O'BRIEN & GERE
ENGINEERS, INC.

July 8, 1996

Mr. John Spellman
Bureau of Construction Services
NYSDEC - Div. of Hazardous Waste Remediation
50 Wolf Road
Albany, NY 12233-7010

Re: Rome (Jay & Madison St.) PSA Work Plan

File: 1118.080

Dear Jack:

Please find enclosed for your files the PSA Work Plan for the Niagara Mohawk Power Corporation's (NMPC) Rome (Jay & Madison St) MGP Site located in Rome, New York. This final version incorporates the agreed upon responses to New York State Department of Environmental Conservation (NYSDEC) comments transmitted to you, by Steven Stucker of NMPC, on May 30, 1996.

As you are aware from conversations and correspondence (June 27, 1996) with Mr. Stucker, the initiation of site activities scheduled for July 1, 1996 as stipulated in the Order on Consent (#DO-0001-9210), has been necessarily delayed pending access to the eastern parcel owned by FFCA. We anticipate, however, that site investigations could begin within two weeks of obtaining access from FFCA to this parcel.

O'Brien & Gere Engineers, Inc., on behalf of NMPC, would like to reaffirm our commitment to reaching a technically sound and equitable solution to the closure of this site. Please contact me if you require any additional information or clarification regarding the site or project schedule.

Very truly yours,

O'BRIEN & GERE ENGINEERS, INC.

William J. Gabriel

William J. Gabriel, CPG
Managing Hydrogeologist

WJG:ers/2_corres/1wjgltr

cc: Steven P. Stucker, C.P.G. (NMPC)
James Van Hoesen, P.E. (NYSDEC)
G. Anders Carlson (NYSDOH)
Darrell Sweredoski (NYSDEC)

FINAL
WORK PLAN
FOR
PRELIMINARY SITE ASSESSMENT/INTERIM REMEDIAL MEASURES (PSA/IRM) STUDY
AT THE
ROME (JAY & MADISON ST.) SITE
ROME, NEW YORK

NIAGARA MOHAWK

SYRACUSE, NEW YORK

PREPARED: JUNE 1996

WORK PLAN

FOR

PRELIMINARY SITE ASSESSMENT/INTERIM REMEDIAL MEASURES (PSA/IRM)

STUDY

AT THE

FORMER ROME (JAY & MADISON ST.) MGP SITE

ROME, NEW YORK

PREPARED BY:

NIAGARA MOHAWK POWER CORPORATION
300 ERIE BLVD. WEST
SYRACUSE, NEW YORK 13202

JUNE 1996

PSA/IRM STUDY WORK PLAN FOR THE ROME FORMER MGP SITE

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The Generic Field Sampling Plan (GFSP), and the Generic Quality Assurance Project Plan (GQAPP) referred to herein are separate documents and should be reviewed in conjunction with this work plan.

1.0 INTRODUCTION

1.1 Project Background

This Preliminary Site Assessment/Interim Remedial Measures (PSA/IRM) Study Work Plan for the Rome (Jay & Madison) former manufactured gas plant (MGP) site has been prepared by Niagara Mohawk Power Corporation (NMPC). The work plan has been prepared in accordance with the New York State Department of Environmental Conservation (NYSDEC) Order on Consent (#D0-001-9210) (the "Order") requiring NMPC to investigate and, if necessary, remediate 21 former MGP sites in New York. Section II of the Order requires that NMPC submit work plans for the performance of PSA/IRM investigations for each of the 21 sites. The Rome former MGP site is one of the sites scheduled for PSA/IRM activities in 1996 and is the subject of this work plan.

The initial step in the PSA/IRM investigation is preparation of this work plan, which is designed to meet current requirements established in the Order. The elements of this work plan were prepared in accordance with the most recent and applicable guidelines and requirements of the NYSDEC and U.S. EPA, as well as the National Contingency Plan (NCP).

1.2 Project Objectives

In accordance with the Order, the goal of the PSA/IRM study is to collect sufficient environmental data to facilitate a preliminary evaluation regarding the following:

- the nature and presence of potential MGP by-product deposits and other utility related substances at the site of the former MGP facility, as well as other chemical constituents that may have been contributed by others
- whether identified chemical constituents can be attributed to other possible sources or parties
- whether such substances constitute a significant threat to public health or the environment
- whether additional remedial investigations are necessary at the site, and
- whether one or more IRMs may be appropriate due to the nature and extent of MGP residues and other contaminants at the site

The work performed will meet the intent and requirements of the Order and the New York State Environmental Conservation Law (ECL) as well as the National Contingency Plan (NCP).

1.3 Work Plan Organization

This PSA/IRM Work Plan is organized into four sections and two appendices as outlined below:

Section 1 - summary of **Project Background** and presentation of **Project Objectives**

Section 2 - review of **Site Background** including site setting, site description, and a summary of previous investigations

Section 3 - descriptions of tasks comprising the **PSA/IRM Scope of Work** with emphasis on field data collection activities

- Section 4 - presentation of the **Project Organization and Schedule**
- Appendix A -a **Citizen Participation Plan**
- Appendix B - a **Site Health and Safety Plan** which specifies the minimum health and safety procedures to be implemented during the PSA/IRM investigation

The Generic Field Sampling Plan (GFSP) and the Generic Quality Assurance Project Plan (GQAPP), referred to herein, are separate documents and should be reviewed in conjunction with this work plan.

2.0 SITE BACKGROUND

Information presented in this section is excerpted from the Initial Submittal for the Rome (Jay & Madison) MGP Site dated January 15, 1995, prepared by NMPC.

2.1 Site Description

The Rome (Jay & Madison Streets) former manufactured gas plant (MGP) site (the "site") is located in the City of Rome, Oneida County, New York (Figure 1). The site is comprised of two parcels (tax account no. TA 242.38.1.11 [entitled the "western parcel"], and TA 242.49.1.7 [entitled the "eastern parcel"]) totalling approximately 1.7 acres (Figure 2). The western parcel is located at 412 Erie Boulevard West, and is currently utilized as a NMPC gas regulator station. The eastern parcel is located at 106 South Madison Street and is currently occupied by a Burger King restaurant and parking lot. The Polka Dot Dry Cleaners (410 Erie Boulevard West), and a residence (409 Woodrow Avenue), lie between these two parcels. Woodrow Ave. forms the northeast border of the site. Erie Boulevard forms the southwest border of the site.

The western parcel (412 Erie Blvd. West) is approximately 0.5 acres in size. This parcel, currently owned by NMPC, contains a natural gas regulator station and two brick buildings. The parcel is secured with a six feet high chain link fence, and covered with crushed stone. The parcel formerly housed two manufactured gas holders (1-100,000 cubic feet capacity, and 1-250,000 cubic feet capacity) and an oil tank. All of these structures were constructed at or above grade. This parcel is bordered by a vacant lot to the west, and the Polka Dot Dry Cleaners to the east.

The eastern parcel (106 S. Madison St.) is approximately 1.15 acres. This parcel, which is bordered on the east by Madison St. and the west by a dry cleaner business, was the former location of the MGP, including coal storage and gas purification activities. Two manufactured gas holders (1-23,000 cubic feet capacity, and 1-50,000 cubic feet capacity) were formerly located on the parcel.

The topography of the site is generally flat, with a slight rise to the north. The area is a mixed usage of commercial, industrial and residential properties.

2.2 Site History

The section is based, in part, on information obtained from outside sources such as historic industry reference materials. Respondent is not aware of the degree of reliability of information gleaned from historic industry sources.

Prior to MGP operations, the site was comprised of residential lots situated between the Woodrow (i.e. Rome) Canal and the Erie Canal. The Woodrow Canal, which opened in 1797, connected Wood Creek to the Mohawk River. The canal was filled in to facilitate construction of Woodrow Avenue.

The Erie Canal, now occupied by Erie Boulevard, was opened in 1825. By 1930, the Erie Canal was displaced by the Barge Canal located south of the City, and eventually filled in to become Erie Boulevard (1951).

The MGP began operations in September 1853 on the eastern parcel. The operations included retort ovens, gas purification facilities, coal and coke storage sheds, and a 23,000 cubic feet manufactured gas storage holder. In 1884, an electric plant was added to the eastern parcel. In 1894, a dynamo room was added to the gas plant on the southwest side (Sanborn, 1894).

By 1899, the plant's 23,000 cubic feet gasholder was removed, and a 50,000 cubic feet holder was erected near the corner of Madison St. and Woodrow Ave.. A new purifier room and meter house were constructed near the north side of the site. A second house on S. Madison had been replaced by a storage building (Sanborn, 1899).

The western parcel was purchased in 1902 by the Rome Gas Light and Power Company. By 1904, a 100,000 cubic feet gasholder was constructed on the western parcel. On the eastern parcel the gas and electric plants had been replaced by a coal house, coke pile and coke shed, another gas plant was built to the west of the coal house along Woodrow Ave., and the electric plant had been relocated to the southeast corner of the site.

By 1909, an oil storage tank was added to the western parcel. On the eastern parcel, a new coke shed and purifier house were located north of the coal shed. On the western parcel, the oil house was replaced by an ammonia house, a blower room, dresser room and an oil storage room (Sanborn, 1909).

By 1914, a conveyor over the Erie Canal and West Whitesboro Ave. was added to transport coal from boats to the coal shed on the eastern parcel. A water gas plant was added to the purifier house west coal shed. On the western parcel, a second 250,000 cubic feet gasholder was added south of the existing 100,000 cubic feet gasholder (Sanborn, 1914).

Gas production was significantly reduced by 1924 due to increased gas production at the Rome (Kingsley Ave.) MGP. On the Madison St. MGP's eastern parcel, the water gas plant and electric plant remained intact. On the western parcel, the two gasholders remained but the oil storage tank had been removed (Sanborn, 1924).

By 1930, the water gas plant building on the eastern parcel was vacant, and most of the electric plant facilities had been removed (Sanborn, 1930). On the western parcel, both gas holders remained.

Data from 1938 indicates that the 100,000 cubic feet gasholder on the western parcel had been removed, and a gasholder heater building was added (Airphoto, 9/6/38). The 250,000 cubic feet gas holder remained on the parcel.

By 1946, only building foundations remain on the eastern parcel, and the section appeared to be used as a parking lot. (Airphoto, 6/3/46).

As of 1949, no MGP operations remained on the eastern parcel. A used car sales office was located at the corner of West Whitesboro and South Madison. A residence, formerly situated between the eastern and western parcels (410 Whitesboro St.), had been replaced by Brinck's Auto Repairs (Sanborn, 1949).

NMPC records indicate that the 250,000 cubic feet gas holder was removed from the western parcel in 1960.

By 1961, 410 Erie Boulevard (formerly known as "Whitesboro St.) was operated by New York Telephone's Repair Division (Rome City Directory, 1961). From 1961 to 1974 the eastern parcel was utilized as a Loblaw's Supermarket and parking lot. (Rome City Directories and Sanborn, 1971).

By 1962, 410 Erie Boulevard was the location of the Norge Laundry and Dry Cleaners. In 1968, it became the Polka Dot Laundry (Rome City Directories).

The 250,000 cubic feet gasholder had been removed from the western parcel as of 1971 (Sanborn, 1971). The parcel has been used as a natural gas regulator station by NMPC since that time.

From 1974 to 1981 the eastern parcel was vacant. In 1983 the lot was redeveloped into a Burger King Restaurant (Rome City Directories). Tax maps indicate that the parcel is currently owned by FFCA Acquisition Corporation of Scottsdale, Arizona. The Burger King Restaurant is still operating as of this report. A portion of this parcel is currently occupied by the restaurant, while the majority of the parcel is covered with asphalt pavement and utilized for restaurant patron parking.

2.3 Summary of Previous Investigations

Site visits were conducted in 1986 and 1993 on the western parcel of the Rome (Jay & Madison) former MGP site. The western parcel is currently occupied by a natural gas regulator station. No environmental impacts from former MGP activites were noted during these visits. In 1991, air sampling was conducted on the western parcel in conjunction with construction activities on the regulator station. No air quality issues were noted.

No previous investigations on the eastern parcel are known to have been conductd by NMPC.

In 1993 a search of NYSDEC and USEPA environmental site databases was conducted by VISTA Environmental Information, Inc. The VISTA report indicated that no CERCLIS, NPL, or EPA RCRA TSD sites were identified within a 0.5 mile radius. The gas regulator station was noted as a RCRA large quantity generator due to the production of condensate water and filters during routine maintenance activities.

3.0 PSA/IRM SCOPE OF WORK

This section describes the work effort which will constitute the PSA/IRM investigation at the former MGP parcels. The scope of work is based on the requirements set forth in the NYSDEC Order and is consistent with the National Contingency Plan (NCP).

This section details the proposed investigative, assessment, and reporting tasks designed to determine surface and subsurface conditions at the site. PSA/IRM activities will generally be performed in accordance with NYSDEC requirements, protocols, and guidance including the NYSDEC's "Standby Contract Work Assignment for Engineering Services for the Performance of Preliminary Site Assessments."

Citizen participation activities to be implemented throughout the investigation are detailed in Appendix A. Health and safety issues to be followed during field activities are included in Appendix B. Quality control procedures are presented in the GQAP, which is submitted as a separate document. Field investigation procedures are presented in the GFSP, which is also submitted as a separate document.

3.1 Field Investigation

3.1.1 Site Reconnaissance

The primary objectives of the site reconnaissance activities are to verify sampling locations for the field sampling program described in Section 3.1.3.

The intent of this task is to verify the locations for borings, wells, and sampling points, as well as to detail other associated tasks. Additionally, coordination with the Underground Facilities Protective Organization (UFPO) and NMPC personnel for clearance of subsurface utilities and other services is included in this task. The NMPC project manager will arrange a site reconnaissance meeting which will be attended by the Consultant's project manager, field team leader, the subcontract driller's representative, and a representative from the NYSDEC. The meeting should be scheduled at least one week prior to the initiation of field activities, in order to allow ample time for locating potentially affected subsurface utilities and services, and to arrange for access to the proposed drilling/sampling locations. In addition, NMPC will identify off-site property owners and arrange access permission, where applicable.

On-site and off-site utilities, to the extent possible, will be identified for the health and

safety of field personnel and to prevent damage to underground utilities during intrusive activities. Public and privately-owned utilities will be located by contacting responsible agencies to provide mark-outs of underground utilities. The site reconnaissance team will evaluate these utility locations in planning the field data collection approach, particularly as they relate to soil boring, test pit, and monitoring well locations.

A supplemental metal detector screening will be conducted prior to the start of subsurface investigative activities in an attempt to locate unidentified underground utilities or tanks. Initially, the locator will be tested on known locations of underground utilities to verify that it is functioning properly. The metal detector screening is intended as a precautionary and supplemental health and safety measure only. If there is no indication of buried utilities or tanks, then subsurface sampling will proceed. However, if the locator indicates the presence of a buried object, activities will not proceed in that location until the type of buried object is identified. If the object cannot be identified from surface or shallow digging, a test pit may be needed to determine the source of the metal detection. If a test pit is needed, the procedure and scope will be reviewed with the NMPC Project Manager prior to conducting the work.

3.1.2 Base Map Development

To facilitate both implementation of the field program and subsequent reporting activities, coordination and compilation of the site survey and base map will be accomplished. The objective of the site survey is to provide the necessary data to prepare a detailed site map which delineates current property boundaries, topography, and surface features such as buildings, roadways, above ground utilities, and drainage. Topographic contours will be provided at an interval of two feet.

Surveyed information will be transferred and contained in the form of a digital export computer file (.DXF). Base maps will be generated in accordance with NMPC's System Specification C-1026 using Intergraph® or compatible computer software. Buildings, roadways, waterways, and utilities will be clearly labelled. Elevations referenced to the National Geodetic Vertical Datum (NGVD) of 1929 will be included for utility inverts, roadways, and waterways.

In addition to current site structures, each sampling location will be identified on the survey map and will include the coordinates and ground surface elevation (MSL). For each

monitoring well installed at the site, the ground surface, top of the protective casing, and top of the PVC inner casing elevation (MSL) will be provided.

3.1.3 Field Sampling Activities

This section describes the specific field data collection activities and the rationale for these activities and analyses. General guidance on field sampling procedures is included in the GFSP. Refer to Section 3.2 for a detailed discussion of the analytical program designed for this investigation. A summary of proposed field activities, sampling and analyses, and associated rationale for the site are provided in Tables 1, and 2 for surface soil, subsurface soils, and groundwater, respectively. Figure 3 depicts the locations of proposed sampling activities. In general, the field sampling program consists of soil boring/monitoring well installation, soil sampling, groundwater sampling and analysis, and water level monitoring. The laboratory will be New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) Contract Laboratory Program (CLP) certified in all analysis categories.

3.1.3.1 Surface Soil Sampling

Objectives

To determine surface soil quality on property formerly occupied by the MGP, relative to off-site conditions. Background surface soil samples will be collected proximal to the former MGP property to characterize surface soils in the commercial/residential/industrial project area.

Methods

Three surface soil samples will be collected from exposed soils on the former MGP property at a depth of 0 to 2 feet below grade, and analyzed for TCL/TAL parameters. No surface soil samples will be obtained from paved areas or landscaped areas. Two (2) background surface soil samples will be collected at locations remote from the former MGP property and analyzed for TCL/TAL parameters. Refer to Tables 1 and 2, and Figure 3 for additional details on the proposed sampling locations. In addition, refer to the GFSP for a complete description of field sampling methods.

Data Uses

Laboratory analysis data will be used to determine surface soil conditions on the former

MGP property.

3.1.3.2 Soil Borings and Subsurface Soil Sampling

Objectives

To i) confirm the presence or absence of MGP and non-MGP constituents in subsurface soils, ii) determine the vertical extent of potentially impacted areas (at least within the upper 25 feet below grade), and iii) to provide lithologic and hydrogeologic data on the site.

Methods

A total of nine soil borings are proposed on the former MGP property in the areas indicated on Figure 3. Eight of the nine soil borings will be converted to shallow monitoring wells, if appropriate. All borings will be advanced through the unconsolidated deposits to a maximium depth of twenty five feet below grade utilizing hollow-stem auger techniques, as described in the GFSP.

Continuous split-spoon soil samples will be collected and classified in accordance with methodologies described in the GFSP, and screened for the presence of MGP and non-MGP constituents, based upon visual inspection, odors, and PID screening results. Particular attention should be paid to descriptors used for non-aqueous phase liquids (NAPLs).

The field geologist will select the number and depth interval of samples from each boring to be submitted for laboratory analysis, with the intent of delineating the upper and lower extent of any potentially impacted zone. Generally, two (2) to five (5) soil samples will be taken from each boring location for laboratory analysis, depending upon the thickness of any potentially impacted zone. At a minimum, one sample should be obtained for analysis within each ten foot interval of any potentially impacted zone. 80% of those soil samples collected for analysis will be analyzed for MGP Indicators. At those boring locations where no elevated PID readings or obvious visual/olfactory qualities characteristic of impacted zones are observed, or where the impacted zone appears to be less than three feet thick, one sample will be submitted to the laboratory for MGP Indicators analysis. Twenty percent of the total number of laboratory samples submitted shall be analyzed for TCL/TAL constituents. Selected soil samples will also be

analyzed for total organic carbon (TOC) and TCLP benzene analysis. Please refer to Tables 1 & 2 for additional details.

Following completion of each boring, the borehole will be grouted back to the ground surface with a cement/bentonite mixture, as described in the GFSP.

Data Uses

Soil samples will be logged by the field geologist in order to prepare detailed boring logs and develop an understanding of the subsurface stratigraphy of the former MGP site. Selected soil samples will be analyzed for specific MGP-related compounds in order to document soil quality. **3.1.3.3 Groundwater Sampling**

Objectives

The objective of groundwater sampling during the PSA/IRM, is to determine groundwater quality within the uppermost potentially-impacted aquifer material or, if soil boring data indicates the lack of MGP or non-MGP impacts, within the top 7-10 feet of the uppermost aquifer unit.

Methods - Well Installation & Development

Based on a review of available site information, groundwater flow at the site cannot be determined at this time. The depth to groundwater across the site is expected be approximately 15 to 20 feet below ground surface. In order to characterize ground water quality at the site, eight ground water monitoring wells are proposed to be installed at the locations shown on Figure 3. Each well will be screened across the uppermost potentially impacted saturated zone. If no potentially impacted zone is detected within the 0-25 feet range, then the monitoring well will be screened within the uppermost aquifer unit.

Monitoring well installation and development will be conducted in accordance with the procedures described in the GFSP. Each well will be constructed of 2-inch diameter, flush joint PVC riser pipe and machine slotted screen and, if appropriate, a sump will be attached to the bottom of the screen to collect dense nonaqueous phase liquids (DNAPLs), if encountered. A geologist will supervise the monitoring well installation.

Monitoring wells will be developed in accordance with procedures described in the GFSP. These procedures will minimize the affect of fine-grained soils (i.e. silts and clays) that could

potentially interfere with ground water quality analyses. Well development also increases the hydraulic connection between the well borehole and the surrounding aquifer material. The appropriate well development method will be selected depending on lithologies, water level depth, well productivity and turbidity. Well development options include bailing, manual pumping, inertial pumping, and powered suction-lift pumping as described in detail in the GFSP.

Methods - Water Level Measurements

The water level in each monitoring well will be gauged to provide information on hydraulic gradients at the site. This information will be used, in conjunction with the hydraulic conductivity results, to characterize the hydrogeologic setting. A minimum of two (2) rounds of measurements will be obtained prior to groundwater sampling activities. Measurements of water levels will be obtained using an electronic water-level instrument equipped with an oil/water interface probe.

Methods - Groundwater Sampling

Two rounds of ground water sampling will be conducted at least two weeks apart. The purpose of collecting the second round of samples is to verify the results obtained during the first round. Sample collection will be performed in accordance with the detailed procedures described in the GFSP. Each monitoring well will be purged by removing a minimum of three well volumes or at least one volume of saturated sand pack, whichever is greater. Samples will be collected using teflon, stainless steel or dedicated polyethylene bailers. Temperature, pH and conductivity will be measured and recorded in the field book.

Both rounds of sample will be analyzed for TCL/TAL parameters. The groundwater sample analysis will be conducted using NYSDEC Analytical Services Protocol (ASP) methods and Category B deliverables. Please refer to Tables 1 and 2 regarding laboratory analysis requirements.

Data Uses

Laboratory analysis data will be used to determine ground water quality and the presence of MGP-related constituents. TCL/TAL analytical data will be compared to New York State Class GA groundwater standards and guidance values. Where appropriate, the data from

hydraulically upgradient and downgradient monitoring wells will also be used to evaluate hydrogeologic conditions at the site.

3.2 Analytical Program

The Rome (Jay & Madison) former MGP site analytical program has been designed to facilitate the initial identification of potential MGP by-product deposits and other utility related substances at the site of the former MGP facility, as well as other chemical constituents that may have been contributed by others. Table 2 presents a summary of the sampling and analysis program designed for the PSA/IRM investigation, including approximate numbers of field and laboratory analyses and quality control sample requirements.

The GQAPP, which is submitted as a separate document, presents the analytical methods and quality control objectives to be utilized for the PSA.

3.2.1 Data Quality Objectives

Laboratory analyses of environmental samples will be conducted in accordance with NYSDEC ASP-CLP protocols, and Category B deliverables will be utilized. A Data Usability Summary Report (DUSR) will be prepared following review and evaluation of the analytical data. The DUSR includes documentation of the samples and analysis parameters reviewed. Data deficiencies, analytical method protocol deviations and quality control problems are described and their effect on the data is discussed. In addition, the DUSR identifies data gaps caused by non-compliant or rejected data, and indicates what steps have been or will be taken to fill these gaps.

3.2.2 Environmental Sample Analyses

Surface Soil

One sample from each surface soil sample location will be analyzed for full Target Compound List (TCL)/Target Analyte List (TAL) parameters. The comprehensive TCL/TAL list consists of organic compounds including VOCs, SVOCs, pesticides/PCBs, and inorganic compounds, including metals and cyanide. In addition to the three on-site sampling locations, two off-site background samples will also be collected. Refer to Tables 1 & 2 for additional details.

Subsurface Soil

Samples from each soil boring will be analyzed as detailed on Table 1 and 2. The comprehensive TCL/TAL list consists of organic compounds including VOCs, SVOCs, and pesticide/PCBs, and inorganic compounds, including metals and cyanide. MGP indicator compounds include benzene, toluene, ethyl benzene, and xylene (BTEX), polycyclic aromatic hydrocarbons (PAHs), and cyanide. If areas are encountered which appear to be significantly impacted, then samples will be tested for TCLP benzene analysis.

Groundwater

Two rounds of ground water samples will be analyzed for the full TCL/TAL list of parameters, in accordance with Tables 1 and 2.

3.3 Fish and Wildlife Impact Analysis

A fish and wildlife impact analysis (FWIA), as described below, will be performed at the site. The analysis will be conducted in accordance with the NYSDEC guidance document entitled "Fish and Wildlife Impact Analysis for Inactive Hazardous Waste Sites (October 1994)."

The objective of the analysis is to identify and address the potential impact of MGP site constituents on fish and wildlife receptors. The scope of the analysis will include:

Step I: Site Description

- compilation of topographical, covertype, and drainage maps
- description of fish and wildlife resources
- description of fish and wildlife resource value
- identification of applicable regulatory criteria

Step II: Contaminant-Specific Impact Assessment

- pathway analysis

Consistent with the FWIA guidance document, the "criteria-specific analysis", "toxic effects analysis", and "study methods" phases of Step I will only be performed if the previous steps indicate the presence of contaminated resources and associated pathways.

3.4 PSA/IRM Report Preparation

Following completion of the field program, data generated during the investigation will be evaluated and a PSA/IRM report prepared for submittal to NYSDEC. The PSA/IRM report will contain a synopsis of the tasks completed to date, as well as those intended for the future as required by applicable portions of the CERCLA, NCP, and USEPA reporting guidelines. Supporting data, including raw analytical data, boring logs and well construction diagrams will be included in the PSA/IRM report. The report will likely contain the following sections:

Introduction

The introductory section will summarize the purpose and scope of the Rome PSA/IRM study. In order to accomplish this task the following information will be provided.

- Project Objectives;
- Site Location and Description;
- Site History;
- Background;
- Regional Settings including regional geology, regional hydrogeology, and groundwater usage in site vicinity.
- Report Organization.

Scope of Work

A detailed description of the scope and methodologies employed to complete the PSA/IRM investigation at the former MGP site will be provided. This discussion will present the number, locations, and media of sample collection activities, as well as the field techniques employed to complete these activities. The scope of the analytical program will also be included. Alterations to the field program, as described in this Work Plan, will be detailed.

The following subsections are anticipated to be incorporated into this section:

- field mobilization

- surface soil sampling/analysis
- soil boring sampling/analysis
- monitoring well installation and development
- in-situ permeability testing
- ground water level measurements
- ground water sampling/analysis

Preliminary Site Assessment Results

The geologic and hydrologic conditions which characterize the Rome former MGP site, as determined by both the literature review and the site investigation, will be presented in this section. Physical characteristics of site soils, including impacted areas, will be described. Hydrogeologic conditions, as determined through the evaluation of water table elevations and preparation of ground water contour maps, will provide initial insight into hydrogeologic conditions at the site. Sources of MGP and non-MGP by-products (including existing containment structures) will be identified and described. Each of the media sampled (i.e. surface soil, subsurface soil, and groundwater) will be characterized with respect to chemical constituents. This section will consist of the following subsections:

- Site hydrogeology
- Data validation
- Source characterization
- Contamination assessment

Fish and Wildlife Impact Analysis (FWIA)

Results of Step I of the FWIA will be presented in the PSA/IRM report. A description of site fish and wildlife resources and habitat will be presented, as well as a discussion of applicable regulatory criteria. A pathway analysis will be completed as part of the report, however, subsequent portions of Step II will only be completed as part of the remedial investigation, if appropriate.

IRM Evaluation

The evaluation will include a review of all PSA data, in order to determine the need for IRMs. If appropriate, potential IRMs would be proposed to the NYSDEC to control or mitigate contaminant sources at the site. Potential IRMs will focus on those actions that can be readily accomplished without extensive further investigation, or that pose an immediate threat to human health or the environment.

Conclusions and Recommendations

This section of the PSA/IRM report will summarize the conclusions generated as a result of the field investigation activities. These conclusions will be based on the geologic and hydrogeologic information and analytical database. Recommendations will be made, if appropriate, regarding the need for implementation of IRM(s), as well as the need for additional remedial investigations.

4.0 PROJECT ORGANIZATION AND SCHEDULE

4.1 Project Organization

The management and technical staff required to execute this project and their areas of responsibility are identified on **Figure 4.** The responsibility of key personnel are further described as follows:

NMPC Project Manager

NMPC's project manager will be responsible for overall coordination and conduct of the PSA/IRM Study. This individual will be responsible for the timely delivery of all documents, reports, and other information required by the Order. All communication with the NYSDEC regarding this project will be through the NMPC project manager unless otherwise authorized or directed.

Consultant's Technical Advisor

The technical advisor will provide technical support and overall quality assurance. The primary objective of quality assurance is to facilitate compliance with regulatory agency guidance and regulations. The technical advisor will address the broad range of technical activities and disciplines needed for successful support of this PSA/IRM.

Consultant's Project Manager

The project manager is responsible for maintaining the schedule, keeping the project within budget, and ensuring the technical adequacy of the work performed.

Consultant's Field Team Leader

The field team leader is responsible for controlling activities at the site, including the activities of the drilling crew. The field team leader must be well versed in every aspect of field work, including but not limited to, well drilling and sampling procedures.

Health and Safety Officer

The site health and safety officer is responsible for implementation of the Health and Safety Plan. If the health and safety officer observes unsafe conditions, the officer will have stop-work authority.

Project Quality Assurance Manager

The Project Quality Assurance Manager is responsible for verifying that QA requirements are followed by the field teams, laboratory, and other subcontractors.

4.2 Project Schedule

A schedule of project activities with milestones is presented as a bar chart schedule in **Figure 5.**

TABLE 1

PSA/IRM FIELD INVESTIGATION SUMMARY
ROME (JAY & MADISON) FORMER MGP SITE
NIAGARA MOHAWK POWER CORPORATION

Activity	Sampling and Analysis	Rationale/Objective
Surface Soil - Three surface soil samples from areas of exposed soils which may contain MGP-related constituents and two background samples. The background sample locations will be determined in the field and are not shown on the sample locations figure.	• Full TCL/TAL analyses[1] of each sample.	• To characterize surface soil conditions on- site for determination of human health exposure issues, and off-site for comparison purposes.
Soil Borings - 9 soil borings installed to approximately twenty five feet below grade.	• Continuous split-spoon sampling. Analysis for MGP indicators[2] on 80% of the samples plus full TCL/TAL analyses on 20 percent of samples. At a minimum, one sample per boring will be analyzed for TCL/TAL or MGP indicators, and TOC. • One sample per parcel will be obtained from any significantly impacted zone for hazardous waste characterization.[3]	• To collect geologic data for the site and evaluate the existence and nature of potential MGP residuals, and their vertical and horizontal extent.
Monitoring Wells - Install eight two-inch diameter PVC monitoring wells. If appropriate, wells will be installed in soil boring locations.	• Two rounds of groundwater sampling. Groundwater samples analyzed for full TCL/TAL[1] parameters.	• To characterize groundwater quality beneath the site and to assess potential off-site migration of MGP related by-products. • To collect hydrogeologic data for the site and evaluate the nature of potential MGP residuals.

[1] TCL/TAL analyses includes TCL volatiles, semivolatiles, pesticides/PCBs, TAL metals,and cyanide.

[2] MGP indicators include BTEX (benzene, toluene, ethylbenzene, xylenes) PAHs and cyanide.

[3] Hazardous waste characterization shall include TCLP-volatiles, TCLP-semi-volatiles, TCLP-metals, ignitability, corrosivity, and reactivity.

Table 2
SAMPLING AND ANALYSIS SUMMARY FOR PROPOSED PSA/IRM ACTIVITIES AT THE ROME (JAY & MADISON) FORMER MGP SITE

			Field QC Samples				Laboratory QC Samples[1]		
Subtask	Sample Matrix	Laboratory Analysis	No. of Samples	Max Trip Blanks[2]	Field Duplicates	Equipment/ Field Blanks	MS/MSD	MSB/LCS	Total
Surface Soil Sampling	Soil	TCL/TAL[3]	5	5	1	1	1/1	1	15
Test Boring and Sampling	Soil	MGP Indicators[4]	14[7]	5	2	2	2/2	1	28
		TCL/TAL[3]	4[7]	5	1	1	1/1	1	14
		TOC[5]	9[8]	0	1	0	0		10
		W.C.[6]	2[8]	0	0	0	0		2
Groundwater Sampling (two rounds)	Groundwater	TCL/TAL[3]	16	2	2	2	2/2		26

1 Laboratory QC analyses: MS/MSD means matrix spike/matrix spike duplicate samples, LCS means laboratory control sample.

2 Trip blanks are water samples analyzed for VOCs only; trip blanks are collected with water samples only.

3 TCL/TAL: Target Compound List volatiles, semivolatiles, pesticide/PCBs, Target Analyte List metals, and cyanide.

4 MGP Indicators are BTEX, PAHs, and cyanide.

5 Total organic carbon (TOC) analysis.

6 W.C. (waste characterization) shall include TCLP-volatiles, TCLP-semi-volatiles, TCLP-metals, ignitability, corrosivity, and reactivity.

7 Assumes two analytical samples per soil boring.

8 Assumes one TOC analysis per soil boring.

Figure 3 Proposed Sampling Locations

Figure 4 Project Organization

Figure 5

Project Schedule

QUADRANGLE LOCATION

NORTH

ROME QUADRANGLE (1978) NW/4 ROME 15'

NIAGARA MOHAWK

NIAGARA MOHAWK POWER CORPORATION

FIGURE 1

SITE LOCATION MAP

JAY & MADISON STREET FORMER MGP SITE

CITY OF ROME STATE OF NEW YORK

DES. TSM	DR. TSM	CK.	DATE	SCALE 1" = 2000'
APPROVED		APPROVED		INDEX
APPROVED		APPROVED		NO.

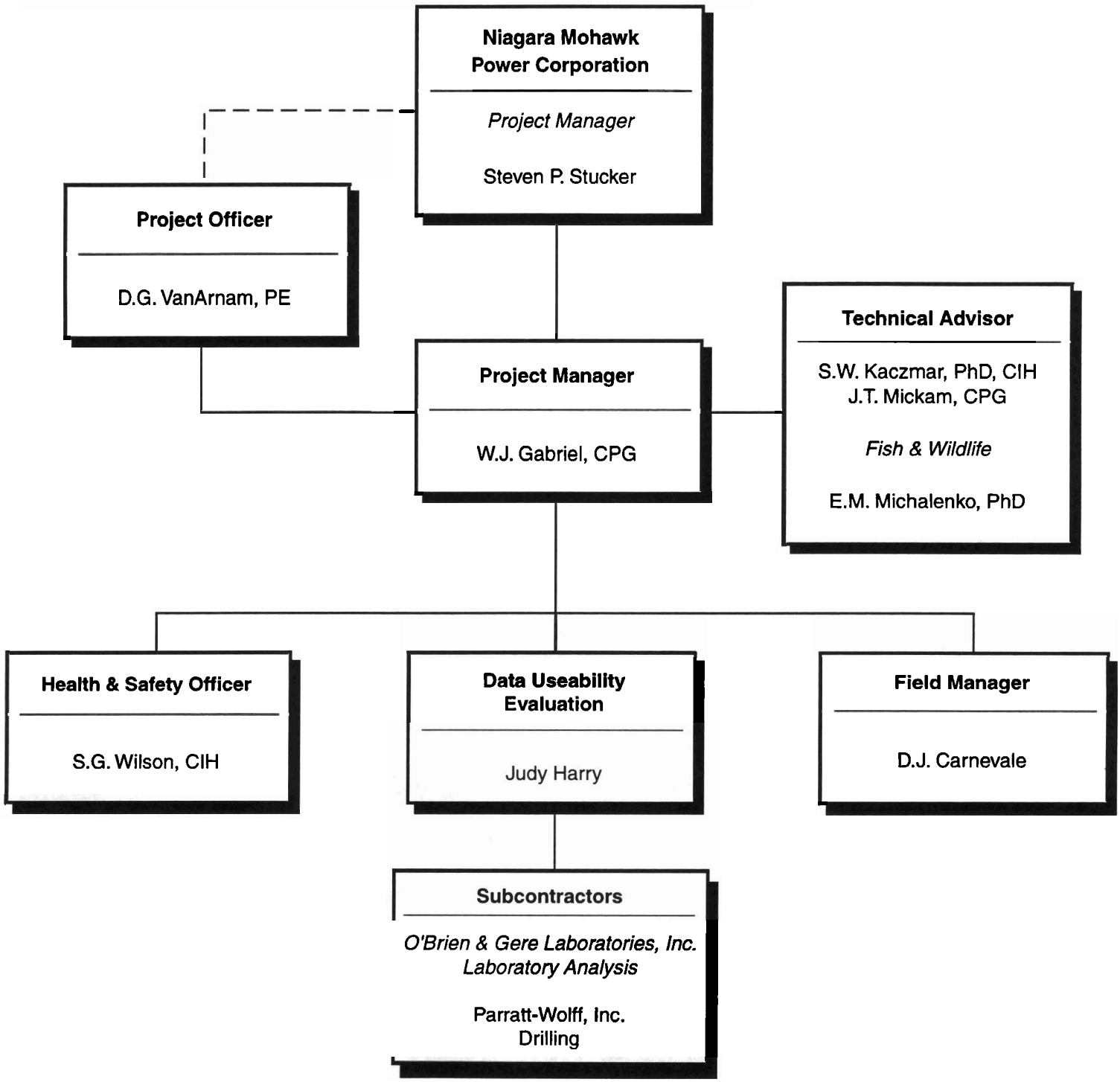
NO.	DATE	BY	DESCRIPTION OF REVISION	CK.	APP.

$$DATE$$$$

Figure 4

ORGANIZATION CHART

Preliminary Site Assessment / Remedial Measures Study at
Niagara Mohawk's Rome Site, Rome, New York
Niagara Mohawk Power Corporation
Syracuse, New York



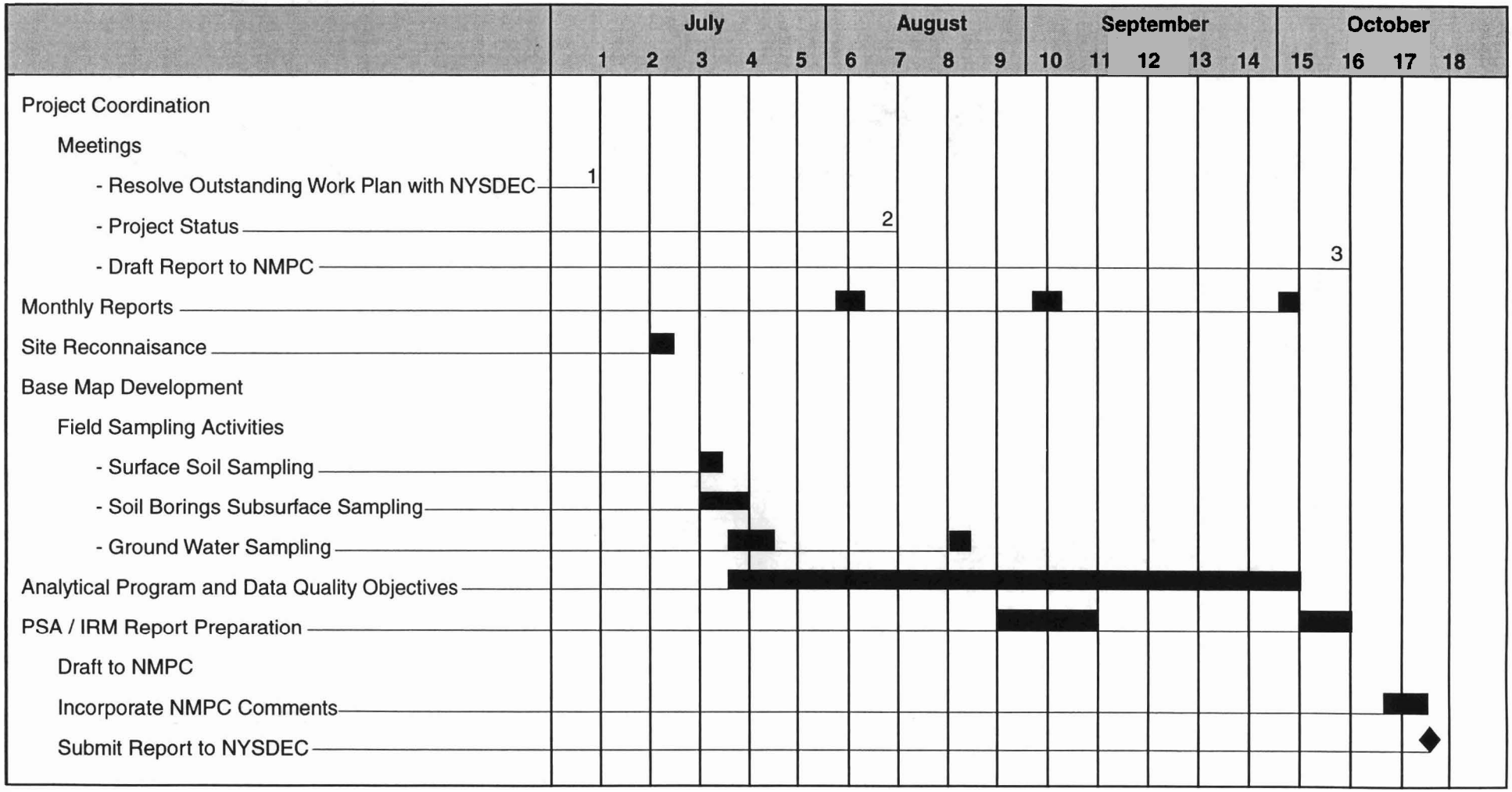
A116HVB.Fh5/clm/050696

Figure 5

PROJECT SCHEDULE

Preliminary Site Assessment / Interim Remedial Measures Study

Herkimer Site
Herkimer, NY



B45HVB.Fh5/clm/050796

APPENDIX A

CITIZEN PARTICIPATION PLAN

CITIZEN PARTICIPATION PLAN

FOR THE

NIAGARA MOHAWK POWER CORPORATION

ENVIRONMENTAL INVESTIGATION

AT THE

ROME (JAY & MADISON ST.) SITE

ROME, NEW YORK

JUNE 1996

PREPARED BY:

NIAGARA MOHAWK POWER CORPORATION
300 ERIE BOULEVARD WEST
SYRACUSE, NY 13202

TABLE OF CONTENTS

1.0 INTRODUCTION

Niagara Mohawk Power Corporation (NMPC), with oversight from the New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health(NYSDOH), are committed to implementing a citizen participation plan (CPP) for the former Rome (Jay & Madison Street) site investigation. NMPC has entered into an Order on Consent with the NYSDEC to investigate and remediate, where necessary, the site.

Implementation of a CPP will promote public understanding of investigation activities at the site.

2.0 PUBLIC PARTICIPATION ACTIVITIES

Activities

Public participation activities to be completed as part of the overall project include:

1) Preparation of information sheets covering such issues as:

- history of the site;
- nature and reason for upcoming activities;
- potential health and environmental issues associated with manufactured gas plant (MGP) by-products and the site;
- background information on potential constituents of concern;
- project time line, including when results of the investigation will be known and decisions on further activities will be made;
- results of the investigations (to be prepared after studies have been completed).

Information sheets will be issued prior to the start of investigation to those individuals included on Table 5-1. Updated information sheets will be issued after results of each investigation have been received and future actions for the site determined, and, if needed, at other stages during the investigation.

2) Meetings with local elected and other governmental officials, as appropriate, prior to beginning site investigation activities and after results of the investigation have been received, to review project details and time lines.

3) Public informational meetings, if appropriate, will be held which allow the NYS Department of Environmental Conservation (DEC), NYS Department of Health (DOH), and NMPC an opportunity to provide information about the site and planned activities, and the public an opportunity to ask questions and provide input. Announcements regarding

public information meetings will be mailed to those individuals on the contact list (including the media). Information sheets will be included with these announcements. NYSDEC and NYSDOH staff will be invited to all public informational meetings. Summaries of public information meetings will be included in the document repository.

4) Presentations by NMPC representatives to any groups wishing to learn more about the project.

3.0 BASIC SITE INFORMATION

The Rome (Jay & Madison Streets) site (the "site") is a former manufactured gas plant (MGP) located in the City of Rome, Oneida County, New York (Figure 1). The site is comprised of two parcels (tax account no. TA 242.38.1.11 [entitled the "western parcel"], and TA 242.49.1.7 [entitled the "eastern parcel"]) totaling approximately 1.7 acres (Figure 2). The western parcel is located at 412 Erie Boulevard West, and is currently utilized as a NMPC gas regulator station. The eastern parcel is located at 106 South Madison Street and is currently occupied by a Burger King restaurant and parking lot. The Polka Dot Dry Cleaners (410 Erie Boulevard West), and a residence (409 Woodrow Avenue), lie between these two parcels. Woodrow Ave. forms the northeast border of the site. Erie Boulevard forms the southwest border of the site.

The western parcel (412 Erie Blvd. West) is approximately 0.5 acres in size. This parcel, currently owned by NMPC, contains a natural gas regulator station and two brick buildings. The parcel is secured with a six feet high chain link fence, and covered with crushed stone. The parcel formerly housed two at grade manufactured gas holders (1-100,000 cubic feet capacity, and 1-250,000 cubic feet capacity) and an oil tank. All of these structures were constructed at or above grade. This parcel is bordered by a vacant lot to the west, and the Polka Dot Dry Cleaners to the east.

The eastern parcel (106 S. Madison St.) is approximately 1.15 acres. This parcel, which is bordered on the east by Madison St. and the west by a dry cleaner business, was the former location of the MGP, including coal storage and gas purification activities. Two manufactured gas holders (1-23,000 cubic feet capacity, and 1-50,000 cubic feet capacity) were formerly located on the parcel.

The topography of the site is generally flat, with a slight rise to the north. The area is a mixed usage of commercial, industrial and residential properties.

The site is not listed on the New York State Registry of Inactive Hazardous Waste Sites. The MGP waste materials at the site are not considered to be hazardous wastes by the NYSDEC.

4.0 PROJECT DESCRIPTION

The overall objective of the environmental investigation is to determine surface and subsurface conditions (soil, air, and groundwater quality) on or adjacent to the site. The Rome (Jay & Madison Street) former MGP site is included as part of a NYSDEC Order on Consent (the Order) to investigate and possibly remediate twenty one former MGP sites.

In accordance with the Order, an Initial Submittal was forwarded to the NYSDEC by January 15, 1996. The Preliminary Site Assessment and Interim Remedial Measure (PSA/IRM) Study field activities are scheduled to be initiated in July 1996.

The PSA/IRM will include preparation of a site history, a field survey and generation of a base map, a soil and water sampling program, laboratory analyses, and an evaluation of the appropriateness of IRMs at the site.

Objectives of the PSA/IRM Study include:

- gather data to enable NMPC and the NYSDEC to assess soil and groundwater quality at the site
- determine the location, nature, and extent of MGP by-products on-site.
- determine if any interim remedial measures (IRMs) are appropriate
- present the PSA results in a report which characterizes the site, defines the extent of MGP by-products, and recommends future investigative activities.
- evaluate the need for Remedial Investigation/Feasibility Studies (RI/FS)

5.0 IDENTIFICATION OF INTERESTED PARTIES

The project contact list (Table 5-1) will be used to inform interested parties of key milestones in the program. It is made up of elected officials, people and organizations directly affected by the remedial program, and representatives of the local media.

The list will be updated in a timely manner, based on expressions of interest at public meetings or written requests for inclusion.

The mailing list used for mailing reports, as required in the NYSDEC Order on Consent, is listed on Table 5-2.

6.0 PROJECT CONTACT PERSONS

Niagara Mohawk Power Corp.:

Mr. Steven P. Stucker
Project Manager - Environmental Affairs
Niagara Mohawk Power Corp.
300 Erie Boulevard West
Syracuse, New York 13202
Phone: (315) 428-5652

Mr. Steven M. Schaefer
Media Relations Coordinator
Niagara Mohawk Power Corp.
300 Erie Boulevard West
Syracuse, New York 13202
Phone: (315) 428-6786

New York State Department of Environmental Conservation

John Spellman, P.E.
Project Manager
NYSDEC - 50 Wolf Road
Albany, New York 12233
Phone: (518) 457-9280

7.0 DOCUMENT REPOSITORY

Project documents may be reviewed at the following locations:

1. Mr. Keith Kinna
   Jervis Public Library
   613 North Washington St.
   Rome, NY 13440
   (315) 336-4570

   Hours:
   Monday-Thursday 9:30 AM-9:00 PM
   Friday -Saturday 9:30 AM-5:00 PM
   Closed Sundays.

2. NYSDEC
Region 6
317 Washington Street
Watertown, NY 13601
(315) 785-2239
Open Monday thru Friday 8:30 a.m. - 4:30 p.m.

8.0 DEFINITION OF COMMONLY USED CITIZEN PARTICIPATION TERMS

Citizen Participation - A process to inform and involve the interested/affected public in the decision-making process during identification, assessment and remediation of inactive hazardous waste sites. This process helps to assure that the best decisions are made from technical, environmental, human health, and economic perspectives.

Citizen Participation Plan - A document that describes the site-specific citizen participation activities that will take place to complement the "technical" (remedial) activities. It also provides site background and rationale for the selected citizen participation program for the site. A plan may be updated or altered as public interest or the technical aspects of the program change.

Consent Order - A legal and enforceable negotiated agreement between the NYSDEC and responsible parties where responsible parties agree to undertake investigation and cleanup or pay for the costs of investigation and cleanup work at a site. The order includes a description of the remedial actions to be undertaken at the site and a schedule for implementation.

Contact List - Names, addresses and/or telephone numbers of individuals, groups, organizations and media interested and/or affected by a particular hazardous waste site compiled and updated by the NMPC. Interest in the site, stage of remediation and other factors guide how comprehensive the list becomes. Used to assist the NMPC to inform and involve the interested/affected public.

Document Repository - Typically a regional NYSDEC office and/or public building, such as a library, near a particular site, at which documents related to remedial and citizen participation activities at the site are available for public review. Provides access to documents at times and a location convenient to the public. Environmental Management Councils (EMCs), Conservation Advisory Committees (CACs) as well as active local groups often can serve as supplemental document repositories.

Feasibility Study (FS) - A process for developing, evaluating and selecting remedial actions, using data gathered during the remedial investigation to: define the objectives of the remedial program for the site and broadly develop remedial action alternatives; perform an initial screening of these alternatives; and perform a detailed analysis of a limited number of alternatives which remain after the initial screening stage.

Information Sheet - A synopsis of all or a portion of the project prepared by NMPC to disseminate information. Uses may include discussion of an element of the remedial program, opportunities for public involvement, availability of a report or other information, or announcement of a public meeting.

Preliminary Site Assessment (PSA) - Preliminary characterization of a site; identifies surface or subsurface potential migration pathways; identifies populations or resources which could be affected by the site; and describes past site operations/history. After a PSA, DEC may choose to nominate the site for the National Priorities List, or, where appropriate, conduct additional investigations.

Project Manager - Responsible for the day-to-day administration of the site investigation, and ultimate remediation/closure. The Project Manager works with the Office of Public Affairs and Corporate Communications, as well as fiscal and legal staff to accomplish site-related goals and objectives.

Public - The universe of individuals, groups and organization: a) affected (or potentially affected) by an inactive hazardous site and/or its remedial program; b) interested in the site and/or its remediation; c) having information about the site and its history.

Public Informational Meeting - A scheduled gathering of the NMPC, NYSDEC, NYSDOH, and the public to give and receive information, ask questions and discuss issues. May take one of the following forms: large-group meeting called by the NMPC; participation by the NMPC at a meeting sponsored by another organization such as a town board; working group or workshop; or tour of the site.

Public Notice - Written or verbal communication to the public regarding an update on the site investigation (including a forthcoming meeting and/or report). Includes newspaper advertisements, telephone calls to key citizen leaders, targeted mailings, etc.).

Remedial Design - Once a remedial action has been selected, technical drawings and specifications for remedial construction at a site are developed, as specified in the final RI/FS report. Design documents are used to bid and construct the chosen remedial actions. Remedial design is prepared by consulting engineers with experience in environmental remediation.

Remedial Investigation (RI) - A process to determine the nature and extent of contamination by collecting data and analyzing the site. It includes sampling and monitoring, as necessary, and includes the gathering of sufficient information to determine the necessity for, and proposed extent of, a remedial program for the site.

Responsible Parties - Individuals, companies (e.g. current or past site owners or operators, transporters or generators of hazardous waste) responsible for or contributing to the contamination of an industrial waste site. PRP is an acronym for potentially responsible party.

Toll-Free "800" Telephone Information Number - Provides members of the public who have questions, concerns or information with cost-free access to agencies or companies. The NYSDEC Toll-Free Information Number takes or records calls 24 hours a day, and a Department staff member contacts the caller as soon as possible (usually the same day). The NYSDOH Environmental Health Information Line is staffed from 8:00 a.m. to 4:30 p.m. on business days. After business hours, callers can leave a message which will be returned the next business day.

Tables

TABLE 5-1

CITY OF ROME
ONEIDA COUNTY, NEW YORK
CONTACT LIST (JUNE, 1996)

LOCAL GOVERNMENT:

Mayor Joseph Griffo
City Hall, On The Mall
Rome, NY 13440
(315) 336-6600

Ms. Jeanette Reid
Rome City Clerk
City Hall
Rome, NY 13440
(315) 339-7659

Rome City Council
1st Ward - John K. Ciccotti
2nd Ward - Keith Townsend
3rd Ward - Bernard A. Bottini
4th Ward - Steven Evans
5th Ward - James W. O'Rourke
6th Ward - John Barry
7th Ward - Louis DiMarco, Jr.
John J. Mazzaferro - Pres. Of Common Council

Bernard A. Bottini
Councilman, Ward Three
546 S. Jay St.
Rome, NY 13440
(315) 339-3313

Ms. Diane Martin
Corporate Counsel
City Hall
Rome, NY 13440
(315) 339-7670

TABLE 5-1

CITY OF ROME
ONEIDA COUNTY, NEW YORK
CONTACT LIST (JUNE, 1996)

Mr. Ronald Conover
Director, Dept. of Planning
Room 308, City Hall
Rome, NY 13440
(315) 339-7643

Mr. Edward Ratazzi
Industrial Dev. Corp.
200 Liberty Plaza
Rome, NY 13440
(315) 337-6360

Mr. Pat Miller
Deputy Police Chief
Justice Bldg.
301 No. James St.
Rome, NY 13440
(315) 339-7704

Mr. Keith Kinna
Jervis Public Library
613 North Washington St.
Rome, NY 13440
(315) 335-4570

Mr. Robert Comis
Commissioner of Public Works
City Hall
Rome, NY 13440
(315) 339-7625

TABLE 5-1

CITY OF ROME
ONEIDA COUNTY, NEW YORK
CONTACT LIST (JUNE, 1996)

Mr. John Abel
Deputy Fire Chief
158 Black River Blvd.
Rome, NY 13440
(315) 339-7784

Mr. Daniel Farasci
Supt., Rome City School District
112 East Thomas Street
Rome, NY 13440

COUNTY GOVERNMENT:

Mr. Raymond Meier
County Executive
Oneida County Office Bldg.
800 Park Avenue
Utica, NY 13501
(315) 798-5700

Ms. Agatha Slater
Director, Oneida Co. Health Dept.
Oneida Co. Office Bldg.
800 Park Avenue
Utica, NY 13501
(315) 798-5700

Ms. A. Sandra Caruso
Oneida County Clerk
Oneida County Office Bldg.
800 Park Ave.
Utica, NY 13501
(315) 798-5790

TABLE 5-1

CITY OF ROME
ONEIDA COUNTY, NEW YORK
CONTACT LIST (JUNE, 1996)

Mr. Brian Dam
Chairman, Oneida Co. EMC
Oneida County Office Bldg.
800 Park Avenue
Utica, Ny 13501
(315) 798-5710

Frederick Schmidt
County Legislator - 7th District
7331 Seifert Road
Rome, NY 13440
(315) 337-0269

Jessica Breiten
Oneida County Planning Dept.
Oneida County Office Bldg.
800 Park Avenue
Utica, NY 13501
(315) 798-5710

STATE GOVERNMENT:

Hon. Nancy Larraine Hoffmann
New York State Senate
333 East Washington Street
Syracuse, NY 13202
(315) 428-4107

Hon. RoAnn DeStito
New York State Assembly
State Office Bldg.
207 Genesee Street
Utica, NY 13501
(315) 732-1055

TABLE 5-1

CITY OF ROME
ONEIDA COUNTY, NEW YORK
CONTACT LIST (JUNE, 1996)

Mr. John Spellman, P.E.
Division of Hazardous Waste Remediation
NYSDEC
50 Wolf Road
Albany, NY 12233-7010
(518) 457-0927

Mr. Rick Georgeson
Citizen Participation Specialist
NYSDEC - Region 6
317 Washington Street
Watertown, NY 13601
(315) 785-2239

Dr. G. Anders Carlson
Director, Bureau of Env. Exposure Investigation
NYS Dept. Of Health
2 University Place
Albany, NY 12203-3399
(518) 458-1158 (ext. 310), or 458-6310

Mr. Robert Griffiths
Technical Lead, NYS Dept. Of Health
2 University Place, Room 205
Albany, NY 12203-3399
800-458-1158 (ext. 306), or
(518) 458-6306

Mr. James Luz
Regional Water Engineer
NYSDEC, Region 6
317 Washington Street
Watertown, NY 13601
(315) 785-2512

TABLE 5-1

CITY OF ROME
ONEIDA COUNTY, NEW YORK
CONTACT LIST (JUNE, 1996)

Ms. Susan Van Patten
Health Liaison Program
NYS Department of Health
2 University Place, Room 240
Albany, NY 12203-3399
800-458-1158 (ext. 402) or (518) 458-6402

Mr. Darrell Sweredoski
Regional Haz. Waste Remediation Engineer
NYSDEC, Region 6
317 Washington Street
Watertown, NY 13601
(315) 785-2513

PRIVATE INDIVIDUALS AND ORGANIZATIONS:

James R. Davis
Executive Director
Rome Historical Society
200 Church Street
Rome, NY 13440
(315) 336-5870

Norm Landis
Adirondack Mountain Club, Iroquois Chapter
312 Henry Street
Rome, NY 13440
(315) 336-3798

Bruce Carpenter
NY Rivers United
New York Audubon Society, Old Erie Chapter
199 Liberty Plaza
Rome, NY 13440
(315) 339-2097

TABLE 5-1

CITY OF ROME
ONEIDA COUNTY, NEW YORK
CONTACT LIST (JUNE, 1996)

MEDIA:

Local Newspapers

Rome Observer Dispatch
310 East Chestnut
Rome, NY 13440
(315) 336-8000

Rome Sentinel
333 W. Dominick
Rome, NY 13440
(315) 337-4000

Local Television

WKTV-TV
P.O. Box 2
Utica, NY 13503
(315) 733-0404

WFXV Channel 33
Greenfield Road
Rome, NY 13440
(315) 337-3000

WUTR-TV
P.O. Box 20
Utica, NY 13503
(315) 797-5220

Local Radio

WFRG FM 96.1/WZLB AM 1450
549 S. Jay Street
Rome, NY 13440
(315) 337-9600

TABLE 5-1

CITY OF ROME
ONEIDA COUNTY, NEW YORK
CONTACT LIST (JUNE, 1996)

WRNY/WUUU FM
Muck Road
Rome, NY 13440
(315) 336-5600

WIBX/WNYZ
P.O. Box 950
Utica, NY 13503

WRUN AM 1150
Thomas Road
Oriskany, NY 13424
(315) 337-4400

ADJACENT PROPERTY OWNERS:
Mr. Jerome Bastek
425 Van Dyke Road
Utica, New York 13502

John A. Fisher
6180 Hawkins Corner Rd.
Rome, NY 13440

Dorothy L. O'Brien
112 South Jay St.
Rome, NY 13440

Joseph Preski
114 South Jay St.
Rome, NY 13440

Fred P. Franescone
116 South Jay St.
Rome, NY 13440

TABLE 5-1

CITY OF ROME
ONEIDA COUNTY, NEW YORK
CONTACT LIST (JUNE, 1996)

Barbara Alsante
503 William St.
Rome, NY 13440

Kathleen Karpinski
P.O. Box 682
Sandy Creek, NY 13145

Kathleen Karpinski
1002 Westbrook Drive
Rome, NY 13440

Alfons P. Pohopek
405 West Dominick St.
Rome, NY 13440

Jean Secor
415 West Dominick St.
Rome, NY 13440

Ronald P. Karpinski
120 S. Jay St.
Rome, NY 13440

L.P.S. Enterprises
401 Erie Blvd. West
Rome, NY 13440

Victor Diperna
405 W. Dominick St.
Rome, NY 13440

TABLE 5-1

CITY OF ROME
ONEIDA COUNTY, NEW YORK
CONTACT LIST (JUNE, 1996)

Polka Dot Laundry, R. Brackett Prop.
410 Erie Blvd. West
Rome, NY 13440

Lester Bartell
6458 Karlen Rd.
Rome, NY 13440

Carl Roundy
119 S. Jay St.
Rome, NY 13440

Philip Vescio
111 So. Jay St..
Rome, NY 13440

Rome Sentinel
333 W. Dominick St.
Rome, NY 13440

FFCA Acquisition Corp.
17207 N. Perimeter Rd.
Scottsdale, AZ 85255

Rome Lodge 901, Inc.
337 W. Dominick St.
Rome, NY 13440

Farino Trust
409 Floyd Ave.
Rome, NY 13440

TABLE 5-1

CITY OF ROME
ONEIDA COUNTY, NEW YORK
CONTACT LIST (JUNE, 1996)

A.M. Melone
413 Erie Blvd. West
Rome, NY 13440

Martin J. Nunn/Hospital Supplies
407 Erie Blvd. West
Rome, NY 13440

Rockford Auto Service Co., Inc.
309 Erie Blvd West
Rome, NY 13440

Melone Tire Shop
413 Erie Blvd. West
Rome, NY 13440

Jack's Cleaners, R. Brackett Prop.
401 West Dominick Street
Rome, NY 13440

David Burke
The Frame Shoppe
40 1 West Dominick Street Garage
Rome, NY 13440

James R. Scuderi
403 West Dominick St.
2nd Floor
Rome, NY 13440

William Lenio
Rome Auto Electric
405 West Dominick St. Base
Rome, NY 13440

TABLE 5-1

CITY OF ROME
ONEIDA COUNTY, NEW YORK
CONTACT LIST (JUNE, 1996)

Ace Trading Co.
405 West Dominick St.
Rome, NY 13440

Rome Office Equipment
405 West Dominick St.
Rome, NY 13440

Cinderella Bakery
405 West Dominick Street
Rome, NY 13440

Peter Gentile
409 1/2 West Dominck St.
Rome, NY 13440

Alfred Mitchell
411 West Dominick St.
Rome, NY 13440

Georgianna Nolan
413 West Dominick St.
Rome, NY 13440

Sam Bova
419 West Dominck St. A1
Rome, NY 13440

Leatha Lucas
419 West Dominck St. A2
Rome, NY 13440

Lloyd Easler
419 West Dominick St.
Rome, NY 13440

TABLE 5-1

CITY OF ROME
ONEIDA COUNTY, NEW YORK
CONTACT LIST (JUNE, 1996)

James A. Burgy
419 West Dominick St. A5
Rome, NY 13440

Charles E. McCorkle, Jr.
419 West Dominck St. A4
Rome, NY 13440

Gerald E. Beckwith
421 West Dominick Street
Rome, NY 13440

Herald John Baker
421 West Dominick St.
Rome, NY 13440

Joseph F. Carollo, Jr.
423 West Dominick Street
Rome, NY 13440

Richard D. Rogers
109 South Jay St. 1 Floor
Rome, NY 13440

Warren & Cheryl Johnson
109 South Jay St., 2nd Floor
Rome, NY 13440

NYNEX
109 South Jay St.
Rome, NY 13440

Keith A. Beckwith
110 South Jay St.
Rome, NY 13440

TABLE 5-1

CITY OF ROME
ONEIDA COUNTY, NEW YORK
CONTACT LIST (JUNE, 1996)

Guy Dekin
113 South Jay St.
Rome, NY 13440

Timothy H. Dangerfield, Jr.
115 South Jay St.
Rome, NY 13440

Ronald P. Karpinski
120 South Jay Street
Rome, NY 13440

Lisa Graham
118 South Jay St.
Rome, NY 13440

Robin L. McLean
120 S Jay St.
Rome, NY 13440

Mid Department Inspection Agency
121 South Jay Street
Rome, NY 13440

S. Tarbania
Margin Sports Casting
121 South Jay Street
Rome, NY 13440

TABLE 5-2
MGP MAILING LIST

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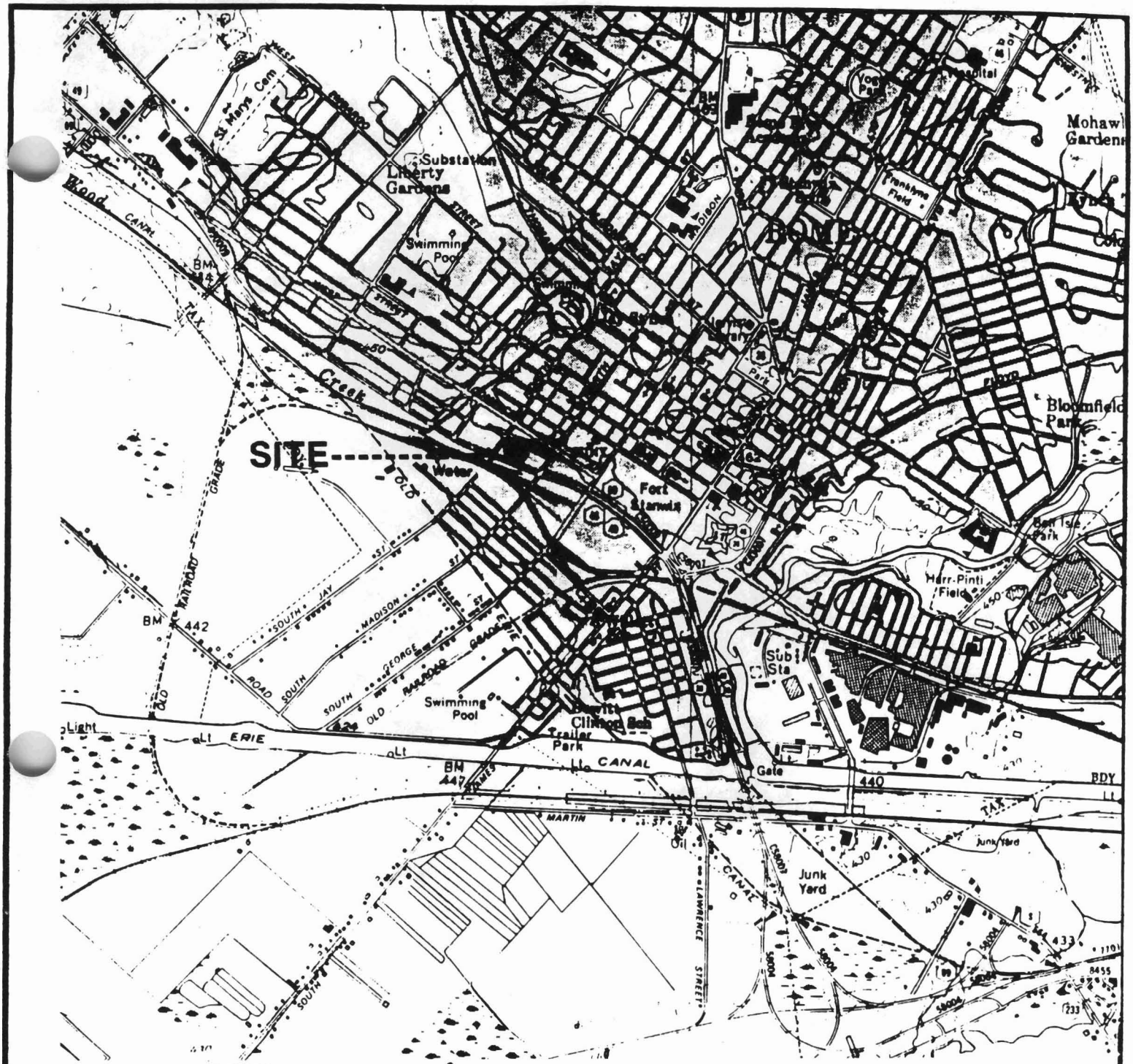
Figures



QUADRANGLE LOCATION

NORTH

ROME QUADRANGLE (1978) NW/4 ROME 15'

NIAGARA MOHAWK

NIAGARA MOHAWK POWER CORPORATION

FIGURE 1

SITE LOCATION MAP

JAY & MADISON STREET FORMER MGP SITE

CITY OF ROME STATE OF NEW YORK

DES. TSM	DR. TSM	CK.	DATE	SCALE 1" = 2000'
APPROVED		APPROVED		INDEX
APPROVED		APPROVED		NO.

NO.	DATE	BY	DESCRIPTION OF REVISION	CK.	APP.

$$DATE$$

$$USERNAME$$

APPENDIX B

HEALTH AND SAFETY PLAN

HEALTH AND SAFETY PLAN

FOR

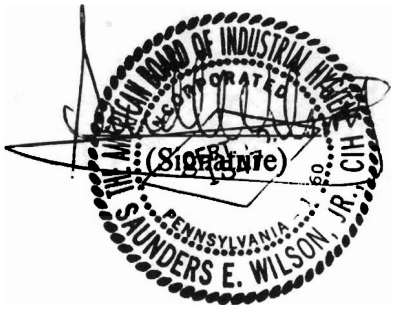
PRELIMINARY SITE ASSESSMENT/INTERIM REMEDIAL MEASURES (PSA/IRM) STUDY

FOR THE

FORMER ROME (JAY & MADISON) MGP SITE
ROME, NEW YORK

JUNE 1996

Reviewed and Approved by:
(Project Health &
Safety Officer)



(Signature)

26 Jun 1996
(Date)

Site Specific
Revisions Attached: Supplement No. ____ Date _____

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SECTION 1 - INTRODUCTION

1.1 Purpose and Requirements

The purpose of this health and safety plan is to establish personnel protection standards and mandatory safety practices and procedures for field investigation efforts. This plan assigns responsibilities, establishes standard operating procedures, and provides for contingencies that may arise while operations are being conducted at hazardous waste sites.

The provisions of the plan are mandatory for all on-site personnel. All personnel shall abide by this plan. Health and safety plans must be prepared by subcontractors and they must conform to this plan as a minimum. All personnel who engage in project activities must be familiar with this plan and comply with its requirements. These personnel must sign-off on the Plan Acceptance Form (Appendix B) prior to beginning work on the site. The Plan Acceptance Form must be submitted to the NMPC Health and Safety Officer.

1.2 Site Description

The Rome (Jay & Madison Streets) former manufactured gas plant (MGP) site (the "site") is located in the City of Rome, Oneida County, New York (Figure 1). The site is comprised of two parcels (tax account no. TA 242.38.1.11 [entitled the "western parcel"], and TA 242.49.1.7 [entitled the "eastern parcel"]) totalling approximately 1.7 acres (Figure 2). The western parcel is located at 412 Erie Boulevard West, and is currently utilized as a NMPC gas regulator station. The eastern parcel is located at 106 South Madison Street and is currently occupied by a Burger King restaurant and parking lot. The Polka Dot Dry Cleaners (410 Erie Boulevard West), and a residence (409 Woodrow Avenue), lie between these two parcels. Woodrow Ave. forms the northeast border of the site. Erie Boulevard forms the southwest border of the site.

The western parcel (412 Erie Blvd. West) is approximately 0.5 acres in size. This parcel, currently owned by NMPC, contains a natural gas regulator station and two brick buildings. The parcel is secured with a six feet high chain link fence, and covered with crushed stone. The parcel formerly housed two manufactured gas holders (1-100,000 cubic feet capacity, and 1-250,000 cubic feet capacity) and an oil tank. All of these structures were constructed at or above grade. This parcel is bordered by a vacant lot to the west, and the Polka Dot Dry Cleaners to the east.

The eastern parcel (106 S. Madison St.) is approximately 1.15 acres. This parcel, which is bordered on the east by Madison St. and the west by a dry cleaner business, was the former location of the MGP, including coal storage and gas purification activities. Two manufactured gas holders (1-23,000 cubic feet capacity, and 1-50,000 cubic feet capacity) were formerly located on the parcel.

The topography of the site is generally flat, with a slight rise to the north. The area is a mixed usage of commercial, industrial and residential properties.

1.3 Scope of Work

In general, the field sampling program consists of soil boring/monitoring well installation, soil sampling, groundwater sampling and analysis, and water level monitoring. Field tasks to be conducted at the site include:

Surface soil sampling

Soil borings and subsurface soil sampling

Monitoring well installation and groundwater sampling

1.4 Project Team Organization

Table 1 describes the responsibilities of key on-site personnel (by job title) employed by NMPC's consultant. The names of principal project personnel associated with this project are delineated below:

Consultant Project Manager:	William J. Gabriel
Field Team Leader:	David J Carnevale
Site Health and Safety Officer:	Edward Wilson

All on-site personnel must be appropriately trained in first aid, hazardous waste safety procedures including the operating and fitting of personal protective equipment, and be experienced with the types of field operations to be employed at the site.

SECTION 2 - RISK ANALYSIS

2.1 Chemical Hazards

Compounds which may potentially be encountered while conducting field tasks at the site include polycyclic hydrocarbons (PAHs), toluene, ethyl benzene, xylene, cyanide salts, phenols, and benzene. Specific compounds and their relevant properties are shown in Table 2. In addition to the compounds detected on site, some of the solvents used in the processing of samples and for the decontamination of equipment are potentially hazardous to human health if not used properly. Material Safety Data Sheets for these compounds are included in Appendix E. Some or all of these compounds may be used in the tasks to be performed at the site.

2.2 Physical Hazards

2.2.1 Heat Stress

The use of protective equipment, if required, may create heat stress. Monitoring of personnel wearing personal protective clothing should commence when the ambient temperature is 70°F or above. Table 3 presents the suggested frequency for such monitoring. Monitoring frequency should increase as ambient temperature increases or as slow recovery rates are observed. Heat stress monitoring should be performed by a person with a current first-aid certification who is trained to recognize heat stress symptoms. For monitoring the body's recuperative abilities to excess heat, one or more of the following techniques will be used. Other methods for determining heat stress monitoring, such as the wet bulb globe temperature (WBGT) Index from American Conference of Governmental Industrial Hygienist (ACGIH) TLV Booklet can be used.

To monitor the worker, measure:

Heart rate, count the radial pulse during a 30-second period as early as possible in the rest period.

If the heart rate exceeds 100 beats per minute at the beginning of the rest period, shorten the next work cycle by one-third and keep the rest period the same.

If the heart rate still exceeds 100 beats per minute at the next rest period, shorten the following work cycle by one-third.

Oral temperature. Use a clinical thermometer (3 minutes under the tongue) or similar device to measure the oral temperature at the end of the work period (before drinking).

If oral temperature exceeds 99.6°F (37.6°C), shorten the next work cycle by one-third without changing the rest period.

If oral temperature still exceeds 99.6°F (37.6°C) at the beginning of the next rest period, shorten the following cycle by one-third.

Do not permit a worker to wear a semipermeable or impermeable garment when oral temperature exceeds 100.6°F (38.1°C).

2.2.2 Prevention of Heat Stress

Proper training and preventative measures will aid in averting loss of worker productivity and serious illness. Heat stress prevention is particularly important because once a person suffers from heat stroke or heat exhaustion, that person may be predisposed to additional heat related illness. To avoid heat stress the following steps should be taken:

Adjust work schedules.

Modify work/rest schedules according to monitoring requirements.

Mandate work slowdowns as needed.

Perform work during cooler hours of the day if possible or at night if adequate lighting can be provided.

Provide shelter (air-conditioned, if possible) or shaded areas to protect personnel during rest periods.

Maintain worker's body fluids at normal levels. This is necessary to ensure that the cardiovascular system functions adequately. Daily fluid intake must approximately equal the amount of water lost in sweat, i.e., eight fluid ounces (0.23 liters) of water must be ingested for approximately every eight ounces (0.23 kg) of weight lost. The normal thirst mechanism is not sensitive enough to ensure that enough water will be drunk to replace lost sweat. When heavy sweating occurs, encourage the worker to drink more. The following strategies may be

useful:

1) Maintain water temperature 50° to 60°F (10° to 16.6°C).
2) Provide small disposable cups that hold about four ounces (0.1 liter).
3) Have workers drink 16 ounces (0.5 liters) of fluid (preferably water or dilute drinks) before beginning work.
4) Urge workers to drink a cup or two every 15 to 20 minutes, or at each monitoring break. A total of 1 to 1.6 gallons (4 to 6 liters) of fluid per day are recommended, but more may be necessary to maintain body weight.

Train workers to recognize the symptoms of heat related illness.

2.2.3 Cold-Related Illness

If work on this project begins in the winter months, thermal injury due to cold exposure can become a problem for field personnel. Systemic cold exposure is referred to as hypothermia. Local cold exposure is generally labeled frostbite.

Hypothermia - defined as a decrease in the patient core temperature below 96°F. The body temperature is normally maintained by a combination of central (brain and spinal cord) and peripheral (skin and muscle) activity. Interferences with any of these mechanisms can result in hypothermia, even in the absence of what normally is considered a "cold" ambient temperature. Symptoms of hypothermia include: shivering, apathy, listlessness, sleepiness, and unconsciousness.

Frostbite - is both a general and medical term given to areas of local cold injury. Unlike systemic hypothermia, frostbite rarely occurs unless the ambient temperatures are less than freezing and usually less than 20°F. Symptoms of frostbite are: a sudden blanching or whitening of the skin; the skin has a waxy or white appearance and is firm to the touch; tissues are cold, pale, and solid.

2.2.4 Prevention of Cold-Related Illness

Educate workers to recognize the symptoms of frostbite and hypothermia

Identify and limit known risk factors:

Assure the availability of enclosed, heated environment on or adjacent to the site.

Assure the availability of dry changes of clothing.

Develop the capability for temperature recording at the site.

Assure the availability of warm drinks.

Monitoring

Start (oral) temperature recording at the job site:

At the Field Team Leader's discretion when suspicion is based on changes in a worker's performance or mental status.

At a worker's request.

As a screening measure, two times per shift, under unusually hazardous conditions (e.g., wind-chill less than 20°F, or wind-chill less than 30°F with precipitation).

As a screening measure whenever any one worker on the site develops hypothermia.

Any person developing moderate hypothermia (a core temperature of 92°F) cannot return to work for 48 hours.

SECTION 3 - PERSONNEL PROTECTION AND MONITORING

3.1 Medical Surveillance

O'Brien & Gere Engineers uses the services of a licensed occupational health physician with knowledge and/or experience in the hazards associated with the project to provide the medical examinations and surveillance specified herein. A 12-month medical examination is administered and includes a complete medical and work history and a standard occupational physical, examination of all major organ systems, complete blood count with differential (CBC), and a SMAC/23 blood chemistry screen which includes calcium, phosphorous, glucose, uric acid, BUN, creatinine, albumin, SGPT, SGOT, LDH, globulin, A/G ratio, alkaline phosphatase, total protein, total bilirubin, triglyceride, cholesterol, and a creatinine/BUN ratio. Additionally a pulmonary function test is performed to record Forced Vital Capacity (FVC) and Forced Expiratory Volume in one second (FEV1.0). An audiogram and visual acuity measurement, including color perception, are provided. The medical exam is performed under the direction of a licensed Occupational Health Physician. A medical certification as to the fitness or unfitness for employment on hazardous waste projects, or any restrictions on his/her utilization that may be indicated, is provided by the physician. This evaluation will be repeated whenever substandard performance or evidence of particular stress becomes evident by injury or time loss due to illness on the part of a worker.

3.2 Site Specific Training

The Site Health and Safety Officer will be responsible for developing a site specific occupational hazard training program and providing training to all personnel that are to work at the site. At a minimum, this training shall consist of the following topics:

Names of personnel responsible for site safety and health.

Safety, health, and other hazards at the site.

Proper use of personal protective equipment.

Work practices by which the employee can minimize risk from hazards.

Safe use of engineering controls and equipment on the site.

Acute effects of compounds at the site.

Decontamination procedures.

The training shall also incorporate those practices detailed in Appendix C.

3.3 Personal Protective Equipment and Action Levels

3.3.1 Conditions for Level D

Level D protection will be worn for initial entry on-site and initially for all activities. Level D protection will consist of:

Coveralls

Safety boots

Nitrile outer and PVC inner gloves (must be worn during all sampling activities)

Hard hat (must be worn during drilling activities)

Splash goggles (must be worn if a splash hazard is present)

Safety glasses (if there is a hazard of flying objects or fragments)

3.3.2 Conditions for Level C

Dust and vapor suppression control will be implemented if the level of volatile organic compounds consistently exceeds 1 ppm, or if the concentration of particulates exceed 0.2 mg/m^3. One such control method will be to mist surface soils. If the aforementioned action levels continue to be exceeded, the level of personal protection will be upgraded to Level C.

Level C protection will consist of:

5-minute escape SCBA

Full-face air-purifying respirator

Combination dust/organic vapor cartridges

Tyvek overall suit

Latex inner gloves, nitrile outer gloves

Safety boots

Hard hat (must be worn during drilling activities)

3.3.3 Conditions for Level B or Retreat

All personnel will move upwind or upgrade the level of personal protection to Level B if

any of the following conditions are met:

Particulate concentrations consistently exceed 5 mg/m^3,

Organic vapor concentrations (PID readings) consistently exceed 5 ppm (based on benzene).

Level B protection will consist of:

Pressure-demand, full facepiece SCBA

Chemical-resistant suit

Inner and outer chemical-resistant gloves

Chemical-resistant boots

Hard Hat (must be worn during drilling activities)

Two-way radio communications

Workers may utilize dust and vapor suppression techniques to lower the concentrations. Work may resume when concentrations drop to acceptable levels. If concentrations do not drop sufficiently, the field team leader will consult with the Health and Safety Officer to discuss further options.

OSHA Requirements for Personal Protective Equipment

All personal protective equipment used during the course of this field investigation must meet the following OSHA standards:

Type of Protection	Regulation	Source
Eye and Face	29 CFR 1910.133	ANSI Z87.1-1989
Respiratory	29 CFR 1910.134	ANSI Z88.1-1980
Head	29 CFR 1910.135	ANSI Z89.1-1986
Foot	29 CFR 1910.136	ANSI Z41.1-1991

ANSI = American National Standards Institute

Both the respirator and cartridges specified for use in Level C protection must be fit-tested prior to use in accordance with OSHA regulations (29 CFR 1910.1025; 29 CFR 1910.134).

Air purifying respirators cannot be worn under the following conditions:

Oxygen deficiency

IDLH concentrations

High relative humidity

If contaminant levels exceed designated use concentrations.

3.4 Monitoring Requirements

3.4.1 On-site Monitoring

Monitoring for organic vapors in the breathing zone will be conducted with a Photovac MicroTIP photoionization detector (PID) or equivalent. All air monitoring equipment will be calibrated and maintained in accordance with Appendix D. Readings will be taken under the following circumstances.

Upon initial entry onto the site.

When weather conditions change.

When work begins on another portion of the site.

Every five feet during drilling.

A MINIRAM will be used to monitor aerosols when site conditions indicate the potential for release of particulates into the air. The MINIRAM gives updated readings (in units of mg/m^3) every 10 seconds.

Because of the grinding involved with drilling, there is a potential for sparks to be generated. Since some of the compounds potentially present at the site are combustible, it will be necessary to monitor for combustible gases. A combustible gases meter will be used to monitor during all drilling activities. Guidelines have been established by the National Institute for Occupational Safety and Health (NIOSH) concerning the action levels for work in a potentially explosive environment. These guidelines are as follows:

10% LEL- Limit all activities to those which do not generate sparks.

20% LEL- Cease all activities in order to allow time for the combustible gases to vent.

If the combustible gases in the well/bore hole are not diminished after allowing adequate

time to vent, then the following steps should be taken:

Obtain an air compressor (minimum 1.5 horsepower)

Place the compressor a safe distance from the well (at least 20 ft.). This precaution is necessary since the compressor itself is an ignition source.

Place hose into the well/hole until it reaches bottom.

Run compressor for 15 minutes.

Measure the percent LEL in the well/hole. If the reading continues above 20% LEL, continue to run the compressor. If levels are below 20% LEL, continue to monitor the well/hole for 5 minutes; if readings remain below 20% LEL, resume drilling, and continue to monitor.

3.4.2 Community Air Monitoring Plan

Real-time air monitoring for volatile compounds at the perimeter of the exclusion zone will be conducted. If particulates become a concern at the site, possibly as a result of drilling activities or wind erosion of soils, this community plan will be modified accordingly. Contaminants on-site are not anticipated to pose a problem as particulates because of the anticipated high moisture content of the soil during field activities. The following procedures will be implemented during field activities as appropriate:

Volatile organic compounds will be monitored at the downwind perimeter of the exclusion zone on a continuous basis. If total organic vapor levels exceed 5 ppm above background, drilling activities will be halted and monitoring continued under the provisions of the Vapor Emission Response Plan. All readings must be recorded and be available for State (DEC & DOH) personnel to review.

Particulates will become a concern if visible dust emissions occur from site investigation activities or wind erosion. When particulates become a concern, the following protocol will be followed. Particulates will be continuously monitored downwind of the exclusion zone with a portable real-time particulate monitor that will have an alarm set at 150 $\mu g/m^3$. If downwind particulate levels integrated over a period of 15 minutes exceed 150 $\mu g/m^3$, then particulate levels upwind of

the exclusion zone will be measured. If the downwind particulate level is more than two and one half times greater than the upwind particulate level, then drilling activities will be stopped and corrective action taken. All readings will be recorded and be available for State (DEC & DOH) personnel to review. These action levels can be modified if particulates are better characterized and identified.

Vapor Emission Response Plan

If the ambient air concentration of organic vapors exceeds 5 ppm above background levels at the perimeter of the exclusion zone, drilling activities will cease and monitoring continued. If the organic vapor level decreases below 5 ppm (above background), drilling activities may resume. If the organic vapor levels are greater than 5 ppm, but less than 25 ppm over background at the perimeter of the work area, activities may resume provided:

the organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest residence or commercial structure, whichever is less, is below 5 ppm over background, and

more frequent intervals of monitoring, as directed by the Health and Safety Officer, are conducted.

If the organic vapor level is above 25 ppm over background at the perimeter of the exclusion zone, work activities will halt and odor control contingencies will be implemented. A biodegradable, surfactant-based foam concentrate, such as MSA's VEEfoam, will then be sprayed onto the drill cuttings or excavated soils to control the fugitive vapors. When work shutdown occurs, downwind air monitoring as directed by the Health and Safety Officer will be implemented to ensure that vapor emissions do not impact the nearest residential or commercial structure.

If organic vapor levels greater than 5 ppm over background are identified 200 feet downwind from the investigation site, or half the distance to the nearest residential or commercial property line, whichever is less, all work must cease. Following cessation of work activities and implementation of odor control contingencies, if organic vapor levels persist above 5 ppm above background 200 feet downwind or half the distance to the nearest residential or commercial property from the exclusion zone, then air quality must be monitored

within 20 feet of the perimeter of the nearest residential/commercial structure (the "20 foot zone").

If organic vapor levels approach 5 ppm above background within the "20 foot zone" for a period of more than 30 minutes, or organic vapor levels greater than 10 ppm above background for any time period occur within the "20 foot zone", then the following steps will be taken:

The local police authorities will immediately be contacted by the Health and Safety Officer and advised of the situation.

Frequent air monitoring will be conducted at 30 minute intervals within the 20 foot zone. If two successive readings below action levels are measured, air monitoring may be halted or modified by the Health and Safety Officer.

All emergency contacts will go into effect as appropriate.

SECTION 4 - WORK ZONES AND DECONTAMINATION

4.1 Site Work Zones

To reduce the spread of hazardous materials by workers from the contaminated areas to the clean areas, zones will be delineated at the site. The flow of personnel between the zones should be controlled. The establishment of the work zones will help ensure that: personnel are properly protected against the hazards present where they are working, work activities and contamination are confined to the appropriate areas, and personnel can be located and evacuated in an emergency.

4.1.1 Exclusion Zone

Exclusion zones will be established at the site for all drilling activities; unprotected onlookers should be located 50 feet upwind of drilling or soil sampling activities. In the event that volatile organics are detected in the breathing zone as discussed in Section 3, all personnel within the exclusion zone must don Level C protection. Exclusion zones will also be established during any activity when Level C protection is established as a result of conditions discussed in Section 3.

All personnel within the exclusion zone will be required to use the specified level of protection. No eating, drinking, or smoking will be allowed in the exclusion or decontamination zones.

4.1.2 Decontamination Zone

If appropriate, a decontamination zone will be established between the exclusion zone and the support zone, and will include the personnel and equipment necessary for decontamination of equipment and personnel (discussed below). Personnel and equipment in the exclusion zone must pass through this zone before entering the support zone. This zone should always be located upwind of the exclusion zone.

4.1.3 Support Zone

The support zone will include the remaining areas of the job site. Break areas, operational direction and support facilities (to include supplies, equipment storage and maintenance areas) will be located in this area. No equipment or personnel will be permitted to enter the support zone from the exclusion zone without passing through the personnel or equipment decontamination station. Eating, smoking, and drinking will be allowed only in this area.

4.2 Decontamination

Due to the low level of contaminants expected, any water used in decontamination procedures will be containerized on-site and sampled before disposal.

4.2.1 Decontamination of Personnel

Decontamination will not be necessary if only Level D protection is used. However, disposable gloves used during sampling activities should be removed and bagged; personnel will be encouraged to remove clothing and shower as soon as is practicable at the end of the day. All clothing should be machine-washed. All personnel will wash hands and face prior to eating and before and after using the restroom.

Decontamination will be necessary if Level C protection is used. The following OSHA-specified procedures include steps necessary for complete decontamination prior to entry into the support zone, and steps necessary if a worker only needs to change a respirator or respirator canister.

Modification can be made to the twelve station decontamination process by the site health and safety officer depending upon the extent of contamination.

Station 1: Segregated Equipment Drop

Deposit equipment used on the site (tools, sampling devices and containers, monitoring instruments, clipboards, etc.) on plastic drop cloths or in different containers with plastic liners. Each will be contaminated to a different degree. Segregation at the drop reduces the probability of cross-contamination.

Station 2: Suit/Safety Boot and Outer-Glove Wash

Thoroughly wash chemically resistant suit, safety boots and outer gloves. Scrub with long-handle, soft-bristle scrub brush and copious amounts of Alconox/water solution. Necessary equipment includes:

1. Wash tub (30 gallon or large enough for person to stand in)
2. Alconox/water solution
3. Long-handle soft-bristle scrub brushes

Station 3: Suit/Safety Boot and Outer-Glove Rinse

Rinse off Alconox/water solution using copious amounts of water. Repeat as many times as necessary. Necessary equipment includes:

1. Wash tub (30 gallon or large enough for person to stand in)
2. Spray unit
3. Water
4. Long-handle, soft-bristle scrub brushes

Station 4: Outer Gloves Removal

Remove the outer gloves and deposit in individually marked plastic bags. Necessary equipment includes:

1. Plastic bag

Station 5: Canister or Mask Change

If a worker leaves the exclusion zone to change a canister (or mask), this is the last step in the decontamination procedures. The worker's canister is exchanged, new outer glove donned, and joints taped. Worker returns to duty. Otherwise the worker proceeds to Station 6. Necessary equipment includes:

1. Canister (or mask)
2. Tape
3. Gloves

Station 6: Removal of Chemically Resistant Suit

With assistance of helper, remove suit. Deposit in container with plastic liner. Necessary equipment includes:

1. Container with plastic liner

Station 7: Inner-Glove Wash

Wash inner gloves with Alconox/water solution that will not harm skin. Repeat as many times as necessary. Necessary equipment includes:

1. Alconox/water solution
2. Wash tub
3. Long-handle, soft-bristle brushes

Station 8: Inner-Glove Rinse

Rinse inner gloves with water. Repeat as many times as necessary. Necessary equipment includes:

1. Water
2. Wash tub

Station 9: Respirator Removal

Remove face-piece. Avoid touching face. Wash respirator in clean, sanitized solution, allow to dry and deposit face-piece in plastic bag. Store in clean area. Necessary equipment includes:

1. Plastic bags
2. Sanitizing solution
3. Cotton wash cloth

Station 10: Inner-Glove Removal

Remove inner gloves and deposit in container with plastic liner. Necessary equipment includes:

1. Container with plastic liner

Station 11: Field Wash

Wash hands and face. Necessary equipment includes:

1. Water

2. Soap
3. Tables
4. Wash basins or buckets
5. Clean towels

Station 12: Redress

If re-entering exclusion zone put on clean field clothes (e.g., Tyvek, gloves, etc.). Necessary equipment includes:

1. Table
2. Clothing

4.2.2 Decontamination of Equipment

Drill rigs will be steam cleaned and drilling equipment will be decontaminated prior to moving to a site. Drilling equipment used for multiple boreholes will be decontaminated prior to drilling each boring at the site. The equipment will be decontaminated in the following manner:

The drill rig will be steam cleaned to remove gross contamination.

Down-hole equipment (auger bits, drill rods, split spoons, etc.) will be steam cleaned and air dried to remove gross contamination.

Surface equipment, such as field meters and surveying instruments, will be wiped with a clean, damp cloth.

A drilling sequence hierarchy (from less impacted to more impactted boring locations) will be followed to minimize the potential for cross contamination.

SECTION 5 - SAMPLE SHIPMENT

Samples collected in this study, with the exception of any drum samples, tank samples, or other concentrated wastes, will be classified as environmental samples. In general, environmental samples are collected from streams, ponds, or wells and are not expected to be grossly contaminated with high levels of hazardous materials. The sample tag will be legibly written and completed with an indelible pencil or waterproof ink. The information will also be recorded in a log book. As a minimum, it will include:

Exact location of sample

Time and date sample was collected

Name of sampler witnesses (if necessary)

Project codes, sample station number, and identifying code (if applicable).

Type of sample (if known)

Tag number (if sequential tag system is used)

Laboratory number (if applicable)

Any other pertinent information

5.1 Environmental Samples

Environmental samples will be packaged and shipped according to the following procedure:

Packaging

1. Place sample container, properly identified and with a sealed lid, in a polyethylene bag, and seal bag;
2. Place sample in a fiberboard container or plastic cooler which has been lined with a large polyethylene bag.
3. Pack with enough noncombustible, absorbent, cushioning material to minimize the possibility of the container breaking.
4. Seal large bag.
5. Seal or close outside container

Marking/Labeling

Sample containers must have a completed sample identification label and the outside container must be marked "Environmental Sample". The appropriate side of the container must be marked "This End Up" and arrows should be drawn accordingly. No DOT marking labeling is required.

Shipping Papers

No DOT shipping papers are required.

Transportation

There are no DOT restrictions on mode of transportation.

5.2 Hazardous Samples

Drum samples, tank samples, sludge samples, and grossly contaminated soil samples will be shipped as DOT Hazardous Materials. The designation "Flammable Liquid" or "Flammable Solid" will be used. The samples will be transported as follows:

1. Collect sample in a 16-ounce or smaller glass or polyethylene container with nonmetallic teflon-lined screw cap. Allow sufficient air space (approximately 10% by volume) so container is not liquid full at 54°C (130°F). If collecting a solid material, the container plus contents should not exceed one pound net weight. If sampling for volatile organic analysis, fill VOA container to septum but place the VOA container inside a 16-ounce or smaller container so the required air space may be provided. Large quantities, up to 3.786 liters (1 gallon), may be collected if the sample's flash point is 23°C (75°F) or higher. In this case, the flash point must be marked on the outside container (e.g., carton, cooler), and shipping papers should state that "Flash point is 73°F or higher."
2. Seal sample and place in a 4-mil-thick polyethylene bag, one sample per bag.
3. Place sealed bag inside a metal can with noncombustible, absorbent cushioning material (e.g., vermiculite or earth) to prevent breakage, one bag per can. Pressure-close the can and use clips, tape or other positive means to hold the lid securely.

4. Mark the can with:

   Name and address of originator

   "Flammable Liquid N.O.S. UN 1993" (or "Flammable Solid N.O.S. UN 1325) NOTE: UN numbers are now required in proper shipping names.

5. Place one or more metal cans in a strong outside container such as a picnic cooler or fiberboard box. Preservatives are not used for hazardous waste site samples.

6. Prepare for shipping:

   "Flammable Liquid, N.O.S. UN 1993" or "Flammable Solid, N.O.S. UN 1325"; "Cargo Aircraft Only (if more than 1 quart net per outside package); "Limited Quantity" or "Ltd. Qty."; "Laboratory Samples"; "Net Weight xxxx" or "Net Volume yyyy" (of hazardous contents) should be indicated on shipping papers and on outside of shipping container. "This Side Up" or "This End Up" should also be on container. Sign shipper certification.

7. Stand by for possible carrier requests to open outside containers for inspection or modify packaging. It is wise to contact carrier before packing to ascertain local packaging requirements and not to leave area before the carrier vehicle (aircraft, truck) is on its way.

SECTION 6. ACCIDENT PREVENTION AND CONTINGENCY PLAN

6.1 Accident Prevention

All field personnel will receive health and safety training prior to the initiation of any site activities. On a day-to-day basis, individual personnel should be constantly alert for indicators of potentially hazardous situations and for signs and symptoms in themselves and others that warn of hazardous conditions and exposures. Rapid recognition of dangerous situations can avert an emergency. Before daily work assignments, regular meetings should be held. Discussion should include:

Tasks to be performed.

Time constraints (e.g., rest breaks, cartridge changes).

Hazards that may be encountered, including their effects, how to recognize symptoms or monitor them, concentration limits, or other danger signals.

Emergency procedures.

6.1.1 Drilling

Prior to any drilling activity efforts will be made to determine whether underground installations will be encountered and, if so, where these installations are located. Hard hats, safety glasses, and safety boots must as a minimum be worn within 50 feet of the drill rig. The drill rig cannot be operated within 10 feet of power lines. The Field Team Leader or Site Health and Safety Officer will provide constant on-site supervision of the drilling subcontractor to ensure that they are meeting the health and safety requirements. If deficiencies are noted, work will be stopped and corrective action will be taken (e.g., retrain, purchase additional safety equipment). Reports of health and safety deficiencies and the corrective action taken will be forwarded to the Project Manager.

6.1.2 Vehicles and Heavy Equipment

Working with large motor vehicles and heavy equipment could be a major hazard at this site. Injuries can result from equipment hitting or running over personnel, impacts from flying objects, or overturning of vehicles. Vehicle and heavy equipment design and operation will be

in accordance with 29 CFR, Subpart O, 1926.600 through 1926.602. In particular, the following precautions will be utilized to help prevent injuries/accidents.

Brakes, hydraulic lines, light signals, fire extinguishers, fluid levels, steering, tires, horn, and other safety devices will be checked at the beginning of each shift.

Large construction motor vehicles will not be backed up unless:

- The vehicle has a reverse signal alarm audible above the surrounding noise level; or
- the vehicle is backed up only when an observer signals that it is safe to do so.

Heavy equipment or motor vehicle cable will be kept free of all nonessential items, and all loose items will be secured.

Large construction motor vehicles and heavy equipment will be provided with necessary safety equipment (seat belts, roll-over protection, emergency shut-off in case of roll-over, backup warning lights and audible alarms).

Blades and buckets will be lowered to the ground and parking brakes will be set before shutting off any heavy equipment or vehicles and whenever the operator exists the heavy equipment.

6.2 Contingency Plan

6.2.1 Emergency Procedures

In the event that an emergency develops on site, the procedures delineated herein are to be immediately followed. Emergency conditions are considered to exist if:

Any member of the field crew is involved in an accident or experiences any adverse effects or symptoms of exposure while on site.

A condition is discovered that suggests the existence of a situation more hazardous than anticipated.

General emergency procedures, and specific procedures for personal injury and chemical exposure, are described in the following sections of this health and safety plan.

6.2.2 Chemical Exposure

If a member of the field crew demonstrates symptoms of chemical exposure the procedures outlined below should be followed:

Another team member (buddy) should remove the individual from the immediate area of contamination. The buddy should notify the Field Team Leader (via voice and hand signals) of the chemical exposure. The Field Team Leader should contact the appropriate emergency response agency.

Precautions should be taken to avoid exposure of other individuals to the chemical.

If the chemical is on the individual's clothing, the chemical should be neutralized or removed if it is safe to do so.

If the chemical has contacted the skin, the skin should be washed with copious amounts of water.

In case of eye contact, an emergency eye wash should be used. Eyes should be washed for at least 15 minutes.

All chemical exposure incidents must be reported in writing to the NMPC and to the O'Brien & Gere Health and Safety Representatives. The Site Health and Safety Officer or Field Team Leader is responsible for completing the accident report (See Appendix B of this Section). The O'Brien & Gere Report of Injury Form must also be completed.

6.2.3 Personal Injury

In case of personal injury at the site, the following procedures should be followed:

Another team member (buddy) should signal the Field Team Leader that an injury has occurred.

A field team member trained in first aid can administer treatment to an injured worker.

The victim should then be transported to the Rome Murphy Memorial Hospital

(339-5600). If necessary, an ambulance should be called to transport the victim. The Field Team Leader or Site Health and Safety Officer is responsible for making certain that an accident report form is completed. This form is to be submitted to the NMPC and the O'Brien & Gere Office Health and Safety Representatives. Follow-up action by the Project Manager and the Field Team Leader should be taken to correct the situation that caused the accident.

6.2.4 Evacuation Procedures

In the event the site must be evacuated, the following procedures should be followed:

The Field Team Leader will initiate evacuation procedure by signalling to leave the site.

All personnel in the work area should evacuate the area and meet in the common designated area.

All personnel suspected to be in or near the contract work area should be accounted for and the whereabouts of missing persons determined immediately. Further instruction will then be given by the Field Team Leader.

6.2.5 Procedures Implemented in the Event of a Major Fire, Explosion, or On-Site Health Emergency Crisis

Signal the evacuation procedure previously outlined and implement the entire procedure;

Notify the paramedics and/or fire department, as necessary;

Stay upwind of any fire;

Isolate the area;

Keep the area surrounding the problem source clear after the incident occurs;

Complete the accident report form and distribute it to appropriate personnel.

6.2.6 Procedures In the Event That Ionizing Radiation is Detected

If radiation levels exceed background levels, the Site Health and Safety Officer must

consult immediately with the NMPC and the O'Brien & Gere Health and Safety Representatives. All OSHA requirements concerning work in an environment containing ionizing radiation (29 CFR 1910.96) must be met. At no time are personnel to work at a site where whole body dose exceeds 2 Mr/hr.

Tables

TABLE 1
ON-SITE PERSONNEL

Title	General Description	Responsibilities
Project Manager	Reports to upper-level management. Has authority to direct response operations. Assumes total control over site activities.	• Prepares and organizes the background review of the situation, the Work Plan, the Site Safety Plan, and the field team. • Obtains permission for site access and coordinates activities with appropriate officials. • Ensures that the Work Plan is completed and on schedule. • Briefs the field teams on their specific assignments. • Uses the site health and safety officer to ensure that health and safety requirements are met. • Prepares the final report and support files on the response activities. • Serves as the liaison with public officials.

TABLE 1
ON-SITE PERSONNEL
(continued)

Title	General Description	Responsibilities
Site Safety Officer	Advises the Project Manager on all aspects of health and safety on site. Stops work if any operation threatens worker or public health or safety.	• Periodically inspects protective clothing and equipment. • Ensures that protective clothing and equipment are properly stored and maintained. • Controls entry and exit at the Access Control Points. • Coordinates health and safety program activities with the Project Safety Officer. • Confirms each team member's suitability for work based on a physician's recommendation. • Monitors the work parties for signs of stress, such as cold exposure, heat stress, and fatigue. • Implements the Site Safety Plan. • Conducts periodic inspections to determine if the Site Safety Plan is being followed. • Enforces the "buddy" system. • Knows emergency procedures, evacuation routes, and the telephone numbers of the ambulance, local hospital, poison control center, fire department, and police department. • Notifies, when necessary. local public emergency officials. • Coordinates emergency medical care. • Sets up decontamination

TABLE 1
ON-SITE PERSONNEL
(continued)

Title	General Description	Responsibilities
		• Controls the decontamination of all equipment, personnel, and samples from the contaminated areas. • Assures proper disposal of contaminated clothing and materials. • Ensures that all required equipment is available. • Advises medical personnel of potential exposures and consequences. • Notifies emergency response personnel by telephone or radio in the event of an emergency.
Field Team Leader	Responsible for field team operations and safety.	• Manages field operations. • Executes the Work Plan and schedule. • Enforces Safety procedures. • Coordinates with the Site Safety Officer in determining protection level. • Enforces site control. • Documents field activities and sample collection. • Serves as a liaison with public officials.
Work Team	System operators. The work party must consist of at least two people.	• Safely completes the on-site tasks required to fulfill the Work Plan. • Complies with Site Safety Plan. • Notifies Site Safety Officer or supervisor of suspected unsafe conditions.

TABLE 2
TOXICOLOGIC PROPERTIES OF COMPOUNDS [1]

Compound	LEL (%)	TLV (ppm)	IDLH	Odor Threshold (ppm)	Odor Characteristic	Acute Toxic Effects
PAHs	NS	0.2 mg/m^3 (carcinogen)	80 mg/m^3	NA	Variable	Skin, respiratory irritants, bladder and kidneys are target organs.
PCBs	NS	0.5 mg/m^3	5 mg/m^3	NA	Mild hydro-carbon odor	Eye irritation, acne, jaundice, dark urine.
Phenol	1.7	5	250 ppm	1.0	Acid/creosote	Eye, skin, and respiratory irritant, anorexia.
Cyanide	5.6	0.5 mg/m^3	50 ppm	5	Bitter almond	Asphyxia and death, nausea, vomiting eye/skin irritation.
Benzene	1.3	10 (Carcinogen)	500 ppm	119	Aromatic/sweet	Flushing, weakness, headache, coma, death.
Toluene	1.1	50	500 ppm	37	Sweet, pungent Benzene-like	Euphoria, headache, dilated pupils, paresthesia dermatitis.
o-m, p-Xylenes	1.0	100	900 ppm	20	Aromatic	Liquid irritates eyes and skin. Inhalation causes coughing, pulmonary edema.
Ethyl Benzene	0.8	100	800 ppm	0.6	Oily Solvent	Ingestion causes vomiting; coma, death.

LEL Lower Explosive Limit
TLV Threshold Limit Value (ACGIH, 1994-95)
IDLH Level which is immediately dangerous to life and health.
NA Not Available
(1) Source: NIOSH Pocket Guide to Chemical Hazards, U.S. Department of Health and Human Services. Centers for Disease Control, National Institute for Occupational Safety and Health, June 1994.

TABLE 3

SUGGESTED FREQUENCY OF PHYSIOLOGICAL MONITORING FOR FIT AND ACCLIMATIZED WORKERS[a]

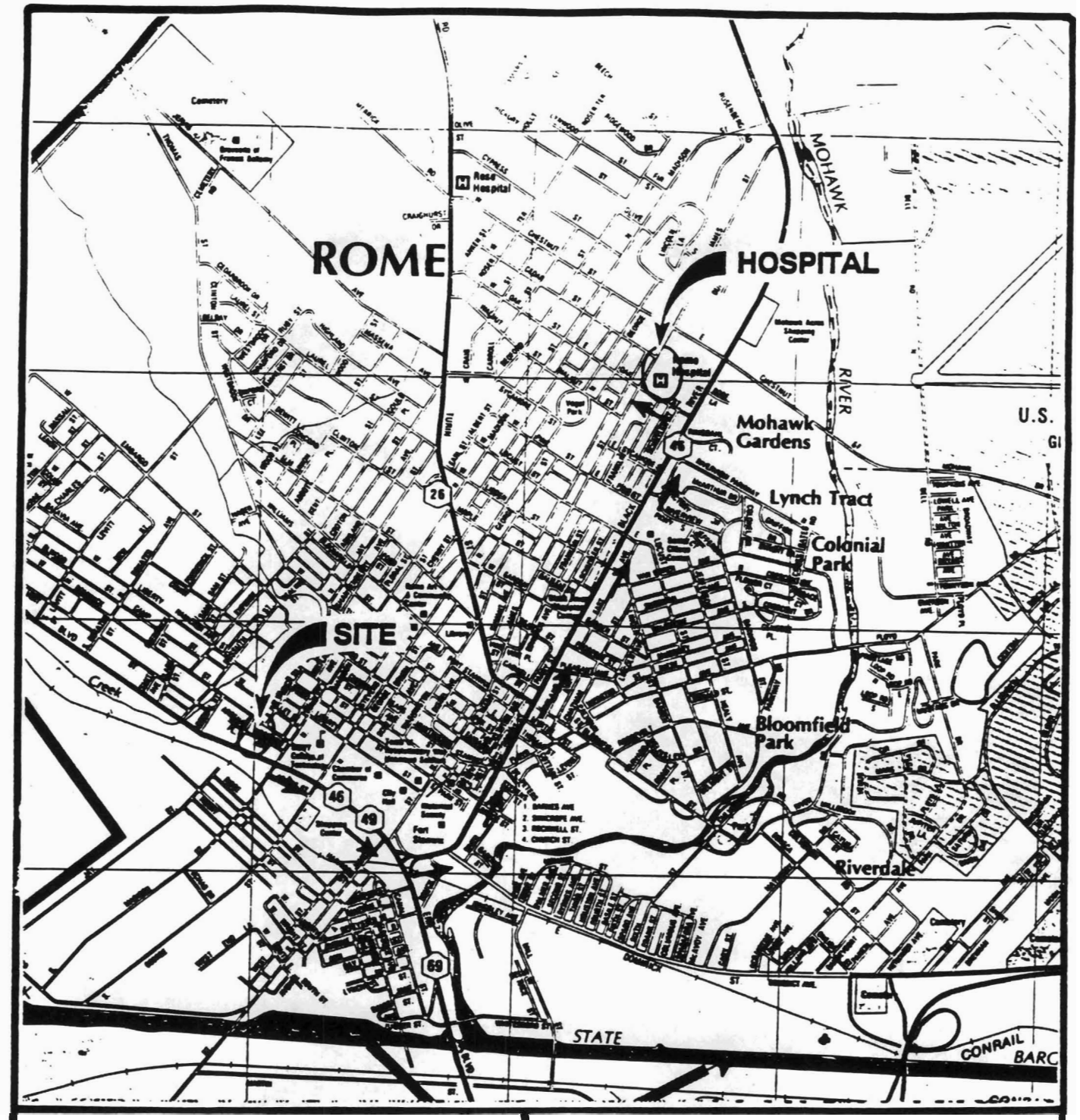
Adjusted Temperature[b]	Normal Work Ensemble	Impermeable Ensemble
90°F (32.2 °C) or above	After each 45 minutes of work	After each 15 minutes of work
87.5°-90°F (30.8-32.2°C)	After each 60 minutes of work	After each 30 minutes of work
82.5°-87.5°F (28.1°-30.8°C)	After each 90 minutes of work	After each 60 minutes of work
77.5°-82.5°F (25.3°--28.1°C)	After each 120 minutes of work	After each 90 minutes of work
72.5°-77.5°F (22.5°-25.3°C)	After each 150 minutes of work	After each 120 minutes of work

a For work levels of 250 kilocalories/hours.

b Calculate the adjusted air temperature (ta adj) by using this equation: ta adj °F = ta °F + (13 x % sunshine). Measure air temperature (ta) with a standard mercury-in-glass thermometer, with the bulb shielded from radiant heat. Estimate percent sunshine by judging what percent time the sun is not covered by clouds that are thick enough to produce a shadow. (100 percent sunshine = no cloud cover and a sharp, distinct shadow; 0 percent sunshine = no shadows.)

c A normal work ensemble consists of cotton coveralls or other cotton clothing with long sleeves and pants.

Figures



N

SCALE
0 1/4 1/2 3/4 1 MILE

Figure 1

ROUTE TO HOSPITAL
MADISON STREET
FORMER MGP SITE
NIAGARA MOHAWK POWER CORP.

Appendices

APPENDIX A

AIR MONITORING EQUIPMENT CALIBRATION AND MAINTENANCE

All monitoring instruments must be calibrated and maintained periodically. The limitations and possible sources of errors for each instrument must be understood by the operator. It is important that the operator ensures that the instrument responds properly to the substances it was designed to monitor. Portable air quality monitoring equipment that measures total ionizables present, such as the Photovac Micro-TIP HL-2000, must be calibrated at least once each day. Combustible gas/oxygen/%LEL meters (explosimeters) such as the MSA Model 360 must be calibrated at least once each week. Real time aerosol monitors, such as the MINI-RAM, must be zeroed at the beginning of each sampling period. The specific instructions for calibration and maintenance provided for each instrument should be followed.

APPENDIX B

FORMS FOR HEALTH AND SAFETY-RELATED ACTIVITIES

OSHA Job Safety and Health Protection Poster

Note: The OSHA Job Safety and Health Protection Poster must be posted prominently during field activities. The following page is an example of the poster to be used in the field. The actual poster must be an 11 inch by 17 inch size version of this page:

Accident Report Form (Page 1 of 2)

Project Name:

Injured or ill employee

1. Name
   (First) (Middle) (Last)
2. Social Security #
3. Home Address
   (No. and Street) (City or Town) (State)
4. Age _____
5. Sex: Male ( ) Female ( )
6. Occupation
   (Specific job title, not the specific activity employee was performing at time of injury)

Employer

1. Name
2. Division
   (Enter name of department in which injured person is employed, even though they may have been temporarily working for another division at the time of injury)
3. Mailing Address
   (No. and Street) (City or Town) (State)
4. Office location (if different from mailing address).
5. Place of accident of exposure
   (No. and Street) (City or Town) (State)

6. Was place of accident or exposure on employer's premises? (Yes/No)
7. What was the employee doing when injured (Be specific - was employee using tools or equipment or handling material)?
8. How did the accident occur?
   (Describe fully the events which resulted in the injury or occupational illness. Tell what happened and how. Name objects and substances involved. Give details on all factors which led to accident. Use separate sheet if needed)
9. Time of accident: _____
10. Date of injury or initial diagnosis of occupational illness _____
    (Date)
11. Witness To Accident:
    (Name) (Affiliation) (Phone No.)
    (Name) (Affiliation) (Phone No.)
12. Describe the injury or illness in detail and indicate the part of the body affected.
13. Name the object or substance which directly injured the employee. (For example, object which struck employee; the vapor or poison inhaled or swallowed; the chemical or radiation which irritated the skin; or in cases of strains, hernias, etc., the object the employee was lifting, pulling, etc.
14. Did the accident result in employee fatality? _____ **(Yes or No)**
15. Number of lost workdays ____/restricted workdays _____ resulting from injury or illness?
16. Did employee see a physician for treatment? _____ **(Yes or No)** _____
    (Date)
17. Name and address of physician
18. If hospitalized, name and address of hospital:
    Date of report: _____
    Prepared By:
    Official position _____

Project Health and Safety Plan and Work Plan Acceptance Form

(For Consultant employees only)

I have read and agree to abide by the contents of the Work Plan and Health and Safety Plan for the following project:

(Project Title)

(Project Number)

Furthermore, I have read and am familiar with the work plan or proposal which describes the field work to be conducted and the procedures to be utilized in the conduct of this work.

Name (print):

Signature:

Date:

Place in project Health and Safety File as soon as possible

Site-Specific Health and Safety Training

(For All Consultant and subcontract employees on site)

I hereby confirm that site-specific health and safety training has been conducted by the site health and safety officer which included:

Names of personnel responsible for site safety and health

Safety, health, and other hazards at the site

Proper use of personal protective equipment

Work practices by which the employee can minimize risk from hazards

Safe use of engineering controls and equipment on the site

Acute effects of compounds at the site

Decontamination procedures

For the following project:

(Project Title)

(Project Number)

Name (print)

Signature

Date

Place in project Health and Safety File as soon as possible

APPENDIX C

EMERGENCY CONTACTS

In the event of any situation or unplanned occurrence requiring assistance, the appropriate contact(s) should be made from the list below. For emergency situations, contact should first be made with the site coordinator who will notify emergency personnel who will then contact the appropriate response teams. This emergency contacts list must be in an easily accessible location at the site.

Contingency Contacts	Phone Number
Nearest phone located on-site:	NA
Fire Department:	(315) 339-7784
Police:	(315) 339-7704
Poison Control Center:	(800) 252-5655
Pollution Toxic Chemical, Oil Spills:	(800) 424-8802
UFPO	(800) 962-7962
Utility Emergencies (Electric or Gas):	(800) 932-0301

Medical Emergency

Hospital:	Rome Murphy Memorial Hospital 1500 N. James Street Rome, NY 13069	
	Information	(315) 338-7000
	Emergency	(315) 338-7035
Ambulance		(315) 339-0309 or (315) 339-5600

ROUTE TO HOSPITAL:

The hospital location is shown on Figure 1. Travel time from the site is approximately five (5) minutes.

1) Travel east on Woodrow Avenue to Madison Street, then turn right and proceed to intersection with Erie Boulevard;
2) Turn left onto Erie Boulevard, travel approximately 0.5 miles, then follow signs for Route 46 North (Black River Boulevard);
4) Travel north on Route 46 approximately 1.5 miles, then turn left onto East Oak Street;
5) Look for the hospital entrance on the right hand side, this road leads to the emergency entrance.

Emergency Contacts

Consultant Health and Safety Representative:	
Edward Wilson	(315) 437-6100 (Office)
NMPC Safety Department:	
William Todeschini	(315) 428-1303 (Office)
Consultant Project Manager:	
William J. Gabriel	(315) 437-6100 (Office)
NMPC Project Manager:	
Steven P. Stucker	(315) 428-5652 (Office)

APPENDIX D

STANDARD SAFE WORK PRACTICES

1) Eating, drinking, chewing tobacco, smoking and carrying matches or lighters is prohibited in a contaminated or potentially contaminated area or where the possibility for the transfer of contamination exists.

2) Avoid contact with potentially contaminated substances. Do not walk through puddles, pools, mud, etc. Avoid, whenever possible, kneeling on the ground, leaning or sitting on equipment or ground. Do not place monitoring equipment on potentially contaminated surfaces (i.e., ground, etc).

3) All field crew members should make use of their senses to alert them to potentially dangerous situations in which they should not become involved; i.e., presence of strong and irritating or nauseating odors.

4) Prevent, to the extent possible, spillages. In the event that a spillage occurs, contain liquid if possible.

5) Field crew members shall be familiar with the physical characteristics of investigations, including:

- Wind direction
- Accessibility to associates, equipment, vehicles
- Communication
- Hot zone (areas of known or suspected contamination)
- Site access
- Nearest water sources

6) All wastes generated during activities on-site should be disposed of as directed by the project manager or his on-site representative.

7) Protective equipment as specified in the section on personnel protection will be utilized by workers during the initial site reconnaissance, and other activities.

APPENDIX E

METHANOL
METHANOL
METHANOL

MATERIAL SAFETY DATA SHEET

FISHER SCIENTIFIC
CHEMICAL DIVISION
1 REAGENT LANE
FAIR LAWN NJ 07410
(201) 796-7100

EMERGENCY NUMBER (201) 796-7100
CHEMTREC ASSISTANCE (800) 424-9300

THIS INFORMATION IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. HOWEVER, WE MAKE NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO SUCH INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION FOR THEIR PARTICULAR PURPOSES.

SUBSTANCE IDENTIFICATION

CAS-NUMBER 67-56-1

SUBSTANCE: **METHANOL**

TRADE NAMES/SYNONYMS:
METHYL ALCOHOL; WOOD ALCOHOL; METHYL HYDROXIDE; CARBINOL; MONOHYDROXYMETHANE; WOOD SPIRIT; WOOD NAPHTHA; METHYLOL; COLONIAL SPIRIT; COLUMBIAN SPIRIT; PYROXYLIC SPIRIT; COULOMATIC (R) CONDITIONER SOLUTION; STANDARD WATER IN METHANOL; STCC 4909230, UN 1230, ACRA U154, A454; A453; A838; A408; A847; A835; BP1105; A412; A411; A433P; SW3; SC85; A453SK; A408SK; A412P; A434; A412SK; A450; A433S; CH4O; ACC14280

CHEMICAL FAMILY:
HYDROXYL, ALIPHATIC

MOLECULAR FORMULA: C-H3-O-H

MOLECULAR WEIGHT: 32.04

CERCLA RATINGS (SCALE 0-3): HEALTH=3 FIRE=3 REACTIVITY=0 PERSISTENCE=0
NFPA RATINGS (SCALE 0-4): HEALTH=1 FIRE=3 REACTIVITY=0

COMPONENTS AND CONTAMINANTS

COMPONENT: METHYL ALCOHOL (METHANOL) PERCENT 100
CAS# 67-56-1

OTHER CONTAMINANTS: NONE

EXPOSURE LIMITS:
METHYL ALCOHOL (METHANOL):
200 PPM (262 MG/M3) OSHA TWA (SKIN); 250 PPM (328 MG/M3) OSHA STEL
200 PPM (262 MG/M3) ACGIH TWA (SKIN); 250 PPM (328 MG/M3) ACGIH STEL
200 PPM (262 MG/M3) NIOSH RECOMMENDED TWA (SKIN).
250 PPM (328 MG/M3) NIOSH RECOMMENDED STEL
200 PPM (262 MG/M3) DFG MAK TWA (SKIN);
400 PPM (524 MG/M3) DFG MAK 30 MINUTE PEAK, AVERAGE VALUE, 4 TIMES/SHIFT

MEASUREMENT METHOD: SILICA GEL TUBE; WATER; GAS CHROMATOGRAPHY WITH FLAME IONIZATION DETECTION; (NIOSH VOL. III # 2000, METHANOL)

5000 POUNDS CERCLA SECTION 103 REPORTABLE QUANTITY
SUBJECT TO SARA SECTION 313 ANNUAL TOXIC CHEMICAL RELEASE REPORTING

**OSHA LIMITS ADOPTED JANUARY 19, 1989 ARE SUBJECT TO THE DECISION OF THE 11TH CIRCUIT COURT OF APPEALS (AFL-CIO V. OSHA) AS OF JULY 7, 1992 **

PHYSICAL DATA

DESCRIPTION: CLEAR, COLORLESS LIQUID WITH A CHARACTERISTIC ALCOHOLIC ODOR

BOILING POINT: 148 F (65 C) MELTING POINT: -137 F (-94 C)

SPECIFIC GRAVITY: 0.7914 VAPOR PRESSURE: 97.25 MMHG @ 20 C

EVAPORATION RATE: (BUTYL ACETATE=1) 4.8 SOLUBILITY IN WATER: VERY SOLUBLE

ODOR THRESHOLD: 100 PPM VAPOR DENSITY: 1.11

SOLVENT SOLUBILITY: ETHER, BENZENE, ALCOHOL, ACETONE, CHLOROFORM, ETHANOL

VISCOSITY: 0.59 CPS @ 20 C

DANGEROUS FIRE HAZARD WHEN EXPOSED TO HEAT, FLAME, OR OXIDIZERS

VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL A CONSIDERABLE DISTANCE TO A SOURCE OF IGNITION AND FLASH BACK

VAPOR-AIR MIXTURES ARE EXPLOSIVE

FLASH POINT 52 F (11 C) (CC) UPPER EXPLOSIVE LIMIT 36.0%

LOWER EXPLOSIVE LIMIT 6.0% AUTOIGNITION TEMP 725 F (385 C)

FLAMMABILITY CLASS(OSHA) IB

FIREFIGHTING MEDIA:
DRY CHEMICAL, CARBON DIOXIDE, WATER SPRAY OR ALCOHOL RESISTANT FOAM
(1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5)

FOR LARGER FIRES, USE WATER SPRAY, FOG OR ALCOHOL RESISTANT FOAM
(1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5)

FIREFIGHTING
MOVE CONTAINER FROM FIRE AREA IF YOU CAN DO IT WITHOUT RISK. DIKE FIRE CONTROL WATER FOR LATER DISPOSAL. DO NOT SCATTER THE MATERIAL. APPLY COOLING WATER TO SIDES OF CONTAINERS THAT ARE EXPOSED TO FLAMES UNTIL WELL AFTER FIRE IS OUT. STAY AWAY FROM ENDS OF TANKS. WITHDRAW IMMEDIATELY IN CASE OF RISING SOUND FROM VENTING SAFETY DEVICE OR ANY DISCOLORATION OF TANK DUE TO FIRE. ISOLATE FOR 1/2 MILE IN ALL DIRECTIONS IF TANK, RAIL CAR OR TANK TRUCK IS INVOLVED IN FIRE (1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5, GUIDE PAGE 28)

EXTINGUISH ONLY IF FLOW CAN BE STOPPED. USE WATER IN FLOODING AMOUNTS AS FOG. SOLID STREAMS MAY NOT BE EFFECTIVE. COOL CONTAINERS WITH FLOODING QUANTITIES OF WATER. APPLY FROM AS FAR A DISTANCE AS POSSIBLE. AVOID BREATHING TOXIC VAPORS. KEEP UPWIND.

TRANSPORTATION DATA

DEPARTMENT OF TRANSPORTATION HAZARD CLASSIFICATION 49 CFR 172.101
FLAMMABLE LIQUID

DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS 49 CFR 172.101 AND SUBPART E
FLAMMABLE LIQUID

DEPARTMENT OF TRANSPORTATION PACKAGING REQUIREMENTS 49 CFR 173.119
EXCEPTIONS: 49 CFR 173.118

FINAL RULE ON HAZARDOUS MATERIALS REGULATIONS (HMR, 49 CFR PARTS 171-180). DOCKET NUMBERS HM-181, HM-181A, HM-181B, HM-181C, HM-181D AND HM-204. EFFECTIVE DATE OCTOBER 1, 1991. HOWEVER, COMPLIANCE WITH THE REGULATIONS IS AUTHORIZED ON AND AFTER JANUARY 1, 1991 (55 FR 52402, 12/21/90)

EXCEPT FOR EXPLOSIVES, INHALATION HAZARDS, AND INFECTIOUS SUBSTANCES, THE EFFECTIVE DATE FOR HAZARD COMMUNICATION REQUIREMENTS IS EXTENDED TO OCTOBER 1, 1993. (56 FR 47158, 09/18/91)

U.S. DEPARTMENT OF TRANSPORTATION SHIPPING NAME-ID NUMBER, 49 CFR 172.101:
METHYL ALCOHOL-UN 1230

U.S. DEPARTMENT OF TRANSPORTATION HAZARD CLASS OR DIVISION, 49 CFR 172.101:
3 - FLAMMABLE LIQUID

U.S. DEPARTMENT OF TRANSPORTATION PACKING GROUP 49 CFR 172.101
PG II

U.S. DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS 49 CFR 172.101 AND SUBPART E
FLAMMABLE LIQUID, POISON

U.S. DEPARTMENT OF TRANSPORTATION PACKAGING AUTHORIZATIONS
EXCEPTIONS: NONE
NON BULK PACKAGING, 49 CFR 173.202
BULK PACKAGING, 49 CFR 173.242

U.S. DEPARTMENT OF TRANSPORTATION QUANTITY LIMITATIONS 49 CFR 172.101
PASSENGER AIRCRAFT OR RAILCAR: 1 L
CARGO AIRCRAFT ONLY: 60 L

TOXICITY

METHYL ALCOHOL (METHANOL)
IRRITATION DATA: 20 MG/24 HOURS SKIN RABBIT MODERATE. 40 MG EYE RABBIT MODERATE. 100 MG/24 HOURS EYE RABBIT MODERATE.
TOXICITY DATA: 86,000 MG/M3 INHALATION HUMAN TCLO. 300 PPM INHALATION HUMAN TCLO. 64,000 PPM/4 HOURS INHALATION RAT LCLO. 1000 PPM INHALATION MAN

ORAL-MONKEY LD50: 5628 MG/KG ORAL-RAT LD50: 7300 MG/KG ORAL-MOUSE LD50: 14,200 MG/KG ORAL-RABBIT LD50: 7500 MG/KG ORAL-DOG LDLO: 8000 MG/KG SUBCUTANEOUS-MOUSE LD50: 2131 MG/KG INTRAVENOUS-RAT LD50: 4710 MG/KG INTRAVENOUS-MOUSE LD50: 8987 MG/KG INTRAVENOUS-RABBIT LD50: 4841 MG/KG INTRAVENOUS-CAT LDLO: 7579 MG/KG INTRAPERITONEAL-RAT LD50: 10,765 MG/KG INTRAPERITONEAL-MOUSE LD50: 1828 MG/KG INTRAPERITONEAL-RABBIT LD50: 3558 MG/KG INTRAPERITONEAL-GUINEA PIG LD50: 8355 MG/KG INTRAPERITONEAL-HAMSTER LD50: 888 MG/KG UNREPORTED MAN LDLO. MUTAGENIC DATA (RTECS). REPRODUCTIVE EFFECTS DATA (RTECS)
CARCINOGEN STATUS: NONE
LOCAL EFFECTS: IRRITANT: SKIN, EYE
ACUTE TOXICITY LEVEL: SLIGHTLY TOXIC BY DERMAL ABSORPTION AND INGESTION, RELATIVELY NON-TOXIC BY INHALATION
TARGET EFFECTS: CENTRAL NERVOUS SYSTEM DEPRESSANT; NEUROTOXIN
AT INCREASED RISK FROM EXPOSURE: PERSONS WITH KIDNEY, EYE OR SKIN DISORDERS

HEALTH EFFECTS AND FIRST AID

INHALATION:
METHYL ALCOHOL (METHANOL)
NARCOTIC/NEUROTOXIN 35 000 PPM IMMEDIATELY DANGEROUS TO LIFE OR HEALTH
ACUTE EXPOSURE: MAY CAUSE IRRITATION OF THE MUCOUS MEMBRANES, COUGHING, OPPRESSION IN THE CHEST, TRACHEITIS, BRONCHITIS, TINNITUS, UNSTEADY GAIT, TWITCHING, COLIC, CONSTIPATION, NYSTAGMUS, AND BLEPHAROSPASM. SYMPTOMS FROM OCCUPATIONAL EXPOSURE INCLUDE PARESTHESIAS, NUMBNESS AND SHOOTING PAINS IN THE HANDS AND FOREARMS. METABOLIC ACIDOSIS, AND EFFECTS ON THE EYES AND CENTRAL NERVOUS SYSTEM MAY OCCUR AS DETAILED IN ACUTE INGESTION.
CHRONIC EXPOSURE: REPEATED OR PROLONGED EXPOSURE MAY CAUSE EFFECTS AS IN ACUTE INGESTION. REPEATED EXPOSURE TO 200-375 PPM CAUSED RECURRENT HEADACHES IN WORKERS. EXPOSURE FOR 4 YEARS TO 1200-8000 PPM RESULTED IN MARKED DIMINUTION OF VISION AND ENLARGEMENT OF THE LIVER IN A WORKMAN. REPRODUCTIVE EFFECTS HAVE BEEN REPORTED IN ANIMALS

FIRST AID: REMOVE FROM EXPOSURE AREA TO FRESH AIR IMMEDIATELY. IF BREATHING HAS STOPPED, PERFORM ARTIFICIAL RESPIRATION. KEEP PERSON WARM AND AT REST. TREAT SYMPTOMATICALLY AND SUPPORTIVELY. GET MEDICAL ATTENTION IMMEDIATELY.

SKIN CONTACT:
METHYL ALCOHOL (METHANOL):
IRRITANT/NARCOTIC/NEUROTOXIN
ACUTE EXPOSURE: CONTACT WITH LIQUID MAY CAUSE IRRITATION. SKIN ABSORPTION MAY OCCUR AND CAUSE METABOLIC ACIDOSIS AND EFFECTS ON THE EYES AND CENTRAL NERVOUS SYSTEM AS DETAILED IN ACUTE INGESTION.
CHRONIC EXPOSURE: REPEATED OR PROLONGED CONTACT WITH THE LIQUID MAY CAUSE DEFATTING OF THE SKIN RESULTING IN ERYTHEMA, SCALING, AND ECZEMATOID DERMATITIS. CHRONIC ABSORPTION MAY RESULT IN METABOLIC ACIDOSIS AND EFFECTS AS DETAILED IN ACUTE INGESTION.

FIRST AID: REMOVE CONTAMINATED CLOTHING AND SHOES IMMEDIATELY. WASH AFFECTED AREA WITH SOAP OR MILD DETERGENT AND LARGE AMOUNTS OF WATER UNTIL NO EVIDENCE OF CHEMICAL REMAINS (APPROXIMATELY 15-20 MINUTES). GET MEDICAL ATTENTION IMMEDIATELY.

EYE CONTACT:
METHYL ALCOHOL (METHANOL):
IRRITANT
ACUTE EXPOSURE: VAPORS MAY CAUSE IRRITATION. HIGH CONCENTRATIONS HAVE BEEN REPORTED TO CAUSE VIOLENT INFLAMMATION OF THE CONJUNCTIVA AND EPITHELIAL DEFECTS ON THE CORNEA. MILD IRRITATION MAY OCCUR WITH DILUTE SOLUTIONS. THE UNDILUTED LIQUID HAS PRODUCED MODERATE CORNEAL OPACITY AND CONJUNCTIVAL REDNESS IN RABBITS. APPLICATION OF A DROP OF METHANOL IN RABBIT EYES CAUSED A MILD REVERSIBLE REACTION, GRADED 3 ON A SCALE OF 1-10 AFTER 24 HOURS.
CHRONIC EXPOSURE: REPEATED OR PROLONGED CONTACT MAY CAUSE CONJUNCTIVITIS.

FIRST AID: WASH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER OR NORMAL SALINE OCCASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL REMAINS (APPROXIMATELY 15-20 MINUTES). GET MEDICAL ATTENTION IMMEDIATELY.

INGESTION:
METHYL ALCOHOL (METHANOL):
NARCOTIC/NEUROTOXIN
ACUTE EXPOSURE: MAY CAUSE MILD AND TRANSIENT INEBRIATION AND SUBSEQUENT DROWSINESS FOLLOWED BY AN ASYMPTOMATIC PERIOD LASTING 8-48 HOURS, FOLLOWING THE DELAY, COUGHING, DYSPNEA, HEADACHE, DULLNESS, WEAKNESS, VERTIGO OR DIZZINESS, NAUSEA, VOMITING, OCCASIONAL DIARRHEA, ANOREXIA, VIOLENT PAIN IN THE BACK, ABDOMEN, AND EXTREMITIES, RESTLESSNESS, APATHY OR DELIRIUM, AND RARELY, EXCITEMENT AND MANIA MAY OCCUR. RAPID, SHALLOW RESPIRATION DUE TO METABOLIC ACIDOSIS, COLD AND CLAMMY SKIN, HYPOTENSION, CYANOSIS, OPISTHOTONOS, CONVULSIONS, MILD TACHYCARDIA, CARDIAC DEPRESSION, PERIPHERAL NEURITIS, CEREBRAL AND PULMONARY EDEMA, UNCONSCIOUSNESS, AND COMA ARE POSSIBLE. EFFECTS ON THE EYE MAY INCLUDE OPTIC NEURITIS, BLURRED OR DIMMED VISION, DILATED, UNRESPONSIVE PUPILS, PTOSIS, EYE PAIN

MAY BE DUE TO RESPIRATORY FAILURE OR RARELY FROM CIRCULATORY COLLAPSE. AS LITTLE AS 15 ML HAS CAUSED BLINDNESS. THE USUAL FATAL DOSE IS 80-240 ML. PROLONGED ASTHENIA AND IRREVERSIBLE EFFECTS ON THE NERVOUS SYSTEM INCLUDING DIFFICULTY IN SPEECH, MOTOR DYSFUNCTION WITH RIGIDITY, SPASTICITY, AND HYPOKINESIS HAVE BEEN REPORTED.
CHRONIC EXPOSURE: REPEATED INGESTION MAY CAUSE VISUAL IMPAIRMENT AND BLINDNESS AND OTHER SYSTEMIC EFFECTS AS DETAILED IN ACUTE INGESTION. REPRODUCTIVE EFFECTS HAVE BEEN REPORTED IN ANIMALS.

FIRST AID: IF INGESTION OF METHANOL IS DISCOVERED WITHIN 2 HOURS, GIVE SYRUP OF IPECAC. LAVAGE THOROUGHLY WITH 2-4 L OF TAP WATER WITH SODIUM BICARBONATE (20 G/L) ADDED. GET MEDICAL ATTENTION IMMEDIATELY. LAVAGE SHOULD BE PERFORMED BY QUALIFIED MEDICAL PERSONNEL (DREISBACH, HANDBOOK OF POISONING, 12TH ED.).

ANTIDOTE:
THE FOLLOWING ANTIDOTE(S) HAVE BEEN RECOMMENDED. HOWEVER, THE DECISION AS TO WHETHER THE SEVERITY OF POISONING REQUIRES ADMINISTRATION OF ANY ANTIDOTE AND ACTUAL DOSE REQUIRED SHOULD BE MADE BY QUALIFIED MEDICAL PERSONNEL.

METHANOL POISONING:
GIVE ETHANOL, 50% (100 PROOF), 1.5 ML/KG ORALLY INITIALLY, DILUTED TO NOT MORE THAN 5% SOLUTION, FOLLOWED BY 0.5-1.0 ML/KG EVERY 2 HOURS ORALLY OR INTRAVENOUSLY FOR 4 DAYS IN ORDER TO REDUCE METABOLISM OF METHANOL AND TO ALLOW TIME FOR ITS EXCRETION. BLOOD ETHANOL LEVEL SHOULD BE IN THE RANGE OF 1-1.5 MG/ML (DREISBACH, HANDBOOK OF POISONING, 12TH ED.). ANTIDOTE SHOULD BE ADMINISTERED BY QUALIFIED MEDICAL PERSONNEL.

ORAL OR INTRAVENOUS ADMINISTRATION OF 4-METHYLPYRAZOLE INHIBITS ALCOHOL DEHYDROGENASE AND HAS BEEN USED EFFECTIVELY AS AN ANTIDOTE FOR METHANOL OR ETHYLENE GLYCOL POISONING (ELLENHORN AND BARCELOUX, MEDICAL TOXICOLOGY).

REACTIVITY

REACTIVITY:
STABLE UNDER NORMAL TEMPERATURES AND PRESSURES

INCOMPATIBILITIES:
METHYL ALCOHOL (METHANOL)
ACETYL BROMIDE: VIOLENT REACTION WITH FORMATION OF HYDROGEN BROMIDE
ALKYLALUMINUM SOLUTIONS: VIOLENT REACTION
ALUMINUM: CORRODES
BARIUM PERCHLORATE: DISTILLATION YIELDS HIGHLY EXPLOSIVE ALKYL PERCHLORATE
BERYLLIUM HYDRIDE: VIOLENT REACTION EVEN AT -196 C
BROMINE: VIGOROUSLY EXOTHERMIC REACTION
CALCIUM CARBIDE: VIOLENT REACTION
CHLORINE: POSSIBLE IGNITION AND EXPLOSION HAZARD
CHLOROFORM AND SODIUM HYDROXIDE: EXPLOSIVE REACTION
CHROMIUM TRIOXIDE (CHROMIC ANHYDRIDE): POSSIBLE IGNITION
CYANURIC CHLORIDE: VIOLENT REACTION
DICHLOROMETHANE: POSSIBLE IGNITION AND EXPLOSION
DIETHYL ZINC: POSSIBLE IGNITION AND EXPLOSION
HYDROGEN PEROXIDE + WATER: EXPLOSION HAZARD
IODINE + ETHANOL + MERCURIC OXIDE: EXPLOSION HAZARD
LEAD: CORRODES
LEAD PERCHLORATE: EXPLOSION HAZARD
MAGNESIUM: VIOLENT REACTION
MAGNESIUM (POWDERED): MIXTURES ARE CAPABLE OF DETONATION
METALS: INCOMPATIBLE
NICKEL: POSSIBLE IGNITION IN THE PRESENCE OF NICKEL CATALYST
NITRIC ACID (CONCENTRATED): MIXTURES OF GREATER THAN 25% ACID MAY DECOMPOSE VIOLENTLY
OXIDIZERS (STRONG): FIRE AND EXPLOSION HAZARD
PERCHLORIC ACID: EXPLOSION HAZARD
PHOSPHOROUS TRIOXIDE: POSSIBLE VIOLENT REACTION AND IGNITION
PLASTICS, RUBBER, COATINGS: MAY BE ATTACKED
POTASSIUM: POSSIBLE DANGEROUS REACTION
POTASSIUM HYDROXIDE + CHLOROFORM: EXOTHERMIC REACTION
POTASSIUM TERT-BUTOXIDE: FIRE AND EXPLOSION HAZARD
SODIUM + CHLOROFORM: POSSIBLE EXPLOSION
SODIUM HYPOCHLORITE: EXPLOSION HAZARD
SODIUM METHOXIDE + CHLOROFORM: VIOLENT REACTION
SULFURIC ACID: FIRE AND EXPLOSION HAZARD
ZINC: EXPLOSION HAZARD

DECOMPOSITION:
THERMAL DECOMPOSITION PRODUCTS MAY INCLUDE TOXIC OXIDES OF CARBON

POLYMERIZATION
HAZARDOUS POLYMERIZATION HAS NOT BEEN REPORTED TO OCCUR UNDER NORMAL TEMPERATURES AND PRESSURES

STORAGE

STORE IN ACCORDANCE WITH 29 CFR 1910 106

STORE AWAY FROM INCOMPATIBLE SUBSTANCES

DISPOSAL

DISPOSAL MUST BE IN ACCORDANCE WITH STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE. 40 CFR 262 EPA HAZARDOUS WASTE NUMBER U154

****

CONDITIONS TO AVOID

AVOID CONTACT WITH HEAT, SPARKS, FLAMES OR OTHER IGNITION SOURCES. VAPORS MAY BE EXPLOSIVE. MATERIAL IS POISONOUS; AVOID INHALATION OF VAPORS OR CONTACT WITH SKIN. DO NOT ALLOW MATERIAL TO CONTAMINATE WATER SOURCES.

****

SPILL AND LEAK PROCEDURES

SOIL SPILL:
DIG HOLDING AREA SUCH AS LAGOON, POND OR PIT FOR CONTAINMENT.

DIKE FLOW OF SPILLED MATERIAL USING SOIL OR SANDBAGS OR FOAMED BARRIERS SUCH AS POLYURETHANE OR CONCRETE.

AIR SPILL:
APPLY WATER SPRAY TO KNOCK DOWN VAPORS

WATER SPILL:
ALLOW SPILLED MATERIAL TO AERATE.

LIMIT SPILL MOTION AND DISPERSION WITH NATURAL BARRIERS OR OIL SPILL CONTROL BOOMS.

USE SUCTION HOSES TO REMOVE TRAPPED SPILL MATERIAL.

OCCUPATIONAL SPILL:
SHUT OFF IGNITION SOURCES. DO NOT TOUCH SPILLED MATERIAL. STOP LEAK IF YOU CAN DO IT WITHOUT RISK. USE WATER SPRAY TO REDUCE VAPORS. FOR SMALL SPILLS, TAKE UP WITH SAND OR OTHER ABSORBENT MATERIAL AND PLACE INTO CONTAINERS FOR LATER DISPOSAL. FOR LARGER SPILLS, DIKE FAR AHEAD OF SPILL FOR LATER DISPOSAL. NO SMOKING, FLAMES OR FLARES IN HAZARD AREA! KEEP UNNECESSARY PEOPLE AWAY; ISOLATE HAZARD AREA AND DENY ENTRY.

REPORTABLE QUANTITY (RQ): 5000 POUNDS
THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) SECTION 304 REQUIRES THAT A RELEASE EQUAL TO OR GREATER THAN THE REPORTABLE QUANTITY FOR THIS SUBSTANCE BE IMMEDIATELY REPORTED TO THE LOCAL EMERGENCY PLANNING COMMITTEE AND THE STATE EMERGENCY RESPONSE COMMISSION (40 CFR 355.40). IF THE RELEASE OF THIS SUBSTANCE IS REPORTABLE UNDER CERCLA SECTION 103, THE NATIONAL RESPONSE CENTER MUST BE NOTIFIED IMMEDIATELY AT (800) 424-8802 OR (202) 426-2675 IN THE METROPOLITAN WASHINGTON, D.C. AREA (40 CFR 302.8).

PROTECTIVE EQUIPMENT

VENTILATION:
PROVIDE GENERAL DILUTION VENTILATION TO MEET PUBLISHED EXPOSURE LIMITS
VENTILATION EQUIPMENT MUST BE EXPLOSION-PROOF.

RESPIRATOR:
THE FOLLOWING RESPIRATORS AND MAXIMUM USE CONCENTRATIONS ARE RECOMMENDATIONS BY THE U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, NIOSH POCKET GUIDE TO CHEMICAL HAZARDS; NIOSH CRITERIA DOCUMENTS OR BY THE U.S. DEPARTMENT OF LABOR, 29 CFR 1910 SUBPART Z.
THE SPECIFIC RESPIRATOR SELECTED MUST BE BASED ON CONTAMINATION LEVELS FOUND IN THE WORK PLACE, MUST NOT EXCEED THE WORKING LIMITS OF THE RESPIRATOR AND BE JOINTLY APPROVED BY THE NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH AND THE MINE SAFETY AND HEALTH ADMINISTRATION (NIOSH-MSHA).

METHYL ALCOHOL (METHANOL):

2000 PPM- ANY SUPPLIED-AIR RESPIRATOR.
ANY SELF-CONTAINED BREATHING APPARATUS.

5000 PPM- ANY SUPPLIED-AIR RESPIRATOR OPERATED IN A CONTINUOUS-FLOW MODE

10,000 PPM- ANY SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE
ANY SUPPLIED-AIR RESPIRATOR WITH A FULL FACEPIECE

ESCAPE- ANY APPROPRIATE ESCAPE-TYPE SELF-CONTAINED BREATHING APPARATUS

FOR FIREFIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS

ANY SELF-CONTAINED BREATHING APPARATUS THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE

ANY SUPPLIED-AIR RESPIRATOR THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE IN COMBINATION WITH AN AUXILIARY SELF-CONTAINED BREATHING APPARATUS OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE

CLOTHING:
EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE (IMPERVIOUS) CLOTHING AND EQUIPMENT TO PREVENT REPEATED OR PROLONGED SKIN CONTACT WITH THIS SUBSTANCE

GLOVES:
EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE GLOVES TO PREVENT CONTACT WITH THIS SUBSTANCE

EYE PROTECTION:
EMPLOYEE MUST WEAR SPLASH-PROOF OR DUST-RESISTANT SAFETY GOGGLES TO PREVENT EYE CONTACT WITH THIS SUBSTANCE

EMERGENCY EYE WASH: WHERE THERE IS ANY POSSIBILITY THAT AN EMPLOYEE'S EYES MAY BE EXPOSED TO THIS SUBSTANCE, THE EMPLOYER SHOULD PROVIDE AN EYE WASH FOUNTAIN WITHIN THE IMMEDIATE WORK AREA FOR EMERGENCY USE

AUTHORIZED - FISHER SCIENTIFIC, INC.
CREATION DATE: 09/25/84 REVISION DATE 10/12/92

-ADDITIONAL INFORMATION-
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MATERIAL SAFETY DATA SHEET

APPROVED BY U S LABOR DEPT. ESSENTIALLY SIMILAR TO FORMS OSHA 20 & 174

NuTECH ENVIRONMENTAL CORP.

5350 N. WASHINGTON ST.
DENVER, CO 80216
PHONE. 800-321-8824
303-295-3702

"For Chemical Emergency
Spill, Leak, Fire, Exposure or Accident
call CHEMTREC- Day or Night
800-424-9300"

TRADE NAME:	*OCA™ 21 COUNTERACTANT*
CHEMICAL NAME & SYNONYMS:	Not Applicable
CHEMICAL FAMILY:	Not Applicable
FORMULA:	Not Applicable

I. PHYSICAL DATA

BOILING POINT	100 °C
SPECIFIC GRAVITY (Water=1)	1.00
POUNDS/GALLON:	8.33
VAPOR PRESSURE (mm of Hg) @ 20°C:	Nil
VAPOR DENSITY (air=1):	N/A
WATER ABSORPTION	Complete
FLASH POINT (TCC) °F	>153
DRY TIME (Ether=1):	LONG
EVAPORATION RATE:	not volatile
pH	ranges from 6.0 to 7.0
APPEARANCE:	Light milky color
ODOR:	Aromatic floral bubble gum odor

II. INGREDIENTS

MATERIAL	*CAS #*	*VOL(%)*	*TLV(PPM)*
75224 Surfonic N-95 Surfactant	9016-45-9	2.5%	N/A
DMDM Hydantoin	6440-58-0	0.2%	N/A
Triton X-114 Surfactant	9036-19-15	2.0%	N/A
Natural Essential Oils (proprietary compound)		2.5%	N/A
Inert Ingredients		92.8%	N/A

DOT SHIPPING NAME: None required

III. FIRE & EXPLOSION HAZARDS

LOWER FLAMMABLE LIMIT IN AIR (% by vol):	Non flammable
FLASH POINT (TEST METHOD):	>153°F (TCC)
EXTINGUISHING MEDIA:	Water spray, CO_2, dry chemical or foam.
SPECIAL FIRE FIGHTING PROCEDURES:	Wear respirator (pressure-demand, self-contained breathing apparatus, OSHA/NIOSH approved or equivalent) and full protective gear whenever fighting fires involving chemicals.
UNUSUAL EXPLOSION AND FIRE PROCEDURES:	None known to NuTech Environmental.

IV. HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: None established

EFFECTS OF ACUTE EXPOSURE

INGESTION:	No effects of exposure expected
INHALING:	May cause a sore throat.
SKIN CONTACT:	No effects of exposure due to contact
EYE CONTACT:	Irritating to the eyes upon direct contact

EMERGENCY & FIRST AID PROCEDURES

INGESTION:	Dilute by giving 2 glasses of water to drink. Never give anything to an unconscious person Consult a physician.
INHALING:	Move subject to fresh air.
SKIN CONTACT:	Wash skin affected skin thoroughly with soap and water. Wash clothes before reuse.
EYE CONTACT:	Flush eyes with a large amount of water for at least 15 minutes.

V. REACTIVITY DATA

STABILITY:	Stable
CONDITIONS TO AVOID :	Isolate from oxidizers, heat, sparks, and open flame.
MATERIALS TO AVOID :	Isolate from strong oxidizers such as permanganate or peroxide.
HAZARDOUS DECOMPOSITION PRODUCT:	Carbon Monoxide, Carbon Dioxide or unidentified organic compounds may be formed during combustion.

VI. ENVIRONMENTAL PROTECTION

SPILLS OR LEAK PROCEDURES:	Mop up with absorbent material. Isolate from strong oxidizers, heat, sparks, & open flame.
WASTE DISPOSAL METHOD:	*Small:* Evaporate until all vapors are gone. Dispose of remainder by legally applicable methods. *Large:* Recycle
HANDLING & STORAGE PRECAUTIONS	Store in a cool, dry, well ventilated area away from heat. Indoors or outdoors. Keep containers tightly closed and in an upright position.

VII. EMPLOYEE PROTECTION

RESPIRATORY PROTECTION (SPECIFY TYPE):	Normal room ventilation with no special respiratory protection is required for normal operations.
VENTILATION:	LOCAL EXHAUST: Preferable MECHANICAL (GENERAL): Acceptable SPECIAL: None OTHER: None
PROTECTIVE CLOTHING:	None required
EYE PROTECTION:	Protective eye goggles should be worn while handling the chemical concentrate

VIII. SPECIAL PROTECTIONS

None required.

The information on this MSDS was obtained from current and reliable sources. Legal responsibility is assumed only for the fact that all studies reported here & opinions are those of qualified experts. Buyer assumes all risk & liability. He accepts & uses this material on these conditions. He must keep a copy of this MSDS where material is handled.

LC-17750-1,2 LC-17840-1,2
LC-17770-1,2
22 LC-17800-1,2 LC-17870-1,2

MATERIAL SAFETY DATA SHEET #115

NITRIC ACID SOLUTIONS, 0.4% - 50%, 0.1N-6.0N

Cat # LC17750, LC17770, LC17800, LC17840, LC17870

SECTION I

LabChem Inc.
200 William Pitt Way
Pittsburgh, PA 15238

revised: 12/2/92
contact: Al Beranek
phone: (412)826-5230

SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

NAME: NITRIC ACID SOLUTIONS, 0.4% - 50%, 0.1N-6.0N

COMPONENTS:	CAS:	FORMULA/F.WT.
(1) nitric acid, 0.04% - 50%	7697-37-2	HNO3/63.02
(2) water, balance	7732-18-5	H2O/18.00

CERCLA RATING (0-3): Health-3 Fire-0 Reactivity-0 Persistance-0
NFPA RATING (0-4): Health-3 Fire-0 Reactivity-0

SECTION III - PHYSICAL AND CHEMICAL CHARACTERISTICS

Boiling pt:	Melting pt:	Sp. gravity:	Evaporation rate:	Vapor press:	Vapor density:
212F to 181F	32F to -44F	1.0 to 1.5	>1 (ether=1)	14mmHg(25C)-62mmHg(25C)	0.7-2.2

pH: acidic

Appearance/Odor: colorless liquid/acrid odor at higher concentrations. Odor Threshold: 1ppm (not an adequate warning property).

Solubility: soluble in water

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash pt: non-flammable Explosion level-lower(LEL): n/a -upper(UEL): n/a Autoignition: n/a

Extinguishing Media: dry chemical, carbon dioxide, water spray or foam.

Firefighting: negligible fire/explosion hazard for solutions below 5%. At higher concentration, increased flammability of combustibles, readily oxidizable materials. Severe explosion hazard by reaction with incombatibles (metallic powders, carbides, hydrogen sulfide, turpentine). In or near fire material emits toxic and reactive nitrogen oxides of gases. Avoid breathing toxic and corrosive vapors. Move container if possible, cool with water.

SECTION V - REACTIVITY DATA

Stability: stable inder normal temperature and pressure up to boiling point. Acid vapors and nitric oxides quietly evolved - sunlight catalyses oxide formation (yellow color, aging).

Condition to Avoid: incompatibilities - reacts violently or explosively with oxidizers, water reactives, other materials. Examples: acetonitrile, cesium carbide, cupric nitride, cyanides, dinitrotoluene, epichlorhydrin, benzene toluene, metals metal other carbides, nitrobenzene/water, nitromethane, phosphorous trichloride, potassium hypophosphite, selenium compounds, sulfurdioxides, thiocyanates, thiophenes, tetraborane, tricad miumdiphosphide, trithioacetone, acetone/acetic acid, sulfuric acid/triglycerides, triazine/trifluoroacetic, various

cyanates, cyclopentadiene, fluorine, lactic acid/hydrogen fluoride, mesitylene, organic substances with sulfuric acid or perchlorates, non-metal oxides, arsine, phosphine, tetraborane, dipheyldistibene, anion exchange resin, nitroaromatic hydrocarbons, oleum, sodium - violent exothermic reactions with numerous substances, including acrolein, allyl alcohol, allyl chloride, 2-aminomethanol, ammonium hydroxide, n-butyraldehyde, chlorosulfonic acid, cresol, cumene, diisopropyl ether, polyalkenes, glyoxal, isoprene, mesityloxide, pyridene, sodium hydroxide, vinyl acetate, vinyldene chloride, hydrogen telluride. Explosive products also formed from acetylene, 4-chloro-2-nitroaniline, cyclohexane, cyclohexylamine, 2,6-di-T-butyl phenol, dichloromethane, ethanol/silver, 5-ethyl-2-picoline, benzothiophene derivatives, hydrogen peroxide with ketones, mercuric oxide, or thiourea; indane/sulfuric acid, phenylorthophosphoric acid disodium salt, titanium,incandescent ignition may occur with numerous other substances. Consul chemical engineering or safety source for additional information on hazardous incompatibilities.

Hazardous Decomposition/Byproducts: nitric acid vapors and nitric oxides are quietly evolved - this reaction is catalyzed by sunlight.

Hazardous Polymerization: not known to occur.

SECTION VI - HEALTH HAZARD DATA

Toxicity: severe eye, mucous membrane, and skin irritant. LDLO: 430mg/Kg Oral-man; 110mg/Kg Unk-man.

Carcinogenicity: none reported.

Exposure Limits:

OSHA-PEL:	ACGIH-TWA:	-STEL:	TLV CEILING:	IDLH:	OTHER:
2ppm	2ppm	4ppm	n/a	100ppm	NIOSH 2ppm/10hr TWA

Acute Health Hazards: inhalation may cause coughing, headache, dizziness, weakness, dryness of respiratory tract, chest pain, frothy sputum, dyspnea, hypotension, cyanosis; pneumotitis and fatal pulmonary edema may follow; permanent scar tissue may form. Skin contact may result in yellow-brown stains, severe and penetrating burns.

Chronic Health Hazards: dental erosion, jaw necrosis, chronic cough, bronchitis, chemical pneumonitis, gastrointestinal disturbances, dermatitis, conjunctivitis.

First Aid:

Inhalation: move victim to fresh air, give artificial respiration if necessary. Maintain airway and blood pressure. Medical personnel may give oxygen. Keep victim warm, at rest. Get medical aid at once.

Skin: immediately remove contaminated clothing and wash affected area with soap and water, flushing until chemical is gone (15-20min.). Cover burns with dry sterile dressing (secure, not tight). Get medical aid at once.

Eyes: flush eyes immediately with large amounts of water, lifting upper/lower lids occasionally until chemical is gone (15-20min.). Apply loose sterile non-medicated bandages over burns. Get medical aid at once.

Ingestion: give conscious victim large quantities of water to dilute acid. Do not induce vomitng. Give 1oz (30ml) milk of magnesia. Get medical aid at once.

SECTION VII - PRECAUTION FOR SAFE HANDLING AND USE

Spills or Leaks: ventilate and wear protective clothing. Neutralize with soda ash or use suitable inert absorbent. Scoop into suitable (plastic) disposal container, label "corrosive". Keep out of sewers, water sources.

Disposal: dispose in accordance with Federal, State, and local regulations.

Storage and handling: store at room temperature, protect from heat, incompatible (see SECT.V). Store in glass or approved plastic containers only, keep capped.

SECTION VIII - CONTROL MEASURES

Respiratory Protection: provide local exhaust or general dilution ventilation to meet Permissable Exposure Limits (PEL). Respirators: PEL to 50ppm - SAF/SCBAF/SAF:PD,PP,CF. >50ppm - SCBAF:PD,PP. Firefighting - SCBAF:PD,PP. (Respirator Codes: DHEW (NIOSH) Publication No. 78-210) NOTE: DO NOT USE OXIDIZABLE SORBENTS IN RESPIRATORS.

Protective Clothing and Equipment: wear appropriate clothing, gloves (viton, saranex), splash-proof goggles. Provide an eye-wash fountain in the immediate work area. Do not wear contact lenses when working with chemicals.