Niagara Mohawk
A **National Grid** Company

November 15, 2004

Mr. Russell Huyck
New York State Department of Environmental Conservation
P.O. Box 296
Route 86
Raybrook, New York 12977

Re: Malone (Amsden Street) Former MGP Remedial Investigation Scope of Work
Malone, New York

Dear Mr. Huyck:

As you are aware, Niagara Mohawk, A National Grid Company (Niagara Mohawk), has discussed supplemental investigation activities at the above-referenced site, with Mr. Jim Van Hoesen of your Department. This letter provides the New York State Department of Environmental Conservation (NYSDEC) with a summary of the proposed remedial investigation (RI) scope of work for review. Upon NYSDEC approval of the scope of work, Niagara Mohawk will then proceed with preparation of a formal RI Work Plan.

The following describes the objectives of the planned RI activities and the specific scope of these investigations.

1.0 OBJECTIVES

Niagara Mohawk conducted the initial Site Characterization (SC) of the Malone site under a DEC-approved site-specific work plan. Results of that investigation were presented in a Data Summary which was submitted to the NYSDEC in February 2004. Results of the investigation indicated that MGP-related impacts are present on-site, including MGP-related residuals within one of the former holders and a former tar well, and the presence of weathered tar and polycyclic aromatic hydrocarbon (PAH) concentrations above TAGM 4046 criteria in surface and subsurface soils. PAH compounds were also detected on-site in shallow ground water. Due to subsurface

conditions (e.g. shallow sandstone bedrock), overburden monitoring wells could not be installed in the western, hydraulically up gradient portion of the site.

Based upon the results of the SC investigation, other available information, and subsequent discussions with NYSDEC, the following RI objectives will be addressed by the proposed scope of work:

- Evaluation of the shallow bedrock to determine the presence/absence of MGP residuals, and the potential for contaminant migration in site bedrock;
- Further evaluation of overburden soils along the down gradient slope located north of the former MGP;
- Further characterization of surface soil quality in areas where apparent MGP residuals were observed, in order to support a human health exposure assessment;
- Additional characterization of ground water flow and quality;
- Qualitative and quantitative evaluation of shallow sediments in the Salmon River along the eastern Site boundary, in order to determine the presence/absence of MGP impacts; and
- Evaluation of the on-site storm sewer water outfall for the potential presence of PAHs.

2.0 SCOPE OF WORK

To address the objectives listed above, Niagara Mohawk proposes to perform the following additional tasks at the Site:

- Drilling and installation of bedrock monitoring wells;
- Performance of down-hole geophysical logging of each bedrock core;
- Drilling and sampling of supplemental soil borings;
- Collection of additional on-site surface soil samples along the eastern hillside;
- Reconnaissance of the western Salmon River bank, and collection of selected sediment samples for laboratory analysis;
- Collection of one surface water sample adjacent to the storm sewer outfall; and

- Collection of two rounds of ground water samples from the expanded well network.

A summary of the proposed program is provided in Table 1. Figure 1 illustrates the proposed locations. A brief description of each of the proposed investigation activities is provided below.

2.1 Literature Review

Prior to initiation of field investigation activities, a review of available scientific literature regarding local bedrock conditions and geomorphology will be conducted to develop a better understanding of potential Site bedrock and overburden depositional history. A search of available literature databases will be performed, including regional colleges/universities.

2.2 Drilling Program

Supplemental drilling activities will include completion of additional soil borings to characterize overburden soils along the apparent fill area north of the above-grade holder foundation (two locations), and south of the former Power House foundation (one location). Sampling will be performed using standard hollow-stem auger (HSA) methods, with continuous split-spoon soil sampling. Representative soil samples will be collected every five feet, for analysis of benzene, toluene, ethylbenzene and xylenes (BTEX), polycyclic aromatic hydrocarbons (PAHs), Target Analyte List metals, total cyanide and total organic carbon (TOC).

In order to characterize shallow bedrock conditions, and to enable installation of additional groundwater monitoring wells, three additional borings will be advanced into bedrock. Drilling will be performed in accordance with Niagara Mohawk's NYSDEC-approved Generic Work Plan, and will consist of overburden HSA sampling (as described above), installation of a permanent steel overburden casing, and bedrock coring to a pre-determined depth. The proposed target elevation for all three bedrock corings is the adjacent Salmon River bed elevation, in order to provide vertical

characterization of the Site bedrock and evaluate the potential hydraulic connection between the on-site shallow bedrock and the River. Bedrock sampling will be conducted using oriented HQ (three-inch diameter) coring; recovered cores will be evaluated with respect to rock quality designation (RQD), presence/nature of bedding planes, fractures or other physical attributes, absence/presence of MGP residuals, etc. Recovered core samples will be placed in marked core boxes, and stored in a secure location.

Following completion of the soil and bedrock sampling at each bedrock location, down-hole geophysical logging will be completed in order to better determine the physical nature of the bedrock, and potential for ground water migration. A geophysical specialty firm will be contracted to perform the following tests on each of the three bedrock core-holes: caliper, natural gamma, acoustic televiewer, fluid temperature, fluid resistivity, and single-point resistivity. In addition, heat pulse flow meter testing will be performed in BMW-1 to determine the absence/presence of vertical fractures.

Following completion of all down-hole geophysical testing, each of the bedrock core-holes will be completed with installation of a monitoring well(s). The two hydraulically down gradient wells (refer to Figure 1), which are co-located with existing overburden wells, will be completed as two-inch PVC wells, comprised of ten-foot 20-slot screens equipped with sumps. Nested wells are proposed in BMW-1, consisting of two smaller diameter (i.e. less than two-inch diameter) PVC wells. Screened intervals will be determined based upon results of the rock coring and geophysical tests, and will be hydraulically isolated from one another. All wells will subsequently be developed and sampled using approved methods specified in the Generic Work Plan. In accordance with recent guidance received from the Department, Niagara Mohawk intends to utilize low-flow sampling methods for both PAHs and VOCs.

2.3 Surface Soil Sampling

Results of previous surface soil sampling indicated the on-site presence of concentrations of PAHs above TAGM 4046 criteria. In addition, evidence of weathered tar-like material has been observed along the eastern hillside, indicating the potential presence of MGP residuals in this area of the Site. Niagara Mohawk proposes to further define the nature and extent of these impacts to support development of a site human health exposure assessment. Specifically, grid-based sampling from 0-0.2 feet below ground surface is planned (40 to 50-foot spacing), which will provide adequate coverage of this area (refer to Figure 1). Samples will be collected in accordance with the Generic Work Plan, and analyzed for PAHs, TAL metals, total cyanide and TOC.

2.4 Surface Water/Sediment Evaluation

Surface water and sediment evaluation will be performed to assess the potential for Site-derived impacts to the adjacent Salmon River. Non-mobile, weathered tar-like material has been observed in close proximity to the river, however no other indications of potential Site discharges have been noted. A thorough qualitative reconnaissance of the river bank abutting the Site will be conducted for the presence/absence of MGP-related impacts (e.g, sheens, seeps, residuals). Reconnaissance will include use of a steel rod to probe shallow sediments. Three representative sediment samples will be collected from the bank of the river, one upstream of the site, one adjacent to the site, and one downstream from the site. Samples will be collected in accordance with the Generic Work Plan, and analyzed for Target Compound List volatile organic compounds (TCL VOCs), TCL semi-volatile organic compounds (SVOCs), TAL metals, total cyanide, and TOC.

In addition, one surface water sample will be collected from a storm sewer drainage swale located near the northeastern portion of the Site (refer to Figure 1), to determine water quality in the swale. The sample will be analyzed for the same parameters as sediment samples, noted above. In addition, two river gauges will be installed along the site to provide seasonal river elevation data.

2.5 Survey

Following completion of the drilling program, and collection of all soil, sediment and surface water samples, a complete survey of all completed sample locations will be conducted. Elevation of the top of casing as well as the river gauges will be surveyed to the nearest 0.01 foot. Survey information will be integrated into the existing Site survey plan.

2.6 Groundwater Sampling

Two rounds of ground water sampling will be performed in order to better characterize Site ground water quality. One sample round will be conducted within one month of well installation; the second round will be conducted approximately four months later. The well network will be monitored on a monthly basis between the two ground water sampling events, in order to document ground water elevations and determine the absence/presence of any accumulated NAPL in the wells. In addition to measuring water levels in the wells, river elevations will be measured at both of the installed river gauges. Samples will be analyzed for TCL VOCs and SVOCs, TAL metals, total cyanide and TOC.

2.7 RI Data Summary

Upon completion of field activities and receipt of all validated analytical data, an RI Data Summary will be prepared and submitted to the Department, including a data usability summary report (DUSR). Preparation of a summary report will include the following site information: data summary tables, figures depicting sample locations, geologic cross-sections, and summary soil and ground water chemical data, as well as geologic boring logs. A brief summary of field activities performed, and results of those activities will be prepared to accompany the summarized information.

I would appreciate your review of the RI Scope of Work described herein. Following receipt of written NYSDEC concurrence, Niagara Mohawk will prepare the site-specific work plan, including an implementation schedule, for your final review and approval.

Please contact me at (315) 428-5652 if you have any questions or require further information.

Sincerely,

Steven P. Stucker, C.P.G.
Senior Analyst

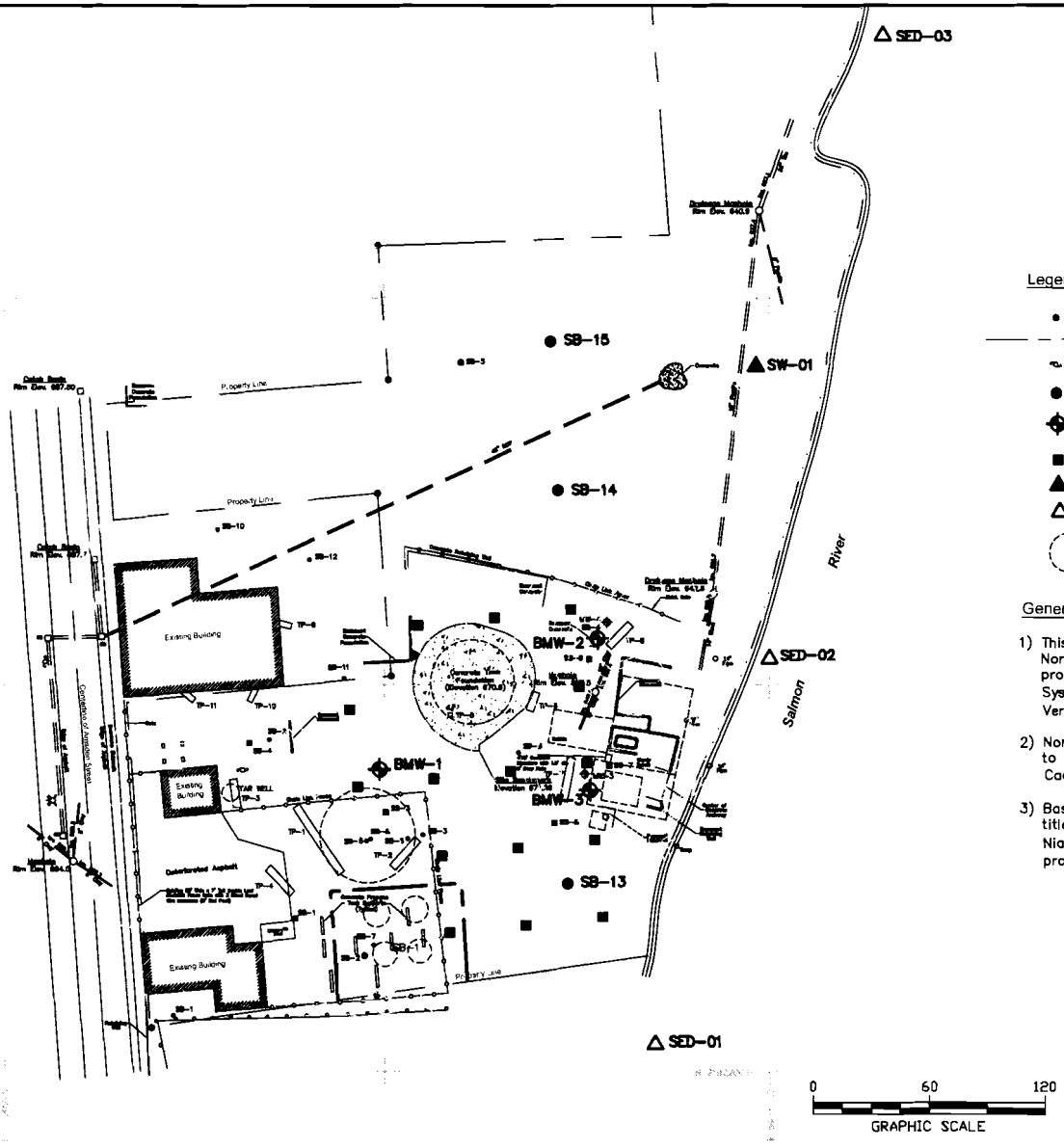
Cc:
William Holzhauer-National Grid Service Company, Inc
Terry Young-Niagara Mohawk, a National Grid Company
Pat Collette-National Grid Service Company
Doug Martin-TRC
Deanna Ripstein-NYSDOH
File

TABLE 1

Sample ID	Location	Planned Depth (feet bgs)	Location Rationale
Bedrock Borings/Monitoring Wells			
BMW-1	Adjacent to former southern holder and tar well, in the south-western portion of the Site	60 feet (well depth TBD)	Proposed hydraulically down gradient from the former southern holder foundation, and the former tar well, where tar impacts were detected during the Site Characterization (SC). Provide additional characterization of overburden soils. Perform down-hole geophysical survey to characterize bedrock structure/characteristics. Evaluate shallow and deeper ground water quality via installation of nested wells within the bedrock corehole.
BMW-2	Located adjacent to existing MW-4, immediately east of the above-grade (northern) holder foundation	30 feet (well depth TBD)	Proposed down gradient from the former MGP, where surficial tar impacts were noted during the SC. Provide additional characterization of overburden soils. Better characterize tar-related impacts detected in boring SB-4. Evaluate the overburden/bedrock contact and deeper bedrock. Perform down-hole geophysical survey to characterize bedrock structure/ characteristics. Install bedrock well adjacent to the existing overburden well (MW-4) to evaluate ground water quality hydraulically down gradient from the northern holder.
BMW-3	Located adjacent to existing well MW-3, downgradient of the southern sub0grade holder and former tar well.	20 feet (well depth TBD)	Located down gradient from the former MGP and adjacent to the former Power House, where surface and subsurface indications of tar were detected during the SC. Further characterize tar-related impacts detected in exploratory test pits and existing MW-3. Evaluate the overburden/bedrock contact and bedrock as potential pathways for DNAPL migration. Perform down-hole geophysical survey to determine bedrock structure/ characteristics. Install bedrock well

Sample ID	Location	Planned Depth (feet bgs)	Location Rationale
			adjacent to the existing overburden well (MW-3).
Overburden Soil Borings			
SB-13	Located south of the former Power House foundation	10 feet	Located down gradient from the former MGP and adjacent to the former Power House, where surface and subsurface indications of tar were detected during the SC. Determine the potential presence of DNAPL down gradient from the primary MGP facilities. Collect soil samples to characterize overburden soils
SB-14 and SB-15	Located in the fill area north of the primary MGP Site	20 feet	Located on the Niagara Mohawk-owned fill area north of the primary MGP facilities, where extensive evidence of municipal debris was noted during the SC. Evaluate overburden soils for potential presence of MGP residuals. Determine soil quality through analysis of selected soil samples.
Surface Soils			
SS-12 through SS-26	Grid along the site embank-ment between the primary MGP and the former Power House	0.2 feet	Samples will be located on a 40- or 50-foot grid to delineate surface soil quality in this area.

Sample ID	Location	Planned Depth (feet bgs)	Location Rationale
Sediment			
SED-1	Located along the riverbank, upstream location from Site (100 feet)	Surface	Sediment sample to be collected south of the Site within the Salmon River to establish upstream sediment quality.
SED-2	Located along the riverbank adjacent to the former Power House	Surface	Located along the Site shoreline to determine the presence/absence of site-related impacts to shallow sediments proximal to tar impacts observed within the exposed bedrock.
SED-3	Located along the riverbank, downstream from Site (100 feet)	Surface	Sediment sample to be collected north (downstream) of Site within the Salmon River.
Surface Water			
SW-1	Adjacent to storm sewer outfall, north of the primary site	Surface	Located within the surface drainage swale extending from the sewer outfall. Determine the nature of storm sewer discharge and the potential for impacts from surrounding fill material.



Legend:

- Found Iron 5/8" Rebar
- Property Line
- Utility Pole
- SB-13 — Proposed Soil Boring
- BMW-1 — Proposed Bedrock Boring Monitoring Well
- Proposed Surface Soil Sample
- SW-01 — Proposed Surface Water Sample
- SED-01 — Proposed Sediment Sample
- Historic MGP Structure

General Notes:

1) This survey is referenced horizontally to the North American Datum of 1983 (NAD83) and projected on the New York State Plane Coordinate System (East Zone) and vertically to the North American Vertical Datum of 1988 (NAVD88).

2) North arrow as shown indicates Grid North referenced to NAD83 and projected on the New York State Plane Coordinate System (East Zone).

3) Base information taken from drawing by Thew Associates, PLLC title: " Map Showing Existing Topography Former MGP Facility Niagara Mohawk Power Corporation Malone, New York" project number CK2727A-03-03

0 60 120
GRAPHIC SCALE

TRC
Customer-Focused Solutions
5 Waterside Crossing
Windsor, CT 06095
(860) 298-9692

NIAGARA MOHAWK – A NATIONAL GRID COMPANY
FORMER MGP SITE
MALONE, NEW YORK

FIGURE 1
PROPOSED RI SAMPLE LOCATIONS

Date: 11/04 | Project No. 40478-1000-00013

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