work contained in the PDI Work Plan (Ish Inc., 2008) as well as this Work Plan, after it is reviewed and approved by the NYSDEC. A summary report will be prepared based on the results of this supplemental PDI investigation with tables and figures that will establish the revised source area for excavation and alignment for the hydraulic barrier. The PDI Report (Ish Inc., 2009) presents the results from the initial PDI investigation that was already completed.

Phase 3 – Engineering Analysis: Engineering analyses will be performed to select the most appropriate type of barrier wall system for site-specific conditions, and may include a CB wall, steel sheet piling or a combination of the two. The wall will be designed to achieve the following:

- Maintain hydraulic control during soil excavation; and
- Provide general structural stability due to lateral earth and hydrostatic loading.

In addition, during this phase, initial estimates of soil volumes requiring thermal treatment and disposal will be developed, in order to determine the appropriate number of additional samples required for waste characterization. In addition, if any geotechnical data gaps are identified during the performance of engineering analyses, then additional soil samples will be collected for geotechnical testing in the laboratory. Finally, if the engineering analyses suggest that a cement-bentonite (CB) wall be constructed, representative soil samples will be collected to perform a laboratory Grout Mix Design Study. Accordingly, a supplemental Work Plan will be developed to define these activities and submitted to NYSDEC for review and approval.

Phase 4 – Supplemental Investigation Activities: This phase consists of implementing the Supplemental Work Plan prepared during Phase 3 after it has been approved by NYSDEC. Waste profile data will be submitted to the selected treatment and disposal facilities to obtain approvals for acceptance of remediation wastes to be excavated from Dansville OU1. The additional geotechnical data will be developed from the laboratory testing for use in Phase 5.

Phase 5 – Detailed Design: This phase consists of first developing a remedial design, including design drawings and technical specifications with a 50% level of detail/completion, for review and approval by NYSDEC. Next, a 95% complete remedial design package (design report, design drawings, and technical specifications) and draft construction RFP bid documents will be completed for NYSDEC review and approval.

1.3 SUPPLEMENTAL WORK PLAN ORGANIZATION

This Work Plan is continuation of Phase 4 Supplemental Investigation Activities and has four remaining sections. Section 2 presents the purpose of the supplemental PDI Work Plan. The project approach is in Section 3. Section 4 summarizes the supplemental PDI activities, including field investigations, sample analysis, project management and reporting. The references used in the preparation of this Work Plan are shown in Section 5. This Work Plan will be performed using the methods and procedures set forth in the previously approved Field Sampling Plan (FSP), Quality Assurance Project Plan (QAPP), Health and Safety Plan (HASP), and Community Air Monitoring Plan (CAMP).

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PURPOSE

As noted in the Dansville OU1 ROD, MGP waste, NAPL, or contaminated soils meeting one or more of the following criteria will be excavated under the selected remedy: visible tar or oil; the presence of sheens or odors with total PAHs over 1,000 mg/kg or BTEX concentration above 10 mg/kg. Some of the information was obtained during the implementation of the PDI Work Plan (Ish Inc., 2008), as summarized in the PDI Report (Ish Inc., 2009). The purpose of the supplemental PDI described in this Work Plan for OU1 is to accomplish the following:

Deleted: In conjunction with the planned excavation activities, a hydraulic control barrier [most likely either a steel sheet pile wall or cement-bentonite (CB) wall] will be installed around the perimeter of the area.

- delineate the limits of the source material containing 2-foot or more of NAPL in soils in the footprint of the service center building and to the north and west as needed ; and

Deleted: to establish the location/alignment of the hydraulic control barrier

- determine the volumes of the source material needing remediation.

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PROJECT APPROACH

The field work will involve Geoprobe® Macro-Core® sampling (i.e., direct push methods) to establish the preliminary location/alignment of the barrier wall and to collect visual observations of visible tar and oil, sheens and staining, which will be used to define the source material soils to be removed. In total, 35 to 40 Geoprobe® borings are planned and contingent borings may be added based on field observations, to accomplish the project objectives.

A minimum of 32 direct push soil borings (SD36 through SD67) are planned (Figure 1) to delineate source materials. These borings will also be used to confirm the shallow geologic conditions and evaluate the presence of possible subsurface obstructions.

In order to delineate the source area beneath the demolished service center building and to the north and west of the building, Ish Inc. proposes to advance a minimum of 32 direct push soil borings to a depth of 16 to 20 feet (i.e., to the confining lithological unit in the subsurface). Ish Inc. proposes a series of transects with approximately 30-foot spacing to be supplemented by additional soil borings at 15-foot spacing to delineate the limits of source material requiring removal. These additional borings will be installed either between or beyond the proposed borings (Figure A-1) along the boundary of the source materials, based on field judgment using the results of visual observations on NAPL content from the 32 planned borings. The resulting boring program will provide a 15-foot resolution of the source material boundary, while limiting the total number of borings required. The rationale for the proposed source delineation borings is listed in Table 3-2.

Table 3-1
Source Delineation Boring Locations and Rationales

Boring	Rationale
SD36	Evaluate the presence of MGP material within the footprint of the demolished NYSEG service center building

SD37	Evaluate the presence of MGP material within the footprint of the demolished NYSEG service center building
SD38	Evaluate the presence of MGP material within the footprint of the demolished NYSEG service center building
SD39	Evaluate the presence of MGP material within the footprint of the demolished NYSEG service center building
SD40	Evaluate the presence of MGP material within the footprint of the demolished NYSEG service center building
SD41	Evaluate the presence of MGP material to the west of the NYSEG service center building
SD42	Evaluate the presence of MGP material to the west of the NYSEG service center building
SD43	Evaluate the presence of MGP material to the west of the NYSEG service center building
SD44	Evaluate the presence of MGP material to the west of the NYSEG service center building
SD45	Evaluate the presence of MGP material within the footprint of the demolished NYSEG service center building
SD46	Evaluate the presence of MGP material within the footprint of the demolished NYSEG service center building
SD47	Evaluate the presence of MGP material within the footprint of the demolished NYSEG service center building
SD48	Evaluate the presence of MGP material within the footprint of the demolished NYSEG service center building
SD49	Evaluate the presence of MGP material within the footprint of the demolished NYSEG service center building
SD50	Evaluate the presence of MGP material within the footprint of the demolished NYSEG service center building
SD51	Evaluate the presence of MGP material to the west of the NYSEG service center building
SD52	Evaluate the presence of MGP material to the west of the NYSEG service center building
SD53	Evaluate the presence of MGP material to the west of the NYSEG service center building

SD54	Evaluate the presence of MGP material to the west of the NYSEG service center building
SD55	Evaluate the presence of MGP material to the west of the NYSEG service center building
SD56	Evaluate the presence of MGP material within the footprint of the demolished NYSEG service center building
SD57	Evaluate the presence of MGP material within the footprint of the demolished NYSEG service center building
SD58	Evaluate the presence of MGP material within the footprint of the demolished NYSEG service center building
SD59	Evaluate the presence of MGP material along the northern property boundary
SD60	Evaluate the presence of MGP material along the northern property boundary
SD61	Evaluate the presence of MGP material along the northern property boundary
SD62	Evaluate the presence of MGP material along the northern property boundary
SD63	Evaluate the presence of MGP material along the northern property boundary
SD64	Evaluate the presence of MGP material along the northern property boundary
SD65	Evaluate the presence of MGP material along the northern property boundary
SD66	Evaluate the presence of MGP material along the northern property boundary
SD67	Evaluate the presence of MGP material along the northern property boundary

During the advancement of the soil borings, soils will collected continuously and logged for geologic characteristics as well as observations of visual, olfactory, and organic vapor reading impacts. Past work at the site has shown that visual observations correlate well with chemical results for BTEX and PAHs (Ish Inc., 2009). For more details on the field sampling techniques, please refer to the project-specific FSP.

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PDI ACTIVITIES

4.1 FIELD INVESTIGATION PROGRAM

4.1.1 Worker Safety and Community Protection

For the field work investigation to meet the objectives of the PDI, Ish Inc. will utilize the previously-approved project-specific HASP, including a CAMP.

4.1.2 Mobilization

On receipt of approval from NYSEG, Ish Inc. will schedule the drillers for the work to be performed at OU1. Ish Inc. will coordinate with NYSDEC and NYSEG to establish the field work schedule which will be approximately two weeks in duration. Prior to mobilization, a utility stakeout will be requested by calling Dig Safely New York (formerly UFPO) at least two but not more than ten business days in advance of the scheduled start date of the field work.

4.1.3 Drilling Program

The Ish Inc. team will mobilize a drill rig that can be equipped with a hydraulic hammer to advance Geoprobe® Macro-Core® sampling equipment at the locations specified on Figure A-1. The drilling rig can turn HSAs as needed to advance borings past obstructions or maintain the open hole for sampling, as required by the site conditions.

To collect soil samples, 4-foot Macro-Cores® fitted with disposable liners will be used to advance the borings continuously to the confining layer (anticipated around 16 to 18 feet). Visual observations of NAPL, sheens and staining, along with PID readings will be recorded for each of the soil cores. All borings will be logged by the field geologist and boring logs will be prepared for the supplemental PDI report.

Following completion, each boring will be properly abandoned by tremie-grouting to grade with a cement-bentonite grout mixture. Soil cuttings generated during the drilling process (investigation-derived waste or IDW) will be stored in containers (such as 55-gallon drums), pending proper disposal of these soils in accordance with applicable regulations.

4.1.4 Soil Logging Procedure

Soil borings will be screened for visual, olfactory, and organic vapor analysis (OVA) signs of coal tar-type impacts (residues or staining) and readings will be taken at a minimum of every foot.

4.1.5 Investigation-Derived Waste Handling

The IDW materials generated during the PDI field activities will consist of soil cuttings from borings and wastewater from decontamination of reusable drilling equipment as well as soil sampling equipment. Wastewater will be contained in a large polyethylene tank designed for wastewater storage or Department of Transportation (DOT)-approved 55-gallon drums. Soil cuttings will also be contained in appropriate containers, pending proper disposal by NYSEG.

4.1.6 Survey

The location and elevation of soil borings will be surveyed by a licensed surveyor following completion of the field effort.

4.2 DATA MANAGEMENT

One aspect common to environmental site investigations is the large volume of data collected. Once collected, these data require compilation, validation, manipulation and presentation. Therefore, data management is an important tool to identify data gaps, present an accurate site characterization, and prioritize technical issues for overall site strategy.

The Ish Inc. team uses a data management system consisting of Microsoft Access, AutoCAD Land Desktop, LogPlot and Rockworks. These programs are powerful computerized tools to cost-effectively manage site data.

4.3 REPORTING

Following completion of the PDI field activities, Ish Inc. will prepare a summary report that will include the following major elements along with appropriate figures and tables:

- Delineation of source material involving surface soil, subsurface soil and presence of NAPL, if any;
- Documentation of field activities, and calculations

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REFERENCES

Ish Inc., 2003, "Final Work Plan, Supplemental Remedial Investigation, Former MGP Site, Dansville, New York", November 2003.

Ish Inc., 2006, "Final Supplemental Remedial Investigation Report for Operable Unit 1 (OU1) at the Former MGP Site, Dansville, New York", January 2006.

Ish Inc., 2008, "Final Work Plan for the Pre-Design Investigation for Operable Unit 1, Former MGP Site, Dansville, New York", September 2008.

Ish Inc., 2009, "Pre-Design Investigation Report for Operable Unit 1, NYSEG Former MGP Site, Dansville, New York", June 2009

NYSDEC, 1991, Analytical Services Protocol.

NYSDEC, 2002, Draft DER-10, Technical Guidance for Site Investigation and Remediation.

NYSDEC, 2008, "Record of Decision, NYSEG – Dansville MGP Site, Operable Unit No. 1, Dansville, Livingston County, New York, Site Number 8-26-012", March 2008.

A
FIGURES

Figure A-1
Supplemental PDI Boring Locations