

**SITE SAFETY AND HEALTH PLAN
REMEDIAL INVESTIGATION
AT THE NIAGARA FALLS
STORAGE SITE
NIAGARA COUNTY, NEW YORK**

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Prepared For:

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LIST OF ACRONYMS/ABBREVIATIONS

ALARA	As Low As Reasonably Achievable
AMSL	Above Mean Sea Level
ARAR	Applicable, Relevant and Appropriate Requirements
BRA	Baseline Risk Assessment
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CFR	Code of Federal Regulations
CHMM	Certified Hazardous Materials Manager
COR	Contracting Officer Representative
CRZ	Contaminant Reduction Zone
DI	Deionized
DOD	Department of Defense
DOT	Department of Transportation
EZ	Exclusion Zone
FSP	Field Sampling Plan
FUSRAP	Formerly Used Sites Remedial Action Program
HNO ₃	Nitric Acid
HP	Health Physicist
HPLC	High Performance Liquid Chromatography
HTW	Hazardous and Toxic Waste
ICP	Inductively Coupled Plasma (Spectroscopy)
ICS	Interference Check Standard
ID	Identification
IDW	Investigation Derived Waste
mg/kg	milligrams per kilogram (ppm)
mg/L	milligrams per liter (ppm)
MSA	Method of Standard Additions
nCi/g	nano curries per gram
NFSS	Niagara Falls Storage Site
NYSDEC	New York State Department of Environmental Conservation
P.E.	Professional Engineer
PAH	Polynuclear Aromatic Hydrocarbon
PCBs	Polychlorinated Biphenyls

pCi/g	Picocuries Per Gram
pCi/L	Picocuries Per Liter
ppb	parts per billion
PPE	Personal Protective Equipment
ppm	parts per million
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
Ra	Radium
RAM	Radioactive Material
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
RSO	Radiation Safety Officer
SM	Site Manager
SOP	Standard Operating Procedure
SOW	Scope of Work
SSHO	Site Safety and Health Officer
SSHP	Site-Specific Safety and Health Plan
SSHPA	Site-Specific Safety and Health Plan Addendum
SW-846	Test Methods for Evaluating Solid Waste
SZ	Support Zone
TCE	Trichloroethene
TCL	Target Compound List (Organic-related)
TEDE	Total Effective Dose Equivalent
Th	Thorium
TWA	Time Weight Average
U	Uranium
Fg/L	micrograms per liter (ppb)
Fg/kg	micrograms per kilogram (ppb)
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USGS	United States Geological Survey
VOC	Volatile Organic Compound

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SECTION 1

1.0 INTRODUCTION

1.1 Project Description

This Site Safety and Health Plan Addendum (SSHPA) was prepared for the United States Army Corps of Engineers (USACE), for additional investigative tasks which will be performed during the Additional Sampling to Characterize the Niagara Mohawk Power Corporation (NMPC) Property. This work will be performed as a modification to contract DACW49-97-D-0001, Delivery Order 12. The tasks addressed in this document will be conducted in support of the ongoing RI/FS at the Niagara Falls Storage Site (NFSS) located in the Township of Lewiston, Niagara County, New York. The location of the NFSS is shown in Figure 1-1 of the original SSHP.

The purpose of this SSHPA is to summarize the project organization and responsibilities related to safety; identify hazards; specify personal protective equipment (PPE) to be used at the site; identify personnel health and safety training requirements; summarize continuous monitoring techniques to be used; establish emergency procedures; describe medical surveillance programs in effect; ensure that appropriate first aid equipment is available; and provide for accident record keeping and safety inspections.

This Addendum and the original SSHP are in compliance with the U.S. Army Corps of Engineers Safety and Health Requirements Manual (EM 385-1-1, revised 1996), the U.S. Army Corps of Engineers Safety and Occupational Health Requirements for Hazardous Waste Site Remedial Actions (ER-385-1-92), the Occupational Safety and Health Administration (OSHA) requirements (29 CFR 1910 and 1926, specifically 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response), and the U.S. Environmental Protection Agency's (USEPA) hazardous waste requirements (40 CFR 260-270).

1.2 Site Background Information/Setting

The NMPC property is immediately adjacent to the NFSS to the west. The portion of the NMPC property that will be investigated is approximately five to six acres in size and was once part of the Lake Ontario Ordnance Works (LOOW). The focus of the investigation is the West Ditch, which has been documented as being radiologically impacted and remediated. Phase I sampling results and gamma survey results verified the migration of radiological constituents near the West Ditch.

SECTION 2

2.0 AREAS OF STUDY

The activities addressed by this Plan include the clearing and grubbing and gamma walkover survey activities in support of the collection of surface and subsurface soil, sediment, and surface water samples from selected locations which are located on the NMPC property.

2.1 *Summary of Investigation Tasks*

2.1.1 Clearing and Grubbing

Clearing and grubbing will be conducted to facilitate the performance of a limited gamma walkover survey and soil, sediment and surface water sampling within the NMPC property. Maxim will utilize the services of Greenwood and Son Contracting to furnish equipment and manpower to perform the clearing and grubbing on the NMPC property along the West Ditch from the south fence line to the north access gate on NFSS property, a distance of approximately 1800 feet. The width of the clearing will include the ditch and approximately 10 feet on each side of the ditch for the entire estimated 1800 feet. Hydraulically powered brush-clearing equipment mounted on a tracked excavator or track-equipped bobcats will be used to perform the clearing. The resulting debris from the clearing activities will be hauled and stockpiled to the NFSS for storage.

2.1.2 Gamma Walkover Surveys

Maxim will oversee the performance of a limited gamma walkover survey as described in Section 3.1.1 of the FSP Addendum. The survey activities will be performed by an SAIC Health Physics Radiation Technician, with assistance from Maxim personnel.

2.1.3 Soil Sampling

Surface and subsurface soil samples will be collected from selected locations as identified in Section 4.0 of the Field Sampling Plan (FSP) Addendum for the Niagara-Mohawk Property Investigation prepared by Maxim Technologies Inc. Samples will be collected from 10 locations on the NMPC property.

2.1.4 Sediment and Surface Water Samples

2.1.4.1 Sediment Samples

Sediment samples will be collected from locations as Identified in Section 4 of the FSP. Ten sediment samples will be collected from locations within the West Ditch.

2.1.4.2 Surface Water Samples

Surface water samples will be collected from locations as Identified in Section 4 of the FSP. Ten surface water samples will be collected from locations within the West Ditch.

SECTION 3

3.0 HAZARD IDENTIFICATION AND RISK ANALYSIS

3.1 Preliminary Evaluation

A preliminary evaluation of each task, the overall site characteristics, and hazards associated with investigative tasks was performed by the Site Manager and the Project Health and Safety Officer during the preparation of this document. This preliminary evaluation has resulted in the identification of potentially hazardous conditions and will aid in the selection of appropriate employee protection methodologies and PPE. Evaluation of work site characteristics and hazards is an on-going process and will continue throughout the duration of the project.

The primary physical hazards during this project are electrical hazards associated with working near high voltage overhead electrical lines, brush-clearing equipment, mechanized equipment hazards, and slip/trip/fall on debris and uneven terrain.

Chemical and radiological contamination may be encountered in the area of study during the clearing and removal of brush and the performance of the gamma walkover survey.

The hazards associated with soil sampling and sediment and surface water sampling were addressed in original SSHP and previously submitted addenda to the original SSHP.

Hazards associated with the clearing and grubbing tasks and the gamma walkover described in Section 2.0, are identified and addressed in the following sections. Grubbing is the act of removing cut brush, tree stumps, and other debris from the project work area.

3.2 Hazard Identification

Hazards or conditions that may pose hazards are identified so site workers may be adequately protected. Emphasis is placed on identifying conditions that may cause death or serious harm and the protective measure implemented to avoid such hazards. All site workers must be diligent in identifying hazards in the work place and should bring them to the attention of supervisory personnel.

Physical hazards known to be present during field operations at this site are: slip/trip/fall hazards; high voltage overhead electrical hazards, weather related hazards; uneven terrain, steep grades and ditches, mechanized equipment operations; chainsaws and brush-clearing hazards and biological hazards.

Chemical hazards will include those associated with, or resulting from, contact with impacted soil, sediment and surface water on the NWPC property. Material Safety Data Sheets (MSDS) for potential contaminants of concern are found in Appendix C of the original SSHP.

A list of possible chemical hazards that may be encountered during this investigation is presented in Table 3-1. Information presented in this table includes chemical name, Threshold Limit Value

(TLV) and Permissible Exposure Limits (PEL) (if available), symptoms of exposure, route of exposure, media, action levels and work practice controls.

3.3 Risk Analysis – Clearing and Grubbing of the NMPC

The hazards that have been identified in the following sections have the potential to cause death or serious injury. Sampling operations are potentially dangerous and require strict adherence to safe practices and safety procedures. If additional hazards not addressed in the following sections are identified, protective measures will be implemented.

It is anticipated that the field operations associated with this project will commence in the fall/winter of 2001.

Site Activity Hazard Analysis has been performed and is presented in Table 3-2 of this document.

3.3.1 Physical Hazards

The following sections detail physical hazards that have been identified that could result in injury to on-site workers during this activity.

3.3.1.1 Electrical Hazards

3.3.1.1.1 Aboveground Utilities - Energized overhead electrical transmission lines are present on the NMPC property. The presence of 110,000 volt transmission lines on the property increase the risk of electrical hazards associated with arcing from the transmission line to equipment or contact with overhead transmission lines. The buildup of static electricity of sufficient charge to cause injury or death on ungrounded metallic equipment is also possible when working in the vicinity of high voltage electrical transmission lines.

3.3.1.1.2 Underground Utilities - Underground utilities may be present on the NMPC property. The activities performed during this task may impact underground utilities if equipment grounding rods or augers must be installed.

3.3.1.1.3 Electrical Equipment - Electrically energized equipment that will be used during this task will be limited to equipment such as radiological survey meters, radios, cell phone and cameras. The risk of injury from this type of electrically powered equipment is extremely low.

3.3.1.2 Fire Hazards

During the clearing and grubbing task, hazards associated with equipment fueling operations will be present. The use of diesel and gasoline-powered brush clearing equipment, chainsaws and vehicles equipped with catalytic converters in overgrown areas may increase the potential of fire. Based on the current near drought conditions at the site, the risk of this hazard is medium to high.

3.3.1.3 Trip/Slip/Fall

Personnel engaged in clearing and grubbing will be working in some areas with steep grades, rubble piles, debris and dense stands of trees and underbrush. Depending on the amount of precipitation, which may occur during on-site activities, the side slopes of the ditches and soil piles may also be

wet and the conditions muddy, thereby increasing the risk of this hazard to on-site workers. Potential for this hazard is high based on the current site conditions.

3.3.1.4 Noise/Hearing Protection

The use of diesel-powered excavating equipment equipped with hydraulic brush cutting attachments, chainsaws and string trimmers may produce noise in excess of the 85dB action level.

3.3.1.5 Thermal Stress

During the time of year the field sampling will be performed, the weather conditions in the study area may range from below freezing to daily highs well above 70 degrees Fahrenheit. This range in temperatures can subject site workers to an increased potential for hypothermia and/or heat stress/stroke during performance of on-site activities. The use of personal protective equipment during the clearing and grubbing task will likely increase the potential for heat stress/stroke. Activities associated with the performance of this task will likely occur during the fall/winter of 2001.

3.3.1.5.1 Heat Stress/Stroke - The potential for heat stress at the site will be variable depending upon the temperature at the time this task is being performed. Daytime high temperatures exceeding 70° F, increase the potential for heat related illnesses to occur. Clearing and grubbing personnel will be wearing Tyvek® coveralls, overboots and gloves and other protective apparel that will limit the body's ability to dissipate heat increasing the risk of this hazard.

3.3.1.5.2 Cold Stress/Hypothermia - The potential for cold stress/hypothermia will be variable depending upon the temperature at the time this task is being performed. The potential for hypothermia increases with increasing wind speed and cooler temperatures.

3.3.1.6 Flying Debris

The use of brush clearing equipment, chain saws and trimmers will cause pieces of debris, soil or wood and other objects to become airborne or mobilized in a manner which will expose personnel working with or in the vicinity of the equipment to be subjected to this hazard. The potential for this hazard is high based on the activities involved in the performance of this task.

3.3.1.7 Equipment and Machinery Hazards

The clearing and grubbing task will be performed using specialized equipment that is capable of causing serious and/or fatal injury to operators and other workers in the vicinity of this equipment. These injuries include hazards associated with backing or running over pedestrian workers, collisions with other on-site equipment or vehicles and rollover accidents of equipment on uneven or steep terrain. The potential for these hazards are medium to high.

3.3.1.8 Pinch/Puncture/Shear

These hazards are present on brush-clearing equipment, chain saws, trimmers and vehicles used during this task. The potential for this hazard is high, based on the activities being performed during this task.

3.3.1.9 Confined Spaces

No confined spaces will be entered during this phase of work.

3.3.1.10 Lockout/Tagout

The hydraulic systems of the brush clearing machinery have the potential to store hazardous energy sufficient to cause serious injury or death to onsite workers.

3.3.2 Chemical Hazards

The potential chemical hazards that could be encountered during on-site activities are presented in Table 3-1 of the original SSHP. Chemical hazards include those associated with or resulting from contacts with impacted site media and fuels and lubricants used in brush clearing equipment.

3.3.3 Biological Hazards

The personnel involved in activities at the site may be exposed to threats from biological hazards such as mosquitoes, ticks, spiders, rodents, snakes and pathogens that may be present in water and sediments on the NMPC property. Infections of the West Nile Virus were found in birds collected from Niagara County in the year 2000. Mosquitoes, which might have feed on infected birds, could potentially transmit the virus to human beings. Irritant plants such as poison ivy, poison oak, poison sumac, and greenbriar are also present on the NFSS. The potential hazard from irritant plants is high based on current site conditions. During previous phases of the investigation, mosquito populations have ranged from non-existent to extremely abundant, depending on weather conditions and the amount of ponded water present on the site. Table 3-3 of the original SSHP lists poisonous spiders and other animals indigenous to the work area.

3.3.4 Unexploded Ordnance (UXO/Ordnance Explosive Waste (OEW))

Unexploded ordnance is not expected at the site. There is no history of use or disposal of UXO at the facility.

3.3.5 Radiation Hazards

The historic use of the former LOOW facility and the storage of radiological waste materials at the NFSS are described in Section 2 of the original SSHP. Soils on the NFSS have been previously released by the DOE using 5/15 pCi/g criteria (40CFR192) with a U-238 concentration limit of 75 pCi/g. Documents reviewed by Maxim as detailed in Section 1.0 of the FSP Addendum for Niagara-Mohawk Property Investigation indicate that the West Ditch was remediated during 1983-1984.

Radiological hazards for any individuals are not anticipated to exceed 100 mrem total effective dose equivalent (TEDE) (USACE ALARA) during this investigation. The Radiation Protection Plan Addendum is present in Appendix A of the previously submitted addendum.

3.4 Action Levels and Hazard Mitigation/ Clearing and Grubbing

This section identifies action levels and mitigation methods to be employed during the previously identified investigative activities. The action levels identify situations where specific protective equipment or engineering controls will be employed to reduce worker exposure and risk to specific hazards during this task. These action levels and mitigation methods are presented in Table 3-1. Site Activity Hazard Analysis has been performed and is presented in Table 3-2.

3.4.1 Physical Hazards

The following sections detail physical hazards, which have been identified that could result in injury to on-site workers during this activity.

3.4.1.1 Electrical Hazards

3.4.1.1.1 Aboveground Utilities - The presence of 110,000 volt overhead electrical transmission lines on the NMPC property will require the use of specific protocols which will be exercised in order to protect existing NMPC facilities and protective of human health of on-site workers involved in the brush clearing and grubbing task. These protocols include the following:

1. Written notice to NMPC a minimum of seven (7) days prior to the initiation of the work.
2. NMPC maintains the right to have an inspector present at the time of any and all fieldwork. The NMPC Inspector shall have the right and authority to require the modification or cessation of any or all of the work, when in his/her judgement the work is contrary to the provisions of the right-of-entry agreement or a source of danger to the facilities of NMPC property.
3. Clearing and grubbing activities shall be accomplished without the use of cranes, backhoes, bulldozers, or mechanical equipment having extension whose highest point reaches (or which is potentially capable of reaching) within fifteen (15) feet of the lowest electric 110,000 volt conductor and twelve (12) feet from the lowest 23,000 volt conductor on the premises. There shall be a minimum horizontal clearance to the nearest structure of twenty-five (25) feet. This provision is not intended to prevent transporting of such equipment along haul roads or operation thereof provided that the above clearances are not compromised.
4. All construction equipment working under or near electric conductors which could approach nearer than twenty-five feet to an energized electric power line or power facility, located overhead or underground shall be grounded in order to protect persons or property. A good ground connection shall be securely attached to all equipment utilized at the work site and shall not be removed until the boom or any other substantial extension of all mobile equipment has been removed from the area of work. The minimum steps that must be taken to effectively ground all equipment utilized in the work area are as follows:
 - a) All such equipment shall be provided with a permanent clamp for convenient and effective attachment to a grounding conductor.
 - b) The cable connecting the clamp to an adequate ground shall be equivalent to a No. 2/0 AWG or larger copper cable approximately 50 to 100 feet long, extra flexible, with a 600 volt covering for abrasive protection and with terminal parts that will ensure a proper connection.
 - c) Station grounds, water hydrants, metallic pipe water systems, common neutral wire or steel tower earth footings provide grounds that are likely to be adequate in the order of preference listed. When such grounds are not available, anchor rods, temporarily driven, or auger-type grounds shall be used to secure a low-resistance ground.

The above referenced recommendations are suggested by Niagara Mohawk Power Corporation as minimum requirements only; a Niagara Mohawk Power Corporation Inspector may review compliance with these minimum requirements prior to commencement of activities on the NMPC property.

5. Mechanized wheeled or track-mounted brush clearing equipment will not be allowed to operate within 25 feet of poles or towers. If clearing activities are required in these areas, personnel using chain saws or other cutting equipment such as handsaws or trimmers will perform the clearing operations.
6. Guy wires, which are anchored in the West Ditch, shall not be disturbed during brush-clearing activities. Extreme care should be exercised when clearing around the guy wire and guy anchor to prevent damage to these facilities. Mechanized clearing equipment shall approach no closer than ten feet of the guy wire or anchors. If clearing is required within this ten foot mechanized equipment exclusion area, personnel using chain saws or other cutting equipment such as handsaws or trimmers will perform the clearing operations.
7. Maxim Technologies and their subcontractors will comply with the requirements of the Right-of-Entry Agreement presented in Appendix A and the N.Y.S. High Voltage Proximity Act and the National Electrical Code when working on the NMPC property. Copies of these requirements are presented in Appendix A. This includes the posting of warning decals on equipment regarding the minimum clearance to overhead lines. If the operator is unable to assess the clearances, a spotter must be provided to observe the clearances and direct the operator.

3.4.1.1.2 Underground Utilities - Maxim Site Manager will contact the New York one-call utility locator service (1-800-892-7962 and non-subscriber utilities a minimum of seven days in advance of the anticipated sampling date so that utilities will be clearly marked prior to the initiation of clearing and grubbing activities. Available drawings will also be consulted to determine if utility lines may be present near these sampling locations.

3.4.1.1.3 Electrical Equipment - Electrically-powered equipment which will be used during this task will not be used in wet, rainy conditions. This equipment will be charged using grounded circuits, in an indoor environment in order to prevent possible hazards associated with this equipment.

3.4.1.2 Fire Hazards

Large equipment will not be fueled on the NMPC property. All fueling operations will take place in the support zone of the NFSS on the asphalt parking area south of the Maxim job trailer. All fueling will be conducted on “cold machines”. The fueling of larger equipment such as the excavator mounted brush-clearing equipment, bobcats and backhoes will take place at the beginning of each work shift. If fueling is required after a period of operation, the equipment will be driven to the support area of the NFSS and allowed a sufficient period of time to cool down prior to re-fueling. A fire watch will be maintained during all fueling operations, with fueling being conducted by one

worker and another worker standing by in close proximity equipped with a fire extinguisher rated for petroleum product fires (4A: 20:BC at a minimum).

Chainsaws and line trimming equipment shall be fueled in the support zone at the beginning of each work shift. This equipment can be re-fueled on the NMPC property during the work shift, but only after the equipment has been allowed to “cool down” for a minimum of ten minutes prior to re-fueling.

Caution will be used when driving vehicles in tall, dry grasses and when operating diesel- or gasoline-powered equipment in areas of the site where dry grass or woody vegetation is present. A fire extinguisher will be kept in all vehicles and on all diesel- or gasoline-powered wheeled or tracked equipment used on-site.

3.4.1.3 Trip/Slip/Fall

Each worker should be aware of local conditions that would contribute to an increase risk of this hazard and immediately correct any such situation. On-site workers should exercise care when walking in areas of overgrown vegetation, debris, rubble piles, wet grass or mud. Worker should remain vigilant when working on the steep side slopes of the West Ditch or associated spoils piles.

3.4.1.4 Noise/Hearing Protection

Workers involved in clearing and grubbing activities will be required to wear hearing protection with a minimum noise reduction rating of 22 dBA at all times when noise producing equipment is in operation.

3.4.1.5 Thermal Stress

During the time of year the field sampling will be performed, the weather conditions in the study area may range from below freezing to daily highs well above 70 degrees Fahrenheit. This range in temperatures can subject site workers to an increased potential for hypothermia and/or heat stress/stroke during performance of on-site activities. The use of personal protective equipment during the sampling activities will likely increase the potential for heat stress/stroke. Activities associated with the performance of this task will likely occur during the fall of 2001.

3.4.1.5.1 Heat Stress/Stroke - Mitigation controls, monitoring protocols and action levels to prevent injury to site workers from heat stress are presented in SOP 14 presented in Appendix B of the original SSHP.

3.4.1.5.2 Cold Stress/Hypothermia - Mitigation controls, monitoring protocols and action levels to prevent injury to site workers from cold stress/hypothermia are presented in SOP 14 presented in Appendix B of the original SSHP.

3.4.1.6 Flying Debris

No pedestrian personnel will be allowed within 100 yards of the hydraulically-powered brush-clearing equipment while in operation. This machinery will be equipped with shields and guarding sufficient to protect the operator from flying debris hazards.

Personnel operating chainsaws or trimming equipment shall wear head, hearing and face protection equipment that complies with ANSI Z89.1-1997 Type 2 Class C, E and G. A Peltor Lumberjack™ Hardhat System or Tasco Woodsman 8000 Hardhat satisfies these requirements.

All on-site personnel will be required to wear ANSI-approved safety glasses equipped with side shields at all times while on the NFSS. Operators of chainsaws and trimming equipment are exempted from this requirement if they are wearing a face protection device that is also protective of their eyes. The only areas of the site where wearing of safety glasses is not mandatory are the job/office trailer located at the site, and while personnel are completely inside a vehicle.

3.4.1.7 Equipment and Machinery Hazards

All brush clearing machinery will be equipped with functioning back-up alarms. Equipment will be inspected prior to arriving on-site and on a daily basis prior to operation. This inspection will be documented on the Daily Equipment Inspection Form presented as Exhibit 3-1.

All operators of the equipment will be trained and experienced in the use of the equipment prior to operation of the equipment on-site. This training will be documented by the clearing and grubbing subcontractor in writing prior to mobilization of the equipment and personnel to the site.

3.4.1.8 Pinch/Puncture/Shear

All on-site workers are required to wear steel-toed boots during all on-site activities. Care should be exercised when exiting vehicles used during this task.

Personnel operating chain saws will be required to wear, in addition to the prescribed Modified Level D work ensemble, Kevlar (or equivalent) chain saw gloves, Kevlar chain-saw chaps with metatarsal protection and face shields specifically designed for use by chain-saw operators. Personnel operating string or blade trimming equipment shall be required to wear chemically resistant Tyvek® or spun bound polyethylene coveralls, steel-toed boots, leg chaps specifically designed for protection for line trimmer operators, leather work gloves, head, hearing and face protection equipment which complies with ANSI Z89.1-1997 Type 2 Class C, E and G.

3.4.1.9 Confined Spaces

Confined spaces, if present on the NMPC property, will not be entered therefore, no mitigation methodologies or action levels are required.

3.4.1.10 Lockout/Tagout

The hydraulic systems of the brush clearing machinery have the potential to store hazardous energy sufficient to cause serious injury or death to onsite workers.

3.4.2 Chemical Hazards

MSDSs for potential contaminants of concern are found in Appendix C of the original SSHP.

Clearing and grubbing activities will be performed in Modified Level D attire. Modified Level D for this task includes the following: Tyvek® or spun-bound polyethylene coveralls, steel-toed boots, hard hat, hearing protection and safety glasses w/side shields.

On-site workers involved in this task should be alert to the potential of the presence of any chemical odors or visible signs of chemical contamination.

3.4.3 Biological Hazards

Mosquitoes and biting insects may be prevalent during the time of the year this task will be performed. Birds with confirmed West Nile Virus infections were documented in Niagara County in the year 2000. Workers involved in this task will be required to wear protective Tyvek or spunbound polyethylene coveralls, which will reduce the occurrence of insect bites. Insect repellents used in combination with headnets will also contribute to a reduction of exposure to this hazard. High boots and heavy gloves can also help to minimize exposure to many of these biological hazards. Onsite workers will be required to wash their hands with an antibacterial soap or antibacterial gel prior to eating or drinking.

3.4.4 Unexploded Ordnance (UXO/Ordnance Explosive Waste (OEW))

Unexploded ordnance is not expected at the site. There is no history of use or disposal of UXO at the facility. Low levels of nitroaromatic compounds may be present in portions of the West Ditch. Previous sampling has not indicated the presence of nitroaromatic compound concentrations at levels sufficient to cause an explosive hazard.

3.4.5 Radiation Hazards

Radiation exposures to workers and the public will be kept below regulatory limits and As Low As Reasonably Achievable (ALARA). Worker training requirements are detailed in specified in Section 5.0 of this document. Dosimetry for monitoring radiological exposures is specified in Section 8.0 of this Addendum. Specific monitoring requirements are specified in the RPP Addendum presented in Appendix A of the previously submitted addendum.

3.5 Risk Analysis – Gamma Walkover Surveys

The hazards that have been identified in the following sections have the potential to cause death or serious injury. If additional hazards not addressed in the following sections are identified, protective measures will be implemented.

Site Activity Hazard Analysis has been performed and is presented in Table 3-2 of this document.

3.5.1 Physical Hazards

The following sections detail physical hazards that have been identified that could result in injury to on-site workers during this activity.

3.5.1.1 Electrical Hazards

3.5.1.1.1 Aboveground Utilities - Energized overhead electrical transmission lines are present on the NMPC property. The presence of 110,000 volt transmission lines on the property increase the risk of electrical hazards associated with arcing from the transmission line to equipment or contact with overhead transmission lines. The buildup of static electricity of sufficient charge to cause injury

or death on ungrounded metallic equipment is also possible when working in the vicinity of high voltage electrical transmission lines.

3.5.1.1.2 Underground Utilities - Underground utilities may be present on the NMPC property. The activities performed during this task will not impact underground utilities.

3.5.1.1.3 Electrical Equipment - Electrically energized equipment that will be used during this task will be limited to equipment such as radiological survey meters, radios, cell phone and cameras. The risk of injury from electrically powered equipment such as these is low.

3.5.1.2 Fire Hazards

During the gamma walkover task, hazards associated with the use of vehicles equipped with catalytic converters in overgrown areas may increase the potential of fire. Based on the current near drought conditions at the site, the risk of this hazard is medium to high.

3.5.1.3 Trip/Slip/Fall

Personnel engaged in gamma walkover surveys will be working in some areas with steep grades, rubble piles, debris and dense stands of trees and underbrush. Depending on the amount of precipitation, which may occur during on-site activities, the side slopes of the ditches and soil piles may also be wet and the conditions muddy, thereby increasing the risk of this hazard to on-site workers. Potential for this hazard is high based on the current site conditions.

3.5.1.4 Noise/Hearing Protection

No noise producing equipment will be used during this task.

3.5.1.5 Thermal Stress

During the time of year the field sampling will be performed, the weather conditions in the study area may range from below freezing to daily highs well above 70 degrees Fahrenheit. This range in temperatures can subject site workers to an increased potential for hypothermia and/or heat stress/stroke during performance of on-site activities. The use of personal protective equipment during the sampling activities will likely increase the potential for heat stress/stroke. Activities associated with the performance of this task will likely occur during the fall/winter of 2001.

3.5.1.5.1 Heat Stress/Stroke - The potential for heat stress at the site will be variable depending upon the temperature at the time this task is being performed. Daytime high temperatures exceeding 70° F, increase the potential for heat related illnesses to occur. At a minimum, gamma walkover personnel will be wearing Tyvek® coveralls, overboots and gloves that will limit the body's ability to dissipate heat increasing the risk of this hazard.

3.5.1.5.2 Cold Stress/Hypothermia - The potential for cold stress/hypothermia will be variable depending upon the temperature at the time this task is being performed. The potential for hypothermia increases with increasing wind speed and cooler temperatures.

3.5.1.6 Flying Debris

Flying debris will not be generated during this task.

3.5.1.7 Equipment and Machinery Hazards

The gamma walkover task will be performed using support vehicles which include hazards associated with backing or running over pedestrian workers, collisions with other on-site equipment or vehicles and rollover accidents of equipment on uneven or steep terrain. The potential for these hazards are medium to high.

3.5.1.8 Pinch/Puncture/Shear

These hazards are present on vehicles which will be used during this task. The potential for this hazard is high, based on the activities being performed during this task

3.5.1.9 Confined Spaces

No confined spaces will be entered during this phase of work.

3.5.1.10 Lockout/Tagout

Equipment used during this task does not store energy. The potential for this hazard does not exist during this task.

3.5.2 Chemical Hazards

The potential chemical hazards that could be encountered during on-site activities are presented in Table 3-1 of the original SSHP. Chemical hazards include those associated with or resulting from contacts with impacted site media and fuels and lubricants used in brush clearing equipment.

3.5.3 Biological Hazards

The personnel involved in activities at the site may be exposed to threats from biological hazards such as mosquitoes, ticks, spiders, rodents, and snakes and pathogens that may be present in water and sediments on the NMPC property. Infections of the West Nile Virus were found in birds collected from Niagara County in the year 2000. Mosquitoes, which might have feed on infected birds, could potentially transmit the virus to human beings. Irritant plants such as poison ivy, poison oak, poison sumac, and greenbriar are also present on the NFSS. The potential hazard from irritant plants is high based on current site conditions. During previous phases of the investigation, mosquito populations have ranged from non-existence to extremely abundant, depending on weather conditions and the amount of ponded water present on the site. Table 3-3 of the original SSHP lists poisonous spiders and other animals indigenous to the work area.

3.5.4 Unexploded Ordnance (UXO/Ordnance Explosive Waste (OEW))

Unexploded ordnance is not expected at the site. There is no history of use or disposal of UXO at the facility.

3.5.5 Radiation Hazards

The historic use of the former LOOW facility and the storage of radiological waste materials at the NFSS are described in Section 2 of the original SSHP. Soils in area have been previously released by the DOE using 5/15 pCi/g criteria (40CFR192) with a U-238 concentration limit of 75 pCi/g. Documents reviewed by Maxim as detailed in Section 1.0 of the FSP Addendum for Niagara-Mohawk Property Investigation indicate that the West Ditch was remediated during 1983-1984.

Radiological hazards for any individuals are not anticipated to exceed 100 mrem total effective dose equivalent (TEDE) (USACE ALARA) during this investigation. The Radiation Protection Plan Addendum is presented in Appendix A of the previously submitted addendum.

3.6 Action Levels and Hazard Mitigation/ Gamma Walkover Surveys

This section identifies action levels and mitigation methods to be employed during the previously identified investigative activities. The action levels identify situations where specific protective equipment or engineering controls will be employed to reduce worker exposure and risk to specific hazards during this task. These action levels and mitigation methods are presented in Table 3-1. Site Activity Hazard Analysis has been performed and is presented in Table 3-2.

3.6.1 Physical Hazards

The following sections detail physical hazards, which have been identified that could result in injury to on-site workers during this activity.

3.6.1.1 Electrical Hazards

3.6.1.1.1 Aboveground Utilities - The presence of 110,000 volt electrical transmission lines on the NMPC property will require the use of specific protocols which will be exercised in order to protect existing NMPC facilities and protective of human health of on-site workers involved in the brush clearing and grubbing task. As stated in the Right-of-Entry Agreement included as Appendix A, these include the following:

Written notice to NMPC a minimum of seven (7) days prior to the initiation of the work.

NMPC maintains the right to have an inspector present at the time of any and all fieldwork. The NMPC Inspector shall have the right and authority to require the modification or cessation of any or all of the work, when in his/her judgement the work is contrary to the provisions of the right-of-entry agreement or a source of danger to the facilities of NMPC property.

Maxim Technologies and their subcontractors will comply with the requirement of N.Y.S. High Voltage Proximity Act and the National Electrical Code when working on the NMPC property. Copies of these requirements are presented in Appendix B.

3.6.1.1.2 Underground Utilities - Maxim Site Manager will contact the New York one-call utility locator service (1-800-892-7962) and non-subscriber utilities a minimum of seven days in advance of the anticipated sampling date so that utilities will be clearly marked prior to the initiation of clearing and grubbing activities. Available drawings will also be consulted to determine if utility lines may be present near these sampling locations.

3.6.1.1.3 Electrical Equipment - Electrically powered equipment that will be used during this task will not be used in wet, rainy conditions. This equipment will be charged using grounded circuits, in an indoor environment in order to prevent possible hazards associated with this equipment.

3.6.1.2 Fire Hazards

Caution will be used when driving vehicles in tall, dry grasses and when operating diesel or gasoline-powered equipment in areas of the site where dry grass or woody vegetation is present. A fire extinguisher will be kept in all vehicles used on-site.

3.6.1.3 Trip/Slip/Fall

Each worker should be aware of local conditions that would contribute to an increase risk of this hazard and immediately correct any such situation. On-site workers should exercise care when walking in areas of overgrown vegetation, debris, rubble piles, wet grass or mud. Worker should remain vigilant when working on the steep side slopes of the West Ditch or associated spoils piles.

3.6.1.4 Noise/Hearing Protection

No noise producing equipment will be used, therefore no mitigation methods or action levels are required.

3.6.1.5 Thermal Stress

During the time of year the field sampling will be performed, the weather conditions in the study area may range from below freezing to daily highs well above 70 degrees Fahrenheit. This range in temperatures can subject site workers to an increased potential for hypothermia and/or heat stress/stroke during performance of on-site activities. The use of personal protective equipment during the sampling activities will likely increase the potential for heat stress/stroke. Activities associated with the performance of this task will likely occur during the fall/winter of 2001.

3.6.1.5.1 Heat Stress/Stroke - Mitigation controls, monitoring protocols and action levels to prevent injury to site workers from heat stress are presented in SOP 14 presented in Appendix B of the original SSHP.

3.6.1.5.2 Cold Stress/Hypothermia - Mitigation controls, monitoring protocols and action levels to prevent injury to site workers from cold stress/hypothermia are presented in SOP 14 presented in Appendix B of the original SSHP.

3.6.1.6 Flying Debris

No flying debris will be generated during this task so therefore no mitigation methods or action levels are required.

3.6.1.7 Equipment and Machinery Hazards

All operators of the vehicles will be diligent to avoid backing over pedestrian workers. Care will be used when operating vehicles on uneven or wet muddy terrain.

All large brush clearing equipment will be equipped with functioning backup alarms. The proper functioning of these alarms will be documented on the daily equipment inspection forms presented as Exhibit 3-1.

3.6.1.8 Pinch/Puncture/Shear

All on-site workers are required to wear steel-toed boots during all on-site activities. Care should be exercised when entering and exiting vehicles used during this task. All pinch/puncture/shear points on equipment and vehicles shall be identified and discussed in the daily safety briefing.

3.6.1.9 Confined Spaces

No confined spaces will be entered during this phase of work therefore, no mitigation methodologies or action levels are required.

3.6.1.10 Lockout/Tagout

This hazard will not be present during this task therefore, no mitigation methodologies or action levels are required.

3.6.2 Chemical Hazards

MSDSs for potential contaminants of concern are found in Appendix C of the original SSHP.

Gamma walkover activities will be performed in Modified Level D attire. Modified Level D for this task includes the following: Tyvek® or spun-bound polyethylene coveralls, steel toed boots and safety glasses w/side shields.

3.6.3 Biological Hazards

Mosquitoes and biting insects may be prevalent during the time of the year this task will be performed. Birds with confirmed West Nile Virus infections were documented in Niagara County in the year 2000. Workers involved in this task will be required to wear protective Tyvek or spun-bound polyethylene coveralls, which will reduce the occurrence of insect bites. Insect repellents used in combination with headnets will also contribute to a reduction of exposure to this hazard. High boots and heavy gloves can also help to minimize exposure to many of these biological hazards. Onsite workers will be required to wash their hands with an antibacterial soap or antibacterial gel prior to eating or drinking.

3.6.4 Unexploded Ordnance (UXO/Ordnance Explosive Waste (OEW))

Unexploded ordnance is not expected at the site. There is no history of use or disposal of UXO at the facility. Low levels of nitroaromatic compounds may be present in portions of the West Ditch. Previous sampling has not indicated the presence of nitroaromatic compound concentrations in concentrations sufficient to cause an explosive hazard.

3.6.5 Radiation Hazards

All activities will be monitored by a HP Technician to ensure that radiological hazards, should they be encountered, do not pose a threat to on-site personnel. Radiation exposures to workers and the public will be kept below regulatory limits and As Low As Reasonably Achievable (ALARA). Worker training requirements are detailed in specified in Section 5.0 of this document. Dosimetry for monitoring radiological exposures is specified in Section 8.0 of this Addendum. Specific monitoring requirements are specified in the RPP Addendum presented in Appendix A.

Section 4

4.0 STAFF ORGANIZATION, QUALIFICATIONS, AND RESPONSIBILITIES

4.1 Project Organization

A project organizational chart, which identifies responsibilities related to health and safety, is presented in Figure 2-1 of the original QAPP. The responsibilities are outlined in Section 4-2 of the original SSHP.

4.2 Identification of Responsibilities

Greenwood and Son Contracting will provide equipment and personnel for the clearing and grubbing task.

HP Support will be provided by SAIC or their subcontractor.

Section 5

5.0 TRAINING

All training related to the performance of on-site activities will be completed in accordance with Maxim's SOP 3.0 "Accident Prevention, Training and Medical Surveillance" presented in Appendix C of the original SSHP.

5.1 Comprehensive Health and Safety Indoctrination

Prior to the onset of on-site activities, the project personnel (including subcontractors) will be required to read the Site Safety and Health Plan and this SSHPA and sign the Statement of Understanding (Exhibit 5-1) attesting that they have read and understand the SSHP and this SSHPA

Prior to the initiation of each phase of the field operations, the Site Manager will review the plan with all site personnel. They will be verbally informed of the known and possible hazards of working on this site and instructed on the proper safety procedures which they will be required to practice. All personnel will be instructed and trained in the proper use of all safety equipment and their limitations. All field personnel will be informed of relevant safety procedures and will be furnished with emergency telephone numbers. All on-site personnel and visitors will be briefed on the potential physical and chemical hazards before they are allowed on site. These briefings will be documented in the site log, listing name, date, and subject.

Worker training records and certificates will be maintained at Maxim's NFSS job trailer and at Maxim's St. Louis office.

5.2 Specialized Training - Maxim Personnel

All Maxim field personnel and supervisors have attended an OSHA required (29 CFR 1910.120) 40-hour training course for safety at hazardous materials sites, and are American Red Cross certified to administer First Aid and CPR. Maxim supervisory personnel have received OSHA required 8 hour training for "Hazardous Waste Site Supervision." In addition, all personnel have been trained in the use and limitations of respirators, and the use of personal protective equipment. Qualitative respirator fit testing is performed for all personnel prior to commencement of field activities. A summary of the health and safety training acquired by Maxim personnel is provided in Table 5-1.

Copies of updated training certificates are presented in Appendix B.

5.3 Specialized Training - Subcontractors

There are no changes to this section of the SSHP.

5.4 Site-Specific Training

There are no changes to this section of the SSHP.

5.5 Radworker Training

All Maxim and subcontractor personnel will be required to complete a minimum of 4 hours of instruction in radiation safety or annual updates as appropriate. This training will be provided at the

NFSS prior to the initiation of any on-site sampling activities. This training must include the following elements: health effects of ionizing radiation; exposure limits (including those for pregnant workers); use of dosimetry and instruments; effects of radiation on the embryo/fetus; employee rights and responsibilities; site contaminants and probability of exposure; required monitoring; and exposure control methodologies.

Section 6

6.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)

The normal work uniform for this site will be Level D.

During all brush clearing operations, Modified Level D PPE consisting of Tyvek® or spun-bound polyethylene coveralls, steel-toed boots, rubber overboots and safety glasses with side shields will be required.

All PPE will be kept in weatherproof containers. Prior to use, each piece of PPE will be inspected.

A list of personal protective equipment is in Table 6-1 of the original SSHP.

6.1 *Levels of Protection*

Various levels of protection are described in SOP 8.0 “Personal Protective Equipment.” Levels of protection to be worn on-site will vary. Level D protection is necessary to enter the site. Modified Level D protection will be worn during all sampling activities. Levels of protection required during this investigation will be as follows:

<u>Activity</u>	<u>Level of Protection</u>
Clearing and Grubbing Equipment Operators	Modified D: Modified by the inclusion of chemically resistant Tyvek® or spun bound polyethylene coveralls, steel-toed boots, leather gloves, hardhat, and hearing protection.
Chainsaw Operators	Modified D: Modified by the inclusion of chemically resistant Tyvek® or spun bound polyethylene coveralls, steel-toed boots, kevlar leg chaps specifically designed for protection from chainsaw injuries, kevlar work gloves, hardhat, hearing and face protection equipment which complies with ANSI Z89.1-1997 Type 2 Class C, E and G.
Blade or Line trimmers Operators	Modified D: Modified by the inclusion of chemically resistant Tyvek® or spun bound polyethylene coveralls, steel-toed boots, leg chaps specifically designed for protection for line trimmer operators, leather work gloves, head, hearing and face protection equipment which complies with ANSI Z89.1-1997 Type 2 Class C, E and G.
Gamma Walkover Surveys	Modified D: Modified by the inclusion of chemically resistant coated Tyvek® or spun bound polyethylene coveralls, steel-toed boots, and rubber overboots.

Section 7

7.0 MEDICAL SURVEILLANCE

Bioassay analysis will not be performed unless work area sampling indicates the presence of airborne radionuclides.

Table 5-1 of this addendum, presents the dates of the employees' most recent annual medical exam. Copies of the most recent Fit-for Duty Statements are included in Appendix C of this document. Exposure of personnel above the OSHA PEL to any of the hazardous substances listed in Table 3-1 will require a physician examination.

Section 8

8.0 DOSIMETRY

Maxim will utilize Personal Monitoring Devices (PMD) to maintain a permanent dose record of each for each on-site worker. Maxim and subcontractor personnel will be required to wear a Thermoluminescent Dosimeter (TLD) for monitoring exposure to non-alpha radiation while working on-site. TLD badges have a nominal detection range of 0.1 to 10,000 rads. The dosimetry program will be administered in accordance with the Radiation Protection Plan Addendum presented in Appendix A of the previously submitted addendum. Each site worker and visitor subject to this site safety and health plan will wear a film badge while on-site, except in health physics designated office and assembly areas. All dosimetry, including the control badge will be collected and evaluated at the end of the field phase of these activities or a quarterly basis.

The Radiation Safety Officer (RSO) will be responsible for management of the on-site dosimetry program. Each on-site employee will be required to wear his or her film badge when he or she is present on the work site or on the NFSS. The TLD badge will remain at the work site when personnel are off-site.

Records of dosimetry will be maintained by the RSO while personnel are on the project site. Maxim will maintain the employee records at the Maxim St. Louis Office.

Section 9

9.0 EXPOSURE MONITORING DURING SAMPLE COLLECTION

9.1 *Environmental Exposure Monitoring*

There are no changes to this section of the SSHP.

Section 10

10.0 STANDARD OPERATING PROCEDURES (SOPs), ENGINEERING CONTROLS AND WORK PRACTICES

All fueling of equipment will be performed in an environmentally responsible and safe manner to avoid injury to workers and/or contamination of the NFSS or NMPC property. Specific protocols for fire safety during fueling operations is specified in Section 3.4.1.2 of this Addendum.

A spill kit that contains adsorbent material such as spill sock, pads or granular adsorbant will be present during fueling of large equipment in the support area of the NFSS. All spills of fuel, lubricants, antifreeze, or hydraulic fluids will be immediately cleaned up and reported to the Site Manager. Materials resulting from the clean-up of any spilled fuel, lubricants, antifreeze, or hydraulic fluids will be containerized in a plastic bag and drummed in a 55 gallon UNA1-1 drum and stored on-site on the IDW storage pad until disposal can be arranged.

Section 11

11.0 SITE ACCESS AND WORK ZONES

Maxim will gain access to the NMPC property through a gate in the NFSS perimeter fence. The general public does not have access to this gate. It is anticipated that Maxim will not require the use of the NMPC gate located at the southern end of the subject property.

A 100-yard zone of exclusion will be maintained around the excavator-mounted brush-clearing machine at all times. During chainsaw clearing of trees and brush, personnel will not be allowed within 10 feet of the operator of the chainsaw unless he/she is wearing the PPE ensemble for a chainsaw operator prescribed in Section 6.0.

The 25-foot machinery exclusion zone around the utility poles present on the NMPC property will be delineated by Maxim with barricade tape prior to the initiation of clearing and grubbing activities.

Section 12

12.0 PERSONAL HYGIENE AND DECONTAMINATION

12.1 Personal Hygiene

Portable toilets will be provided at the project office and at a central location near the work zones.

Waterless hand soap and antiseptic waterless gel will be provided for hand and face washing in the project office, portable toilets and support zones.

12.2 Decontamination

There are no changes to this section of the SSHP.

Section 13

13.0 EQUIPMENT DECONTAMINATION

There are no changes to this section of the SSHP.

Section 14

14.0 EMERGENCY AND SITE EQUIPMENT

Maxim will provide all emergency equipment, which includes the following items:

Fire Extinguisher - Maxim will provide a 2A:10:BC extinguisher for every vehicle. The fire extinguisher used during fire watch of equipment fueling operations will be a 4A: 20:BC or larger fire extinguisher.

First Aid Kit - Maxim will provide a physician-approved first aid kit in each on-site vehicle and the office trailer.

Eye Wash Station - Maxim will provide each Maxim field team member with a portable eye wash bottle that will be located as close as possible to work hazards. All personnel will be trained in its operation.

All emergency equipment will be kept in the support vehicle as close to each operation as possible.

Section 15

15.0 EMERGENCY RESPONSE AND CONTINGENCY PROCEDURE

In the event a power line falls, the SSHO will immediately be notified and the following steps shall be employed:

- 1) If personnel are injured, call 911 immediately. **DO NOT ATTEMPT TO RESCUE PERSONNEL WHO ARE IN CONTACT WITH AN ENERGIZED LINE OR IN EQUIPMENT WHICH IS IN CONTACT WITH AN ENERGIZED LINE.**

If the person is no longer in contact with the conductor or the line has been de-energized by the NMPC, trained personnel should administer first aid, CPR or rescue breathing as necessary.

Wires that are in contact with vehicles or equipment will cause arcing, smoke, and possibly fire. Occupants should remain in the cab and wait for the NMPC to respond. If it becomes necessary to jump from the vehicle or equipment due to fire, leap with both feet, as far away from the vehicle or equipment as possible. Release any hold on the vehicle or equipment prior to touching the ground. Jumping free of the vehicle or equipment should only be done as a last resort.

- 2) DO NOT ATTEMPT TO MOVE THE WIRE.
- 3) Restrict access to the area. Keep all personnel a minimum of ten feet away from the downed conductor. Flag the area and post personnel to restrict access.
- 4) The SSHO will contact Niagara Mohawk Power Corporation immediately.

Section 16

16.0 ACCIDENT PREVENTION

There are no changes to this section of the SSHP.

Section 17

17.0 LOGS, REPORTS, AND RECORDKEEPING

Maxim's Project Manager will provide a copy of any accident report(s) covering accidents or incidents occurring on the NMPC property to the NMPC.

TABLES

TABLE 3-1
NIAGARA FALLS STORAGE SITE
POTENTIAL CONTAMINANTS OF CONCERN
AND
ASSOCIATED HAZARDS

Contaminant	Exposure Limits	Characteristics	Diagnostic Signs and Symptoms	Routes of Exposure	Media	Action Levels	Work Practice Controls
Aldrin	PEL-TWA = 0.25 mg/m ³ (skin) TLV-TWA = 0.25 mg/m ³ (skin) REL-TWA* = 0.25 mg/m ³ (skin) (*Lowest feasible recommended) IDLH = 25 mg/m ³	Colorless to dark brown crystalline solid with a mild chemical odor.	Head, dizzy; nausea, vomit, malaise, myoclonic jerks of limbs, clonic, tonic convulsions; coma, hematuria, azotemia; carcinogen.	Inhalation, Absorption, Ingestion, Contact	1	² NA	Use prescribed PPE, Nitrile gloves inner and outer, poly coated Tyvek coveralls, overboots
Aluminum	PEL-TWA = 10 mg/m ³ (total); 5.0 mg/m ³ (resp) TLV-TWA = 10 mg/m ³ (total) REL-TWA = 10 mg/m ³ (total); 5.0 mg/m ³ (resp) IDLH = N.D. ¹	Silvery-white, malleable, ductile, odorless metal.	Irritant to eyes, skin, and respiratory system.	Inhalation, Ingestion, Contact	1	² NA	Use prescribed PPE, Nitrile gloves inner and outer, poly coated Tyvek coveralls, overboots
Antimony	PEL-TWA = 0.5 mg/m ³ TLL-TWA = 0.5 mg/m ³ REL-TWA = 0.5 mg/m ³ IDLH = 50 mg/m ³	Silver-white, lustrous, hard, brittle solid, scale-like crystals; or a dark-gray, lustrous powder.	Irritant to eyes, skin, nose, throat, mouth; cough; dizziness; head; nausea, vomit, diarrhea stomach cramps; insomnia; anorexia; unable to smell properly.	Inhalation, Ingestion, Contact	1	² NA	Use prescribed PPE, Nitrile gloves inner and outer, poly coated Tyvek coveralls, overboots
Arsenic	PEL-TWA = 0.010 mg/m ³ TLV-TWA = 0.010 mg/m ³ REL-Ceiling* = 0.002 mg/m ³ (*Lowest feasible recommended) IDLH = 5 mg/m ³	Silver-gray or tin-white, brittle, odorless solid.	Ulceration of nasal septum, dermatitis, gastrointestinal disturbances, peripheral neuropathy, respiratory irritation, hyperpigmentation of skin, carcinogen.	Absorption, Ingestion, Contact	1	² NA	Use prescribed PPE, Nitrile gloves inner and outer, poly coated Tyvek coveralls, overboots

TABLE 3-1
NIAGARA FALLS STORAGE SITE
POTENTIAL CONTAMINANTS OF CONCERN
AND
ASSOCIATED HAZARDS

Contaminant	Exposure Limits	Characteristics	Diagnostic Signs and Symptoms	Routes of Exposure	Media	Action Levels	Work Practice Controls
Benzene	PEL-TWA = 1.0 ppm PEL-STEL = 5.0 ppm TLV-TWA = 0.5 ppm TLV-STEL = 2.5 ppm REL-TWA = 0.1 ppm REL-STEL = 1 ppm (Lowest feasible recommended) IDLH = 500 ppm	Colorless liquid with aromatic odor. IP = 9.24 eV FIP = 12 degrees F	Irritant to eyes, nose, and respiratory system, giddy, headache, nausea, staggered gait, fatigue, anorexia lassitude, dermatitis, bone marrow depression, abdominal pain. Carcinogen (Ca)	Absorption, Ingestion, Inhalation Contact	1	TOV > 1 ppm Benzene > 0.5 ppm Benzene > 10 ppm TOV > 100 ppm	1) PID Monitoring and/or colorimetric indicator tubes. 2) If PID readings > 1 ppm, detector tubes will be used to determine compound (Benzene, Napthalene, Carbon Tetrachloride, Tetrachlorethylene, and Trichloroethylene) 3) If Benzene > 0.5 ppm then, evacuate EZ don respirators. 4) Evacuate site at > 100 ppm TOV and or Benzene > 10 ppm. 5) Wear prescribed PPE
Beryllium	PEL-TWA = 0.002 mg/m ³ PEL-Ceiling = 0.005 mg/m ³ TLV-TWA = 0.002 mg/m ³ TLV-STEL = 0.01 mg/m ³ REL-Ceiling = 0.0005 mg/m ³ (Lowest feasible recommended) IDLH = 4.0 mg/m ³	Metal: a hard, brittle, gray-white solid.	Berylliosis (chronic exposure): anorexia, weight loss, weak, chest pain, cough, clubbing of fingers, cyanosis, pulmonary insufficiency,; irritant of eyes, dermatitis. (Ca)	Contact, Inhalation	1	² NA	Use prescribed PPE, Nitrile gloves inner and outer, poly coated Tyvek coveralls, overboots
Cadmium (dust)	PEL-TWA = 0.005 mg/m ³ TLV-TWA = 0.01 mg/m ³ (total) 0.002 mg/m ³ (resp) REL - Low as feasibly possible IDLH = 9 mg/m ³	Metal: Silver-white, blue-tinged, lustrous, odorless solid.	pulmonary edema, dyspnea, cough, chest tight, substernal pain; head; chills, muscle aches; nausea, vomit, diarrhea; anosmia (loss of sense of smell), emphysema, proteinuria, mild anemia; Carcinogen.	Inhalation, Ingestion	1	² NA	Use prescribed PPE, Nitrile gloves inner and outer, poly coated Tyvek coveralls, overboots

TABLE 3-1
NIAGARA FALLS STORAGE SITE
POTENTIAL CONTAMINANTS OF CONCERN
AND
ASSOCIATED HAZARDS

Contaminant	Exposure Limits	Characteristics	Diagnostic Signs and Symptoms	Routes of Exposure	Media	Action Levels	Work Practice Controls
Chromium (metal)	PEL-TWA = 0.5 mg/m ³ TLV-TWA = 0.5 mg/m ³ REL-TWA = 0.5 mg/m ³ IDLH = 250 mg/m ³	Blue-white to steel-gray, lustrous, brittle, hard, odorless solid	Irritant eyes, skin; lung fibrosis (histologic).	Inhalation, Ingestion, Contact	1	² NA	Use prescribed PPE, Nitrile gloves inner and outer, poly coated Tyvek coveralls, overboots
Cobalt	*PEL-TWA = 0.1 mg/m ³ TLV-TWA = 0.02 mg/m ³ REL-TWA = 0.05 mg/m ³ *OSHA lowered the PEL to 0.05 mg/m ³ , however, this limit was vacated back to 0.1 mg/m ³ in a court ruling in 1993 IDLH = 20 mg/m ³	Odorless, silver-gray to black solid.	Cough, dyspnea (breathing difficulty), wheezing, decrease pulmonary function, weight-loss, dermatitis, diffuse nodular fibrosis, respiratory hypersensitivity, asthma.	Ingestion, Contact, Inhalation	1	² NA	Use prescribed PPE, Nitrile gloves inner and outer, poly coated Tyvek coveralls, overboots
Copper (metal dust)	PEL-TWA = 1 mg/m ³ TLV-TWA = 1 mg/m ³ REL-TWA = 1 mg/m ³ IDLH = 100 mg/m ³	Reddish, lustrous, malleable, odorless solid.	Irritant of eyes, nose, pharynx; nasal perforation; metallic taste; dermatitis.	Inhalation, Ingestion, Contact	1	² NA	Use prescribed PPE, Nitrile gloves inner and outer, poly coated Tyvek coveralls, overboots
Dieldrin	PEL-TWA = 0.25 mg/m ³ (skin) TLV-TWA = 0.25 mg/m ³ (skin) *REL-TWA = 0.25 mg/m ³ (skin) (*Lowest feasible recommended) IDLH = 50 mg/m ³	Colorless to light-tan crystals with a mild, chemical odor.	Head, dizziness; nausea, vomit, malaise, sweat; myoclonic limb jerks; clonic, tonic, convulsions; coma; Carcinogen.	Inhalation, Absorption, Ingestion, Contact	1	² NA	Use prescribed PPE, Nitrile gloves inner and outer, poly coated Tyvek coveralls, overboots
Endosulfan	PEL-TWA = None* TLV-TWA = 0.1 mg/m ³ (skin) REL-TWA = 0.1 mg/m ³ (skin) *OSHA established a PEL of 0.1 mg/m ³ , however, this limit was vacated in a court ruling in 1993 IDLH = N.D. ¹	Brown crystals with a slight, sulphur dioxide odor.	Irritant of skin; nausea, confusion, agitation, flushing, dry mouth, tremor, convulsions, head.	Absorption, Ingestion, Contact	1	² NA	Use prescribed PPE, Nitrile gloves inner and outer, poly coated Tyvek coveralls, overboots

TABLE 3-1
NIAGARA FALLS STORAGE SITE
POTENTIAL CONTAMINANTS OF CONCERN
AND
ASSOCIATED HAZARDS

Contaminant	Exposure Limits	Characteristics	Diagnostic Signs and Symptoms	Routes of Exposure	Media	Action Levels	Work Practice Controls
Ethyl Benzene	PEL-TWA = 100 ppm TLV-TWA = 100 ppm TLV-STEL = 125 ppm REL-TWA = 100 ppm REL-STEL = 125 ppm STEL = 125 ppm (545 mg/m ³) IDLH = 800 ppm (10% LEL)	Colorless liquid with an aromatic odor. IP = 8.76 eV FIP = 55 degrees F	Irritant of eyes, skin, mucous membrane; head; dermatitis; narcosis, coma.	Inhalation, Ingestion, Contact	1	TOV > 1 ppm TOV > 100 ppm	1) PID Monitoring and/or colorimetric indicator tubes. 2) If PID readings > 1 ppm, detector tubes will be used to determine compound (Benzene, Napthalene, Carbon Tetrachloride, Tetrachlorethylene, and Trichloroethylene) 3) Evacuate site at > 100 ppm TOV 4) Wear prescribed PPE
Lead	PEL-TWA = 0.05 mg/m ³ TLV-TWA = 0.05 mg/m ³ REL-TWA (10 hr) = 0.100 mg/m ³ IDLH = 100 mg/m ³	A heavy, ductile, soft, gray solid.	Weak, lassitude, insomnia; facial pallor; pal eye, anorexia, weight loss, malnutrition; constipation, abdominal pain, colic; anemia; gingival lead line; tremor; paralysis of wrist, ankles; encephalopathy; kidney disease; irritant of eyes; hypotension.	Inhalation, Ingestion, Contact	1	² NA	Use prescribed PPE, Nitrile gloves inner and outer, poly coated Tyvek coveralls, overboots
Lindane	PEL-TWA = 0.5 mg/m ³ (skin) TLV-TWA = 0.5 mg/m ³ (skin) REL-TWA = 0.5 mg/m ³ (skin) IDLH = 50 mg/m ³	White to yellow, crystalline powder with a slight, musty odor. (pesticide)		Inhalation, Absorption, Ingestion, Contact	1	² NA	Use prescribed PPE, Nitrile gloves inner and outer, poly coated Tyvek coveralls, overboots

TABLE 3-1
NIAGARA FALLS STORAGE SITE
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Contaminant	Exposure Limits	Characteristics	Diagnostic Signs and Symptoms	Routes of Exposure	Media	Action Levels	Work Practice Controls
Manganese	PEL-Ceiling = 5 mg/m ³ TLV-TWA = 0.2 mg/m ³ REL-TWA = 1 mg/m ³ REL-STEL = 3 mg/m ³ IDLH = 500 mg/m ³	Metal: a lustrous, brittle, silvery solid.	Parkinson's; asthenia, insomnia, mental confusion; metal fume fever: dry throat, cough, chest tight, dyspnea (difficult breathing), rales, flu-like fever, low-back pain; vomit; malaise; fatigue; kidney damage.	Inhalation, Ingestion	1	² NA	Use prescribed PPE, Nitrile gloves inner and outer, poly coated Tyvek coveralls, overboots
Mercury	*PEL-TWA = 0.1 mg/m ³ TLV-TWA = 0.025 mg/m ³ REL-TWA = 0.05 mg/m ³ (vapor) 0.1 mg/m ³ (other) (skin) *OSHA changed the PEL to 0.05 mg/m ³ , (vapor) and a Ceiling of 0.1 mg/m ³ (other), both with a skin notation, however, this limit was vacated back to 0.1 mg/m ³ in a court ruling in 1993. IDLH = 10 mg/m ³	Metal: Silver-white, heavy, odorless liquid.	Irritant of eyes, skin; cough, chest pain, dyspnea, bronchitis pneumonitis; tremor, insomnia, irritation, indecision, head, fatigue, weak; stomatitis, salivation; gastrointestinal disturbance, anorexia, weight loss; proteinuria.	Inhalation, Absorption, Ingestion, Contact	1	² NA	Use prescribed PPE, Nitrile gloves inner and outer, poly coated Tyvek coveralls, overboots
Molybdenum	*PEL-TWA = 15 mg/m ³ TLV-TWA = 5 mg/m ³ (soluble) and 10 mg/m ³ (metal / insoluble) REL-TWA = none established *OSHA lowered the PEL to 10 mg/m ³ however, this limit was vacated back to 15 mg/m ³ in a court ruling in 1993. IDLH = 5000 mg/m ³	Dark gray or black powder with a metallic luster.	In animals: irritant of eyes, nose, throat; anorexia, diarrhea, weight loss, listlessness; liver, kidney damage.	Inhalation, Ingestion, Contact	1	² NA	Use prescribed PPE, Nitrile gloves inner and outer, poly coated Tyvek coveralls, overboots

TABLE 3-1
NIAGARA FALLS STORAGE SITE
POTENTIAL CONTAMINANTS OF CONCERN
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Contaminant	Exposure Limits	Characteristics	Diagnostic Signs and Symptoms	Routes of Exposure	Media	Action Levels	Work Practice Controls
Naphthalene	*PEL-TWA = 10 ppm TLV-TWA = 10 ppm (skin) TLV-STEL = 15 ppm (skin) REL-TWA = 10 ppm REL-STEL = 15 ppm *OSHA added a STEL of 15 ppm however, this limit was vacated back after a court ruling in 1993. IDLH = 250 ppm	Colorless to brown solid with an odor of mothballs. IP = 8.12 eV FIP = 174 degrees F	Irritant of eyes; head, confusion, excitement, malaise; nausea, vomit, abdominal pain; irritant of bladder; profuse sweat; jaundice; hematuria, hemoglobinuria, renal shutdown; dermatitis; optical neuritis, corneal damage.	Absorption, Ingestion, Contact, Inhalation	1	TOV > 1 ppm Napthalene > 5 ppm Napthalene > 100 ppm TOV > 100 ppm	1) PID Monitoring and/or colorimetric indicator tubes. 2) If PID readings > 1 ppm, detector tubes will be used to determine compound (Benzene, Napthalene, Carbon Tetrachloride, Tetrachlorethylene, and Trichloroethylene) 3) If Napthalene > 5 ppm then evacuate EZ don respirators, re-enter EZ. 4) Evacuate site at > 100 ppm TOV and or Napthalene > 100 ppm. 5) Wear prescribed PPE
Nickel	*PEL-TWA = 1 mg/m ³ TLV-TWA = 1.5 mg/m ³ (metal) TLV-TWA = 0.1 mg/m ³ (soluble) TLV-TWA = 0.2 mg/m ³ (insol) Note all TLV's are for the inhalable portion REL-TWA = 0.015 mg/m ³ (Lowest feasible recommended) *OSHA changed the PEL to 1 mg/m ³ (metal / insol) and 0.1 mg/m ³ (soluble) however, this limit was vacated back after a court ruling in 1993. IDLH = 10 mg/m ³	Metal: Lustrous, silvery, odorless solid.	Sensitization dermatitis, allergic asthma, pneuitis; Carcinogen.	Inhalation, Ingestion, Contact	1	² NA	Use prescribed PPE, Nitrile gloves inner and outer, poly coated Tyvek coveralls, overboots

TABLE 3-1
NIAGARA FALLS STORAGE SITE
POTENTIAL CONTAMINANTS OF CONCERN
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Contaminant	Exposure Limits	Characteristics	Diagnostic Signs and Symptoms	Routes of Exposure	Media	Action Levels	Work Practice Controls
Phenol	PEL-TWA = 5 ppm (skin) TLV-TWA = 5 ppm (skin) REL-TWA = 5 ppm (skin) REL-Ceiling = 15.6 ppm (skin) IDLH = 250 ppm	Colorless to light-pink, crystalline solid with a sweet, acrid odor. IP = 8.50 eV FIP = 175 degrees F	Irritant of eyes, nose, throat; anorexia, weight loss; weak, muscle ache, pain; dark urine; cyanosis; liver, kidney damage; skin burns; dermatitis; ochronosis; tremor convulsions, twitch.	Inhalation, Absorption, Ingestion, Contact	1	² NA	Use prescribed PPE, Nitrile gloves inner and outer, poly coated Tyvek coveralls, overboots
Selenium	PEL-TWA = 0.2 mg/m ³ TLV-TWA = 0.2 mg/m ³ REL-TWA = 0.2 mg/m ³ IDLH = 1 mg/m ³	Amorphous or crystalline, red to gray solid.	Irritant of eyes, skin, nose, throat; visual disturbance; head; chills, fever; dyspnea, bronchitis, metallic taste, garlic breath, gastrointestinal disturbance; dermatitis; eye, skin burns; in animals: anemia; liver necrosis, cirrhosis; kidney, spleen damage.	Inhalation, Ingestion, Contact	1	² NA	Use prescribed PPE, Nitrile gloves inner and outer, poly coated Tyvek coveralls, overboots
Silver	PEL-TWA = 0.01 mg/m ³ TLV-TWA = 0.1 mg/m ³ (metal) TLV-TWA = 0.01 mg/m ³ (soluble) REL-TWA = 0.01 mg/m ³ IDLH = 10 mg/m ³	Metal: White, lustrous solid.	Blue-gray eyes, nasal septum, throat, skin; irritant, ulceration skin; gastrointestinal disturbance.	Inhalation, Ingestion, Contact	1	² NA	Use prescribed PPE, Nitrile gloves inner and outer, poly coated Tyvek coveralls, overboots
Sodium hydroxide	PEL-TWA = 2.0 mg/m ³ TLV-Ceiling 2.0 mg/m ³ REL-Ceiling 2.0 mg/m ³ IDLH = 10 mg/m ³	Colorless to white, odorless solid (flakes, beads, granular form).	Irritant of eyes, skin, mucous membrane; pneuitis; eye, skin burns; temporary loss of hair.	Inhalation, Ingestion, Contact	1	NA	Use prescribed PPE, Nitrile gloves inner and outer, poly coated Tyvek coveralls, overboots

**TABLE 3-1
NIAGARA FALLS STORAGE SITE
POTENTIAL CONTAMINANTS OF CONCERN
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Contaminant	Exposure Limits	Characteristics	Diagnostic Signs and Symptoms	Routes of Exposure	Media	Action Levels	Work Practice Controls
Sulfuric acid	PEL-TWA = 1 mg/m ³ TLV-TWA = 1 mg/m ³ TLV-STEL = 3 mg/m ³ REL-TWA = 1 mg/m ³ IDLH = 15 mg/m ³	Colorless to dark-brown, oily, odorless liquid.	Irritant of eyes, skin, nose, throat; pulmonary edema, bronchitis; emphysema; conjunctivitis; stomatis; dental erosion; tracheobronchitis; eye, skin burns; dermatitis.	Ingestion, Contact, Inhalation	2	NA	Use prescribed PPE, Nitrile gloves inner and outer, poly coated Tyvek coveralls, overboots, used eye and face protection when preserving rinsate samples.
Tetrachloroethene	*PEL-TWA = 100 ppm PEL-Ceiling = 200 ppm TLV-TWA = 25 ppm TLV-STEL = 100 ppm REL - Minimize exposures and limit number of workers exposed *OSHA lowered the PEL to 25 ppm and eliminated the ceiling, however, this limit was vacated back after a court ruling in 1993. IDLH = [150 ppm]	Colorless liquid with a mild, chloroform-like odor.	Irritant of eyes, nose, throat; nausea; flush face, neck; vertigo, dizziness, incoordination; head, somnolence; skin erythema (skin redness); liver damage; Carcinogen.	Absorption, Ingestion, Contact, Inhalation	1	TOV > 1 ppm Tetrachloro ethylene > 15 ppm Tetrachloro ethylene > 250 ppm TOV > 100 ppm	1) PID Monitoring and/or colorimetric indicator tubes. 2) If PID readings > 1 ppm, detector tubes will be used to determine compound (Benzene, Napthalene, Carbon Tetrachloride, Tetrachloroethylene, and Trichloroethylene) 3) If Tetrachloroethylene > 15 ppm, evacuate EZ, don respirators, re-enter exclusion zone. 4) Evacuate site at > 100 ppm TOV (Tetrachloroethylene evacuation would be required at > 250 ppm.) 5) Wear prescribed PPE

TABLE 3-1
NIAGARA FALLS STORAGE SITE
POTENTIAL CONTAMINANTS OF CONCERN
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Contaminant	Exposure Limits	Characteristics	Diagnostic Signs and Symptoms	Routes of Exposure	Media	Action Levels	Work Practice Controls
Thallium	PEL-TWA = 0.1 mg/m ³ [skin] TLV-TWA = 0.1 mg/m ³ [skin] REL-TWA = 0.1 mg/m ³ [skin] IDLH = 15 mg/m ³	Appearance and odor vary depending upon the specific soluble thallium compound.	Nausea, diarrhea, abdominal pain, vomit; ptosis, strabismus; peri neuritis, tremor; reater tight, chest pain, pulmonary edema; seizure, chorea, psychosis; liver, kidney damage; alopecia; paresthesia legs.	Inhalation, Absorption, Ingestion, Contact	1	² NA	
Tin (metal)	PEL-TWA = 2 mg/m ³ TLV-TWA = 2 mg/m ³ REL-TWA = 2 mg/m ³ IDLH = 100 mg/m ³ (as Sn)	Gray to almost silver-white, ductile, malleable, lustrous solid.	Irritant of eyes, skin, respiratory system; In animals: vomit, diarrhea, paralysis with muscle twitch	Inhalation, Contact	1	² NA	
Toluene	*PEL-TWA = 200 ppm *PEL-STEL = 300 ppm TLV-TWA = 150 ppm (skin) REL-TWA = 100 ppm REL-STEL = 150 ppm *OSHA lowered the PEL-TWA to 100 ppm and the STEL to 150 ppm, however, this limit was vacated back after a court ruling in 1993. IDLH = 500 ppm	Colorless liquid with a sweet, pungent, benzene-like odor. IP = 8.82 eV FIP = 40 degrees F	Irritant of eyes, nose; fatigue, weak, confusion, euphoria, dizziness, head; dilated pupils, lacrimation (discharge of tears); nervousness, muscle fatigue, insomnia; paresthesia, dermatitis; liver, kidney damage.	Inhalation, Absorption, Ingestion, Contact	1	TOV > 1 ppm TOV > 100 ppm	1) PID Monitoring and/or colorimetric indicator tubes. 2) If PID readings > 1 ppm, detector tubes will be used to determine compound (Benzene, Napthalene, Carbon Tetrachloride, Tetrachlorethylene, and Trichloroethylene) 3) Evacuate site at > 100 ppm TOV 4) Wear prescribed PPE

TABLE 3-1
NIAGARA FALLS STORAGE SITE
POTENTIAL CONTAMINANTS OF CONCERN
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Contaminant	Exposure Limits	Characteristics	Diagnostic Signs and Symptoms	Routes of Exposure	Media	Action Levels	Work Practice Controls
Total Xylenes	*PEL-TWA = 100 ppm TLV-TWA = 100 ppm TLV-STEL = 150 ppm REL-TWA = 100 ppm REL-STEL = 150 ppm *OSHA added a STEL of 150 ppm, however, this limit was vacated back after a court ruling in 1993. IDLH = 900 ppm	Colorless liquid with an aromatic odor. IP = 8.44 to 8.56 depending on isomer FIP = 81-90 degrees F depending on isomer	Irritant of eyes, skin, nose, throat; dizziness, incoordination, staggering gait; corn vacuolization; anorexia, nausea, vomit, abdominal pain, dermatitis.	Inhalation, Absorption, Ingestion, Contact	1	TOV > 1 ppm TOV > 100 ppm	1) PID Monitoring and/or colorimetric indicator tubes. 2) If PID readings > 1 ppm, detector tubes will be used to determine compound (Benzene, Napthalene, Carbon Tetrachloride, Tetrachlorethylene, and Trichloroethylene) 3) Evacuate site at > 100 ppm TOV 4) Wear prescribed PPE
Carbon Tetrachloride	*PEL-TWA = 10 ppm *PEL-Ceiling = 25 ppm TLV-TWA = 5 ppm TLV-STEL = 10 ppm REL-STEL = 2 ppm Lowest feasible recommended *OSHA lowered the PEL-TWA to 2 ppm and eliminated the STEL, however, this limit was vacated back after a court ruling in 1993. IDLH = 300 ppm	Colorless liquid with an ether-like odor IP = 11.47 eV	CNS depressant, nausea, vomiting, liver and kidney damage, skin irritant, carcinogen.	Inhalation, Absorption, Ingestion, Contact	1,2,3	TOV > 1 ppm Carbon Tetrachloride > 2 ppm Carbon Tetrachloride > 50 ppm TOV > 100 ppm	1) PID Monitoring and/or colorimetric indicator tubes. 2) If PID readings > 1 ppm, detector tubes will be used to determine compound (Benzene, Napthalene, Carbon Tetrachloride, Tetrachlorethylene, and Trichloroethylene) 3) If Carbon Tetrachloride > 2 ppm then don respirators. 4) Evacuate site at > 100 ppm TOV and or Carbon Tetrachloride > 50 ppm. 5) Wear prescribed PPE

TABLE 3-1
NIAGARA FALLS STORAGE SITE
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Contaminant	Exposure Limits	Characteristics	Diagnostic Signs and Symptoms	Routes of Exposure	Media	Action Levels	Work Practice Controls
Trichloroethene	*PEL-TWA = 100 ppm *PEL-Ceiling = 200 ppm TLV-TWA = 50 ppm TLV-STEL = 100 ppm REL- Lowest feasible recommended *OSHA changed the PEL-TWA to 50 ppm and the Ceiling to a STEL of 200ppm, However, this limit was vacated back after a court ruling in 1993. IDLH = 1,000 ppm (Carcinogen)	Colorless liquid with a sweet odor-like chloroform IP = 9.45 eV	Headache, vertigo, visual distortions, tremors, somnolence, nausea, vomiting, irritant to eyes, dermatitis, paraesthesia, cardiac arrhythmias	Inhalation, Absorption, Ingestion, Contact	1,2,3	TOV > 1 ppm Trichloroethylene > 25 ppm Trichloroethylene > 250 ppm TOV > 100 ppm	1) PID Monitoring and/or colorimetric indicator tubes. 2) If PID readings > 1 ppm, detector tubes will be used to determine compound (Benzene, Naphthalene, Carbon Tetrachloride, Tetrachloroethylene, and Trichloroethylene) 3) If Trichloroethylene > 25 ppm then evacuate EZ don respirators, re-enter EZ. 4) Evacuate site at > 100 ppm TOV (Trichloroethylene evacuation would be required at > 250 ppm. 5) Wear prescribed PPE
<u>Polychlorinated Biphenyls</u> Archlor 1242 Archlor 1254	PEL-TWA = 1 mg/m ³ (skin) TLV-TWA = 1 mg/m ³ (skin) REL-TWA = 0.001 mg/m ³ Lowest feasible recommended IDLH = 5 mg/m ³ PEL-TWA = 0.5 mg/m ³ (skin) TLV-TWA = 0.5 mg/m ³ (skin) REL-TWA = 0.001 mg/m ³ Lowest feasible recommended PEL = 0.5 mg/m ³ (skin) IDLH = 5 mg/m ³	Colorless to light colored liquid with hydrocarbon odor Colorless to pale liquid with hydrocarbon odor	Eye irritant, chloracne, liver damage, carcinogen Eye and skin irritant, chloracne, carcinogen	Inhalation, Absorption, Ingestion, Contact Inhalation, Absorption, Ingestion, Contact	1,2 1,2	NA NA	Use of nitrile gloves, Saranex, boots Use of nitrile gloves, Saranex, boots

**TABLE 3-1
NIAGARA FALLS STORAGE SITE
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Contaminant	Exposure Limits	Characteristics	Diagnostic Signs and Symptoms	Routes of Exposure	Media	Action Levels	Work Practice Controls
Radioactive Contaminants	2 mrem/hour (20 uSv/hour)	None	None	Inhalation, Absorption, Ingestion	1,2,3,4	2 mrem/hr ³	1) Continual monitoring. 2) Restriction of areas if contain contaminants above action levels. 3) See radiation protection plan, Appendix B.
<u>Nitroaromatics</u> 2,4,6-Trinitrotoluene	*PEL-TWA = 1.5 mg/m ³ (skin) TLV-TWA = 0.1 mg/m ³ (skin) REL-TWA = 0.5 mg/m ³ (skin) *OSHA lowered the PEL-TWA to 0.5 mg/m ³ (skin), however, this limit was vacated back after a court ruling in 1993. IDLH = 500 mg/m ³	Colorless to pale yellow, odorless solid Explosive Chemical IP = 10.59 eV	Irritation of eyes, throat, and nose. If inhaled, can cause sneezing, coughing, or ingestion which can cause liver damage, kidney damage, muscle pain, dermatitis, anemia, jaundice, or cyanosis.	Inhalation, Absorption, Ingestion, Contact	1,2,3	NA	1) Use of nitrile, gloves, Saranex, boots. 2) Precautions outlined in Section 2.8.3. 3) Respiratory protection if conditions are dry, windy, and dusty at where solid TNT is present or suspected or severely strained, and/or denuded soil is present. 4) Personal monitoring if recommended by CIH.

TABLE 3-1
NIAGARA FALLS STORAGE SITE
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Contaminant	Exposure Limits	Characteristics	Diagnostic Signs and Symptoms	Routes of Exposure	Media	Action Levels	Work Practice Controls
Dinitrotoluene	PEL-TWA = 1.5 mg/m ³ (skin) TLV-TWA = 0.2 mg/m ³ (skin) REL-TWA = 1.5 mg/m ³ (skin) IDLH = 50 mg/m ³	Orange-yellow solid characteristic odor Explosive Chemical FIP = 404 degrees F	Can be inhaled or absorbed by ingestion or contact. Excessive absorption or inhalation can cause anoxia, cyanosis, anemia, or jaundice. Carcinogen	Inhalation, Absorption, Ingestion, Contact	1,2,3	NA	See 2,4,6-Trinitrotoluene
Trinitrobenzene	Not established	Yellow crystals Explosive Chemical	Similar to TNT. Causes reduction of oxygen carrying power of blood.	Inhalation, Absorption, Ingestion, Contact	1,2,3	NA	See 2,4,6-Trinitrotoluene
Dinitrobenzene	PEL-TWA = 1 mg/m ³ (skin) TLV-TWA = 0.15 ppm (skin) REL-TWA = 1 mg/m ³ (skin) IDLH = 200 mg/m ³	Pale white or yellow solid Explosive Chemical IP = 10.43 to 10.71 eV depending on isomer FIP = 303 degrees F	Anoxia, cyanosis, central scotomas, burning mouth, anemia, liver damage.	Inhalation, Absorption, Ingestion, Contact	1,2,3	NA	See 2,4,6-Trinitrotoluene
Nitrobenzene	PEL-TWA = 1 ppm (skin) TLV-TWA = 1 ppm (skin) REL-TWA = 1 ppm (skin) IDLH = 200 ppm	Yellow oily liquid with odor-like shoe polish. Explosive Chemical IP = 9.92 eV FIP = 190 degrees F	Eye irritant, anoxia, anemia, liver damage (in animals)	Inhalation, Absorption, Ingestion, Contact	1,2,3	NA	See 2,4,6-Trinitrotoluene
PAHs	Varies depending on the particular PAH compound	Pungent odor for some. May not have odor for others.	Skin rash, slight irritation to eyes and nose.	Inhalation, Absorption, Ingestion, Contact	1,2	NA	Level D with nitrile gloves - inner and outer.

TABLE 3-1
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Contaminant	Exposure Limits	Characteristics	Diagnostic Signs and Symptoms	Routes of Exposure	Media	Action Levels	Work Practice Controls
TPH (Various)	Varies depending on the type used - refer to MSDS for specific components. May contain benzene.	Colorless to dark oily liquid with aromatic or pungent odor.	Irritant to eyes and nose, skin rash.	Inhalation, Absorption, Ingestion, Contact	1,2	5 ppm	If PID readings > 5 ppm, vapor detector tubes to ID if not identifiable with detector tubes. Upgrade to Level C.
Nitric Acid	*TWA-PEL = 2 ppm TLV-TWA = 2 ppm TLV-STEL = 4 ppm REL-TWA = 2 ppm REL-STEL = 4 ppm *OSHA added a STEL of 4 ppm, however, this limit was vacated back after a court ruling in 1993. IDLH = 100 ppm	Colorless, yellow or red fuming liquid with acrid odor.	Eye irritant, edema, bronchitis, dermal burns.	Inhalation, Ingestion, Contact	2	NA	Use of nitrile glove, Saranex, boots.
Asbestos	PEL-TWA = 0.1 fiber/cc PEL-STEL = 1 fiber/cc Note: Fibers are defined as greater than 5 mm in length with a length to width ratio at least 3 to 1. TLV-TWA = 0.1 fiber/cc REL-TWA = 0.1 fiber/cc Lowest feasible recommended	White or greenish-blue or gray-green fibrous odorless solid.	Asbestosis (chronic exposure) restricted pulmonary function, dyspnea, interstitial fibrousus.	Inhalation, Ingestion, Contact	4,5	NA	Use prescribed PPE.
Methanol	PEL-TWA = 200 ppm (NIOSH and OSHA) IDLH = 6000 ppm	Colorless liquid with a harviteristic pungent odor	Irritant to eyes, skin, respiratory system, drowsiness, vertigo, optic nerve damage	Inhalation, Ingestion, Contact, Absorption	1	NA (preservative)	Use of nitrile glove, Saranex, boots.

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Contaminant	Exposure Limits	Characteristics	Diagnostic Signs and Symptoms	Routes of Exposure	Media	Action Levels	Work Practice Controls
Sodium Busulfate	No specific information found on exposure limits; No LD50/LC50 information found related to normal routes of occupational exposure	Inorganic corrosive colorless crystal solid which is acidic; will be a liquid solution in the field and used in limited quantities as a preservative	Irritation of nose and throat and labored breathing; sore throat; vomiting; diarrhea; lung irritation; coughing	Inhalation, Ingestion, Contact	1	NA	Use prescribed PPE identified in MSDS.

PEL = Permissible Exposure Limit (OSHA)

TLV = Threshold Limit Value (American Conference of Governmental Industrial Hygienist)

REL = Recommended Exposure Limit (NIOSH)

TWA = Time Weighted Average

STEL = Short Term Exposure

IDLH = Immediately Dangerous to Life or Health

¹ N.D. = an IDLH has not as yet been determined.

² NA = The material may contain these compounds and/or chemicals at trace levels in the sediment. "Action Levels" and "Types of Detection" are not applicable in the laboratory environment.

IP = Ionization Potential

FIP = Flash Point

Media = 1) Soil 2) Water 3) Sediment 4) Building Surfaces

EZ = Exclusion Zone

TABLE 3-2
ACTIVITY HAZARD ANALYSIS

Contract No. DACW49-95-D-0001	Project: Additional Sampling – Niagara Mohawk Property	Facility: Niagara Falls Storage Site
Date: August, 2000	Location: Lewiston, NY.	Estimated Start Date: September 2001
Phase of Work	Safety Hazard	Precautionary Actions
CLEARING AND GRUBBING	Contact with Overhead High Voltage Lines	<ol style="list-style-type: none"> 1. Contact the New York One-Call System at least seven days prior to mobilization to the site. Contact non-subscriber utilities within the project area concerning the location of utilities at the project site at least seven days prior to mobilization to the site. 2. Coordinate with USACE concerning location of private and non-subscriber utilities which may be located on-site near the work areas. 3. Maintain employee alertness during clearing operations around overhead supports and near overhead lines. 4. Maintain required clearances of equipment from overhead conductors. 5. Maintain required clearances of equipment poles and towers. 6. Employee NMPC specified grounding techniques as required.
	Contact with Underground Utilities	<ol style="list-style-type: none"> 1. Contact the New York One-Call System at least seven days prior to mobilization to the site. Contact non-subscriber utilities within the project area concerning the location of utilities at the project site at least seven days prior to mobilization to the site.
	Slips, Trips and Falls	<ol style="list-style-type: none"> 1. Maintain employee alertness around brush clearing operations. 2. Practice good housekeeping. 3. Be alert on uneven terrain and steep grades.
	Lockout/Tagout	<ol style="list-style-type: none"> 1. Ensure that stored energy in hydraulic systems is released prior to performing maintenance on hydraulic systems.
	Cold-related problems	<ol style="list-style-type: none"> 1. Pace your work. 2. Take frequent breaks (warm and dry rest area). 3. Wear layered clothing with wind breaking material on the outside. 4. Maintain hydration.
	Heat-related problems	<ol style="list-style-type: none"> 1. Pace your work 2. Force fluid intake. 3. Take frequent breaks in shaded areas.

TABLE 3-2
ACTIVITY HAZARD ANALYSIS

Contract No. DACW49-95-D-0001	Project: Additional Sampling – Niagara Mohawk Property	Facility: Niagara Falls Storage Site
Date: August, 2000	Location: Lewiston, NY.	Estimated Start Date: September 2001
Phase of Work	Safety Hazard	Precautionary Actions
CLEARING AND GRUBBING (cont.)	Backing over workmen	<ol style="list-style-type: none"> 1. Before moving make sure all people are clear. 2. Slow down when backing up or when on ramps and curves. 3. Back up alarms are required on all brush clearing equipment. 4. Pedestrian workers should not work in the vicinity of brush clearing equipment. 5. Instruct employees never to walk in front or back of moving equipment. 6. Try to make eye contact with operators you are near.
	Explosions/Fire	<ol style="list-style-type: none"> 1. Fuel only “cold” equipment. 2. Maintain fire watch while fueling equipment. 3. Fuel equipment only in the support zone. 4. Do not fuel or perform maintenance while equipment is running. 5. When jumping batteries be sure of your connections. 6. Know where fire extinguishers are and how to use them. 7. Never use gasoline or any other combustible solvent as a cleaning agent. 8. Ground dispenser nozzle to equipment prior to fueling.
	Back injuries	<ol style="list-style-type: none"> 1. Instruct personnel how to lift materials. 2. Instruct personnel to get help and/or to use lifting equipment.
	Machinery Hazards	<ol style="list-style-type: none"> 1. Do not wear loose clothing or jewelry around moving machinery. 2. Do not perform maintenance on equipment while equipment is in operation. 3. Tie up long hair or place it under a net or cap.
	Hearing loss	<ol style="list-style-type: none"> 1. Equipment and chainsaw operators shall wear hearing protection with minimum noise reduction rating of 25dBA or greater.
	Direct Contact with unidentified wastes	<ol style="list-style-type: none"> 1. Maintain employee alertness in sampling areas. 2. Ensure that the specified PPE is use during sampling activities. 3. Ensure proper decontamination techniques are used. 4. Employees must ensure that radiological monitoring of personnel and equipment is performed.
	Weather	<ol style="list-style-type: none"> 1. Avoid working in conditions which could escalate potential site hazards such as rain, mud, lightning, etc.

TABLE 3-2
ACTIVITY HAZARD ANALYSIS

Contract No. DACW49-95-D-0001	Project: Additional Sampling – Niagara Mohawk Property	Facility: Niagara Falls Storage Site
Date: August, 2000	Location: Lewiston, NY.	Estimated Start Date: September 2001
Phase of Work	Safety Hazard	Precautionary Actions
GAMMA WALKOVER SURVEYS	Biological	1. Use Permanone, DEET containing insect repellents, Tyvek coveralls and head nets to reduce employee exposure to mosquitoes, ticks and chiggers.
	Inhalation of vapors	1. Monitor atmosphere with PID during trenching and sampling. 2. Maintain employee alertness of known or suspected area of possible volatile contamination. 3. <u>On-site workers must be clean-shaven if Level C is required.</u>
	Contact with Overhead High Voltage lines	1. Contact the New York One-Call System at least seven days prior to mobilization to the site. Contact non-subscriber utilities within the project area concerning the location of utilities at the project site at least seven days prior to mobilization to the site. 2. Coordinate with USACE concerning location of private and non-subscriber utilities which may be located on-site near the work areas. 3. Maintain employee alertness during walkover operations around overhead supports and near overhead lines. 4. Maintain required clearances of equipment from overhead conductors. 5. Maintain required clearances of equipment poles and towers. 6. <u>Employ NMPC specified grounding techniques as required.</u>
	Contact with Underground Utilities	1. Contact the New York One-Call System at least seven days prior to mobilization to the site. Contact non-subscriber utilities within the project area concerning the location of utilities at the project site at least seven days prior to mobilization to the site.
	Slips, Trips and Falls	1. Exercise care when walking in cleared areas of the site to avoid tripping over cut stumps and brush. 2. Be alert for wet or muddy conditions. 3. Be alert for trip hazards caused by debris. 4. <u>Be alert on uneven terrain and steep grades.</u>
	Cold-related problems	1. Take frequent breaks (warm and dry rest area). 2. Wear layered clothing with wind breaking material on the outside. 3. <u>Maintain hydration.</u>

TABLE 3-2
ACTIVITY HAZARD ANALYSIS

Contract No. DACW49-95-D-0001	Project: Additional Sampling – Niagara Mohawk Property	Facility: Niagara Falls Storage Site
Date: August, 2000	Location: Lewiston, NY.	Estimated Start Date: September 2001
Phase of Work	Safety Hazard	Precautionary Actions
GAMMA WALKOVER SURVEYS (CONT.)	Heat-related problems	1. Pace your work
	Backing over workmen	1. Before moving make sure all people are clear. 2. Slow down when backing up or when on ramps and curves. 3. Back up alarms are required on all brush clearing equipment. 4. Pedestrian workers should not work in the vicinity of brush clearing equipment. 5. Instruct employees never to walk in front or back of moving equipment. 6. Try to make eye contact with operators you are near.
	Explosions/Fire	1. Fuel only “cold” equipment. 2. Maintain fire watch while fueling equipment. 3. Fuel equipment only in the support zone. 4. Do not fuel or perform maintenance while equipment is running. 5. When jumping batteries be sure of your connections. 6. Know where fire extinguishers are and how to use them. 7. Never use gasoline or any other combustible solvent as a cleaning agent. 8. Ground dispenser nozzle to equipment prior to fueling.
	Back injuries	1. Instruct personnel how to lift materials. 2. Instruct personnel to get help and/or to use lifting equipment.
	Machinery Hazards	1. Do not wear loose clothing or jewelry around moving machinery. 2. Do not perform maintenance on equipment while equipment is in operation. 3. Tie up long hair or place it under a net or cap.
	Hearing loss	1. Equipment and chainsaw operators <u>shall</u> wear hearing protection with minimum noise reduction rating of 25dBA or greater.
	Direct Contact with unidentified wastes	1. Maintain employee alertness in sampling areas. 2. Ensure that the specified PPE is use during sampling activities. 3. Ensure proper decontamination techniques are used. 4. Employees must ensure that radiological monitoring of personnel and equipment is performed.

TABLE 3-2
ACTIVITY HAZARD ANALYSIS

Contract No. DACW49-95-D-0001	Project: Additional Sampling – Niagara Mohawk Property	Facility: Niagara Falls Storage Site
Date: August, 2000	Location: Lewiston, NY.	Estimated Start Date: September 2001
Phase of Work	Safety Hazard	Precautionary Actions
	Weather	1. Avoid working in conditions which could escalate potential site hazards such as rain, mud, lightning, etc.
GAMMA WALKOVER SURVEY (CONT.)	Biological	1. Use Permanone, DEET containing insect repellents, Tyvek coveralls and head nets to reduce employee exposure to mosquitoes, ticks and chiggers.
	Inhalation of vapors	1. Monitor atmosphere with PID during trenching and sampling. 2. Maintain employee alertness of known or suspected area of possible volatile contamination. 3. On-site workers must be clean-shaven if Level C is required.

TABLE 5-1
TRAINING/MEDICAL SUMMARY

Personnel	40-Hour HAZWOPER	8-Hour Supervisor	8-Hour Refresher	Physical Exam	Respirator Fit Test	First Aid/CPR (expires)
Bessent, Bob	February 1988	October 1988	March 2001	April 2001	July 2001	Jan. 2002/Jan. 2002
Biggs, Tim	May 1992	October 1994	March 2001	March 2001	June 2001	Jan. 2002/Jan. 2002
Dawdy, Greg	November 1984	December 1990	March 2001	August 2001	July 2001	Jan. 2003/Jan. 2002
Dickens, Nancy	October 1989	March 1990	March 2001	August 2001	July 2001	Jan. 2003/Jan. 2002
Germeroth, Dave	February 1991	February 1996	March 2001	July 2001	July 2001	Jan. 2002/Jan. 2002
Gricevich, Max	November 1986	October 1988	March 2001	August 2000	June 2001	Jan. 2002/Jan. 2002
Lachajczyk, Tom	March 1988	October 1988	March 2001	April 2000	July 2001	Jan. 2003/Jan. 2002
Lindenbusch, Brad	August 1994	None	March 2001	February 2001	July 2001	Jan. 2003/Jan. 2002
McLean, Mike	November 1994	None	March 2001	December 2000	June 2001	March 2002/Jan. 2001
Mulhearn, Brian	March 1993	None	March 2001	January 2001	July 2001	July 2002/Jan. 2002
Richards, Jim	May 1993	May 1993	March 2001	May 2001	July 2001	July 2002/Jan. 2002
Shetley, Jim	August 1998	None	March 2001	May 2001	July 2001	Jan. 2002/Feb. 2001
Sievers, Mark	August 1993	May 1994	April 2001	May 2001	July 2001	Jan. 2003/Jan. 2002
Smith, Jennifer	July 2000	None	July 2001	July 2001	July 2001	July 2002/Jan.2002

EXHIBITS

Exhibit 3-1
Daily Equipment Inspection Form
Niagara Falls Storage Site

Date:_____ **Time:**_____ **Inspector:**_____

Item	Passed	Failed	Date of Corrective Action of Failed Item
Air Filter			
Back-up Alarm			
Battery			
Belts			
Hoses			
Radiator Level			
Brakes			
Parking Brake			
Hydraulic Lines			
Hydraulic Connectors			
Engine Oil Level			
Fire Extinguisher			
First Aid Kit			
Horn			
Kill Switch			
Oil/Grease Buildup			
Rollover Protection			
Seat Belt			
Tires/Tracks			
Fuel Level			
Transmission Level			
Hydraulic Fluid Level			

EXHIBIT 5-1
STATEMENT OF UNDERSTANDING

My signature indicates that I have read, understood, and will comply with the guidelines and procedures set forth in the Site Safety and Health Plan and the Site Safety and Health Plan Addendum for the Additional Sampling to Characterize the Niagara Mohawk located in Lewiston New, York.

Printed of Typed Name

Signature

Date

APPENDIX A



July 11, 2000

Mr. Victor L. Kotwicki
Department of the Army
Detroit District, Corps of Engineers
Box 1027
Detroit, Michigan 48231-1027

Re: Right of Entry on NMPC Lands
FUSRAP, Niagara Falls Storage Site
NMPC Reference A.R. #698-2851

Dear Mr. Kotwicki:

Enclosed is an original of the above Agreement dated June 30, 2000 which has been duly executed by our Regional Manager.

Work may not commence on this project until we have received the required Certificate of Insurance as provided for in Article 6 (a) of the Agreement. Proper notification must be made to Mr. James Morgan as provided for in Article 8 of this Agreement.

If I may be of further assistance, please contact me at (716) 831-7464.

Sincerely,

Mark G. Agle MGS

Mark G. Agle, P.L.S.
Supervisor
Land and Right of Way

MGA:kls
Kotwicki Rtn RoE Ltr
Enclosure

CF: *Judith Leithner*
CELRB-PE-EE

**RIGHT OF ENTRY
FOR
TEMPORARY USE AND OCCUPANCY OF
NIAGARA MOHAWK LANDS**

This agreement made this 30th day of June, 2000, between Niagara Mohawk Power Corporation, hereinafter referred to as "Owner" and the UNITED STATES DEPARTMENT OF THE ARMY, CORPS OF ENGINEERS, hereinafter referred to as "the Government",

WITNESSETH:

WHEREAS, the owner represents as follows:

That the Owner owns parcels of real property in the vicinity of the Niagara Falls storage site in the Town of Lewiston, Niagara County, New York, which property is shown on the attached Town of Lewiston Tax Map Section 74.00, labeled Exhibit "A", and further exemplified in NMPC Drawing No. C-20214-W, labeled Exhibit "B", and which parcels are hereby described briefly as follows:

Shown on Niagara County Tax Map 74.00, Town of Lewiston,
Being a portion of Tax Parcel 88-1-41,
Hereinafter referred to as "the property",

WHEREAS, during an environmental investigation of the Niagara Falls storage site said property will be entered upon and occupied by the Government, its representatives, employees, agents or contractors, for one or more of the purposes hereinafter set forth

NOW THEREFORE, the parties hereto agree as follows:

1. As consideration for this agreement, the Government will pay to Owner one dollar (\$1 00), payment of which is waived, and provide other valuable consideration as further described in this Agreement.
2. The Owner will permit entry on and use of the property by the Government, its agents, employees, contractors and representatives for a term of five (5) years from the date hereof. Such right of entry includes the right:
 - a. to perform gamma walkover surveys;
 - b. to perform soil borings and test probes;
 - c. to collect and remove groundwater, soil, air and waste samples for analysis;
 - d. to carry on any activity necessary for the completion of the investigation together with the rights at all times during the duration of this agreement of ingress, egress and regress by the Government, its employees, agents, contractors and/or representatives for the purposes connected with the above work during the term of this Agreement.

TOGETHER WITH a right of ingress and egress over Owner's lands adjacent to the Premises to the minimal extent reasonably necessary in order to exercise the rights granted hereunder.

The rights described above are given upon the following conditions and covenants, each and all of which Government shall keep and perform:

1. All work shall be performed in accordance with the "Statement of Work Remedial Investigation/Feasibility Study/Proposed Plan/ROD", Lewiston, New York, dated February 1999, attached hereto and made a part thereof and designated Appendix "C".

2. As between the Owner and the Government, the Owner shall be considered the Owner of the Premises and the Government shall be considered the operator of the investigation for purposes of liability under the federal Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA) and any subsequent amendments thereto. To the maximum extent practicable, the Government shall conduct the investigation in a manner that will not cause liability to arise under CERCLA.

3. Government shall be responsible for the proper completion and performance of this investigation within the specified five (5) year term of this Agreement.

4. The rights granted are given and accepted subject to any and all outstanding leases, tenancies, easements, licenses or other tenures and/or claims of title affecting the premises or any portion or portions thereof, and subject also to any and all encumbrances, liens, conditions, restrictions, and/or reservations subject to or under which Owner holds the same.

Government shall construct and shall thereafter maintain, operate, repair, relocate and/or remove its facilities so as not to injure or damage the premises or injure, damage or interfere with the rights of any other existing third party(ies) occupying subject lands of the Owner by right. Said third parties include, but are not limited to, those listed in Paragraph 5 of the attached Appendix "B".

It shall be the responsibility of the Government to notify and obtain consent from all existing right holders that the exercise of the rights herein granted may affect. Such consent shall be obtained prior to exercise of the rights herein granted. Government hereby accepts all responsibility for any damages or claims that may arise from interference with any existing facilities through the exercise of the rights herein granted.

5. All rights granted hereunder shall be subject and subordinate to rights as follows:

(a) The paramount right of Owner now and hereafter to occupy and use all or any portion or portions of the Premises in its electric operations;

(b) The right of Owner from time to time hereafter to grant to others or to authorize the occupancy or use by others of any portion or portions of the Premises for any purpose or purposes whatsoever, provided, however, that any such future grant or authorization shall not interfere with the rights conferred by this grant and/or property of Government installed at the time to such grant or authorization.

6. (a) The Government shall have its contractor, before commencing any field work hereunder whether in the initial construction or subsequently, obtain from a reputable insurance company or companies contracts of Commercial General Liability (CGL) insurance, intended to be primary, as well as a Contractor's Pollution Liability or Environmental Liability policy. Said CGL policy shall also include Contractual Liability and Products/Completed Operations coverage. If the Products Completed Operations coverage or any other coverage is written on a claims-made basis, such coverage shall be maintained continuously for at least two years after the termination of this Agreement. Owner shall be included as an additional insured for all required coverages. Liability insurance contracts that have an annual aggregate liability limit shall be amended to reflect that the annual aggregate limit applies on a per project basis. The insurance shall provide an amount not less than a minimum Combined Single Limit of \$5,000,000.00 for any number of persons or claims arising from any one incident with respect to bodily injuries or death resulting therefrom, property damage, or both, suffered or alleged to have been suffered by any person or persons, resulting from the use of the premises by the Government's contractor under the terms of this license.

(b) In the event that Government uses subcontractors in connection with this Agreement, Government shall require all subcontractors provide the same insurance coverages as shown above.

(c) Prior to starting work, Government and/or its contractor, shall promptly provide NMPC with (a) Certificate(s) of Insurance for all coverages required herein at the following address:

Niagara Mohawk Power Corporation
Attn: Risk Management, Bldg. A-1
300 Erie Boulevard West
Syracuse, NY 13202

Such certificates, and any renewals or extensions thereof, shall provide that at least 30 days prior written notice shall be given to NMPC in the event of any cancellation or diminution of coverage and shall outline the amount of deductibles or self-insured retentions which shall be for the account of Government or its contractor.

(d) Government shall furnish NMPC's Risk Management Government with copies of any accident report(s) sent to its contractor's insurance carriers covering accidents or incidents occurring in connection with or as a result of the performance of the work on premises under this Agreement.

(e) Government represents that its contractor will have full policy limits available and will have its contractor notify Owner's Risk Management Government in writing when coverages required in this article herein have been reduced as a result of claim payments, expenses, or both.

(f) In addition to the above insurance contracts, Government or its contractor shall provide Owner with an Owner's Protective Policy (OPL) in the name of the Owner with a minimum combined single limit of \$1,000,000.00, coverages and terms for the duration of this Agreement plus any extensions as specified above for any claims-made coverages.

(g) In the event that Government or its contractor cannot or for any reason does not furnish or continue to furnish the above Owner's Protective Policy (OPL) as specified in Paragraph 6(f) above, Owner may obtain such an OPL policy and be promptly reimbursed for the same (in no less than 30 days) upon forwarding the invoice for the premium for these policies to Government. Said premiums shall not exceed \$2,000.00 per year.

(h) Nothing contained in this article is to be construed as limiting the extent of Government's or its contractor's responsibility for payment of damages resulting from their use of the premises and/or exercise of rights under this Agreement.

7. Government hereby guarantees that all work to be performed on Owner's property will be done in accordance with this Agreement and the attached appendices.

8. Government shall give Owner at least seven (7) days' written notice before commencing any fieldwork hereunder whether in the initial construction or subsequently. Such notice shall be addressed to Owner as follows:

Mr. James Morgan, Environmental Affairs A-2
Niagara Mohawk Power Corporation
300 Erie Boulevard West
Syracuse, NY 13202 (315) 428-3101

9. Owner, at its election, may have an Inspector present at the time or times field work by Government is being executed, and such Inspector shall have the right and authority to require the modification or cessation of any or all work hereunder when, in his judgement, such work is contrary to the provisions of this grant or is, or may become, a source of danger to the facilities of Owner. If billed by Owner, Government shall pay to Owner the reasonable cost and expense of such inspection, based on prevailing wage rates of Owner's inspection personnel. The presence or absence of Owner's Inspector shall not constitute a waiver of any provision of this Agreement.

10. The installation and/or construction of Government's facilities upon the Premises, entry onto Owner's lands, protection of Owner's facilities, payment of consideration and other relevant matters may be subject to the conditions of those special provision set forth upon Appendix "B", attached hereto.

11. The installation, construction, maintenance, operation, repair, relocation, and removal of Government's facilities shall be accomplished without the aid of cranes, backhoes, bulldozers, or mechanical equipment having extension whose highest point reaches (or which is potentially capable of reaching) within fifteen (15) feet of the lowest electric 115,000 volt conductor and twelve (12) feet from the lowest 23,000 volt conductor on the Premises. There shall be a minimum horizontal clearance to the nearest structure of twenty-five (25') feet. This provision is not intended to prevent the transporting of such equipment along the haul roads or operation thereof provided that the above clearances are not compromised.

All construction equipment working under or near electric conductors shall be grounded in the fashion described in Owner's specifications labeled Appendix "A", attached hereto.

12. Except as provided immediately below in this paragraph, upon termination of this Agreement, the Government shall remove all its equipment, fixtures, appurtenances, and other improvements furnished and installed on the Premises in connection with the Government's activities under this Agreement. The Government shall restore the Premises to the extent reasonably practical, to the condition existing at the time of initiation of the Government's activities.

13. Government shall install, maintain and provide adequate drainage facilities and/or structures so that there will not be a collecting or pooling of run-off waters or surface waters upon the Premises resulting from the installation, construction, maintenance and operation of Government's facilities.

14. There shall be no changes in grade within the right of way or upon lands of Niagara Mohawk without prior approval by Niagara Mohawk.

15. Government shall promptly reimburse Owner for any costs and expenses to which Owner shall be put in changing, modifying or relocating its electric facilities in order to accommodate the construction, maintenance, operation, repair, relocation and/or removal of Government's facilities upon submission of proper bills therefore.

16. Because the exercise of rights hereby granted involves additional risk to the Owner on account of its use of the Premises in its electric operations, the Owner shall not be responsible or liable for injuries to person or damage to property when such injuries or damage are caused by or result from the Government's or its officers, agents, employees, representatives, invitees or contractors use of the Premises under the terms of this license and are not due to the negligence of the Owner.

17. Government shall, at its own cost, comply with all applicable laws, ordinances, orders, rules and regulations of the United States, of the State of New York, of any Governments, bureaus, authorities or commissions created under the laws of either government and of the several municipalities in which the premises are situated insofar as the same relate to the exercise of any privilege or the performance of any duty under this Agreement, and whether the same are obligatory upon the Government or upon the Owner.

18. This Right of Entry is effective upon the date of execution by the Government of this instrument and shall continue in effect for a period of five (5) years unless terminated by either of the parties on not less than thirty (30) days prior written notice given to the other, provided, however, that the Owner may not terminate this Agreement without Government's consent.

19. The Government's obligations under this Agreement are subject to the availability of appropriations for such payments, and nothing contained in this Agreement may be considered as implying that Congress will at a later date appropriate funds sufficient to meet any deficiencies.

20. In the event that any part of this Agreement is determined to be invalid, illegal or enforceable, such determination shall not affect the validity, legality or enforceability of any other part of this Agreement and the remaining parts of this Agreement shall be enforced as if such invalid, illegal or enforceable part were not contained in this Agreement.

21. No provision of this grant shall be deemed to have been waived by the Owner unless such waiver be in writing signed by the Owner. This grant contains the entire Agreement between the parties and any executory Agreement hereafter made shall be ineffective to change, modify or discharge it in whole or in part unless such executory Agreement is in writing and signed by the Owner.

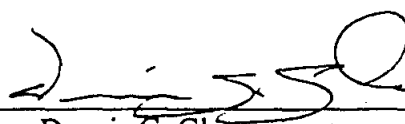
22. Government shall not assign this Agreement or any rights in or under it, nor shall the same be deemed to be assigned by operation of law; but a merger or consolidation to which Government may be a party shall not be deemed such an assignment, and subject to this restriction, this Agreement shall be binding upon and inure to the benefit of the successors and assigns of the respective parties.

23. Except as provided in paragraphs 6 and 8, all notices given under this Agreement shall be in writing and addressed as follows: to Government the address of this letter on the first page hereof and to Owner, attention Land and Right of Way Department, Niagara Mohawk Power Corporation, 93 Dewey Avenue, Buffalo, New York, 14214

The above terms and conditions are acknowledged and agreed upon as indicated by the signatures of the duly authorized officials of the Owner and Government affixed below:

OWNER:

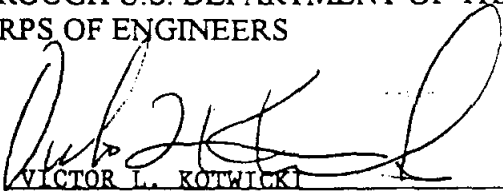
NIAGARA MOHAWK POWER CORPORATION

By: 
Dennis G. Gleason
Regional Manager, Frontier Region



GOVERNMENT:

UNITED STATES GOVERNMENT ACTING
THROUGH U.S. DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS

By: 
VICTOR L. KOTWICKI
Title: Chief, Real Estate Division
Detroit District

STATE OF NEW YORK :

SS:

COUNTY OF ERIE :

On the 10th day of July, in the year 2000, before me, the undersigned a Notary Public in and for said State, personally appeared Dennis G. Gleason, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Joann C. Catane
Notary Public

JOANN C. CATANESE
Notary Public, State of New York
QUALIFIED IN ERIE COUNTY
My Commission Expires 12/5/00

STATE OF MICHIGAN :

SS:

COUNTY OF WAYNE :

On the 30th day of June in the year 2000 before me, the undersigned, personally appeared Victor L. Kotwicki, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), that by his/her/their signature(s) on the instrument, made such appearance before the undersigned in the Detroit, Michigan (insert the city or other political subdivision and the state or county or other place the acknowledgement was taken.)

Don C. Erwin
Notary Public Acting in Wayne County, Michigan

DON C. ERWIN
Notary Public, Oakland County, MI
My Commission Expires Feb 9, 2004

GROUNDING SPECIFICATIONS

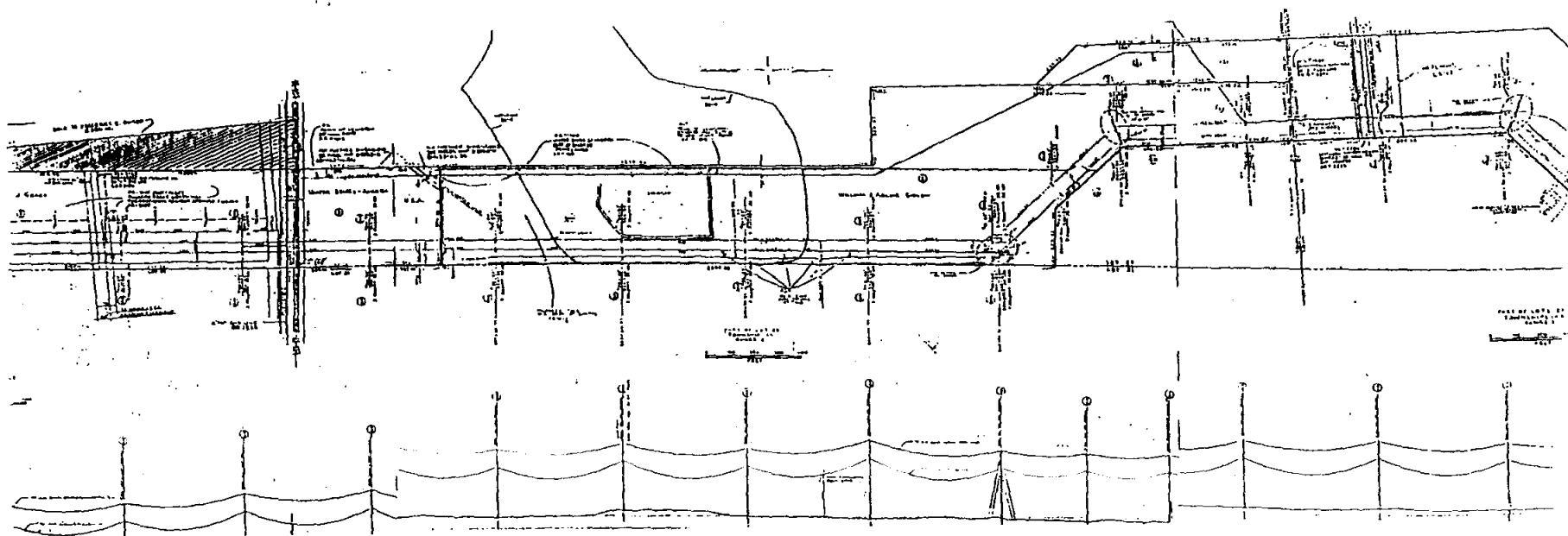
Extreme caution shall be exercised while working in the vicinity of Niagara Mohawk Power Corporation's electric transmission towers, poles and/or underground facilities so as not to adversely affect, in any manner whatsoever, the structural stability of said towers and/or facilities. All equipment used in the work area which could approach nearer than twenty-five feet (25') to an energized electric power line or power facility, located overhead or underground, shall be grounded in order to protect persons and property. A good ground connection shall be securely attached to all equipment utilized at the work site and shall not be removed until the boom or any other substantial extension of all mobile equipment has been removed from the area of the work. All equipment used to make grounds shall be furnished at the sole cost and expense of the party performing the work, who shall also be responsible for determining the adequacy of all grounding arrangements utilized in the work area. However, the minimum steps that must be taken to effectively ground all equipment utilized in the work area are as follows:

- 1) All such equipment shall be provided with a permanent clamp for convenient and effective attachment to a grounding conductor.
- 2) The cable connecting the clamp to an adequate ground shall be equivalent to a No. 2/0 AWG or larger copper cable approximately 50 to 100 feet long, extra flexible, with 600 volt covering for abrasive protection and with terminal parts that will ensure a proper connection.
- 3) Station grounds, water hydrants, metallic pipe water systems, common neutral wire or steel tower earth footings provide grounds that are likely to be adequate in the order of preference listed. When such grounds are not available, anchor rods, temporarily driven, or auger-type grounds shall be used to secure a low-resistance ground.

The above-mentioned recommendations are suggested by Niagara Mohawk Power Corporation as minimum requirements only; a Niagara Mohawk Power Corporation Inspector will review compliance with these minimum requirements prior to commencement of construction of activities on said premises.

1. Government hereby assumes the responsibility for reimbursing Niagara Mohawk for any adjustment (temporary or permanent), and outages, or relocations (temporary or permanent) of its electrical facilities necessary to accommodate the construction, operation, maintenance or removal of Government's facilities.
2. All applicable safety clearance and industry codes, including but not limited to the National Electric Safety Code and the High voltage Proximity Act (Chapter 469 New York State Labor Law), must be complied with as determined in the sole judgement of the Owner.
3. No work may be commenced under the terms of this Agreement until all aforementioned clearances and codes are complied with and written notification of such is provided by Owner to Government.
4. Government hereby agrees to coordinate any outages due to temporary de-energization with Mr. James Letcher, Line Department, 1720 New Road, Niagara Falls, New York 14304 (716) 236-2713. Government also hereby accepts responsibility for any changes associated with said outages.
5. Government is hereby notified that other underground physical occupations of the subject premises may exist that do not appear upon the attached drawing and/or maps and property records maintained by Owner. Accordingly, Government is cautioned to excavate carefully and comply with all New York State and local laws and regulations in respect thereto. Said occupations include but are not limited to:

RG #1799 - United States of America Department of Energy/fence and gates
RG #2528 - Haseley Trucking Co., Inc./25' wide gravel haul road
6. Government must comply with Public Service Commission Public Service Law 1198, Part 753 (formerly Industrial Code Rule No. 53), and Industrial Code Rule No. 57 and take any and all reasonable measures to protect and secure work site from entry by the general public.
7. Owner must be provided access to its facilities at all times in the event of an emergency. The contractor must assure that there are proper provisions for Owner's crew and vehicle access to the transmission lines and structures at any time subject to the health and safety guidelines as detailed in the scope of work. This may necessitate curtailment of contractor operations in an emergency and will require the contractor to keep the site accessible on weekends and other non-work times. This will require coordination with Owner's personnel.
8. There cannot be any guarantee that any transmission lines can be de-energized to accommodate the installation of the groundwater monitoring wells.
9. No material may be stored or spoiled on lands of the Owner.
10. Government's operation is not to interfere with Owner's normal operating procedures



133

EXHIBIT

MIADARA		NOMADAR	
MIADARA NOMADAR POWER CORP.			
TRANSMISSION SYSTEM			
HIGH VOLTAGE TAPS 103 - 104			
PLAN NO. 118			
TOWN OF MIADARA			
DATE	BY	APPROVED	REMARKS
10/1/54	R.W.C.	118	

**NEW YORK STATE DEPARTMENT OF TRANSPORTATION**[\[Site Index \]](#)[\[Phone Numbers \]](#)[\[Email Us \]](#)[\[Publications \]](#)[\[Search \]](#)

WORKING NEAR ENERGIZED ELECTRICAL LINES & EQUIPMENT

(Code: SB-92-2, Date: 12/1/92)

INTRODUCTION

This Safety Bulletin contains policy and procedures for working near energized electrical systems based on OSHA Standards and the N.Y.S. High Voltage Proximity Act (HVPA). It applies to Department operations, and to contractors and consultants working for the Department, and includes paving, patching, chip sealing and widening; tree work; traffic signal repair and installation; bridge maintenance and inspection; pile driving; steel erection; road-side maintenance; excavation; subsurface exploration; aerial lift and crane work; survey; and other operations that could cause employees or equipment to contact or enter into dangerous proximity to energized electrical systems.

When working near electrical lines or equipment, avoid direct or indirect contact. Direct contact is contact with any part of the body. Indirect contact is when part of the body touches or is in dangerous proximity to any object in contact with energized electrical equipment. Two assumptions should always be made: 1) that lines are 'live' (energized); and 2) carry high voltage. Electrical lines can only be considered 'dead' when verified by the utility.

When there is any question about voltage and safe distance, the owner of the lines or equipment must be called in advance of work. As voltages increase, minimum clearances increase. Through arcing, injuries or fatalities may occur even if actual contact with high voltage lines or equipment is not made. Potential for arcing increases as voltage increases. Weather and contact with conductors such as tools can increase the possibility of becoming energized without contact.

HIGH VOLTAGE PROXIMITY ACT (HVPA)

The N.Y.S. High Voltage Proximity Act applies to electrical systems carrying 600 volts or more and requires employers to:

Ensure employees are not placed in proximity to high voltage. Proximity is defined as within 10 feet up to 50 kilovolts.

Inform employees of the hazards and precautions when working near high voltage.

Post warning decals on equipment regarding 10 foot minimum clearance.

Ensure that when an equipment operator is unable to assess clearances a 'spotter' observes for clearance and directs the operator.

Notify the utility at least 5 working days before any work begins which requires the utility to identify voltages and clearances, or de-energize, insulate or relocate lines.

POLICY

Department, contractor and consultant operations shall conform to the High Voltage Proximity Act. Failure to comply is a violation of law and a serious breach of Department safety policy and procedure.

The first line of defense in preventing electrical contact accidents is to remain outside the minimum clearances. Because Department employees are not qualified to determine voltage, the utility shall be called to establish voltages and minimum clearances, and take appropriate action to render the work safe. Where notification cannot be made 5 days prior to beginning work, efforts shall be made to request the utility to respond immediately.

Tree crews and traffic signal repair crews shall receive specialized electrical safety training because of their frequent work near energized electrical systems. Training content, duration and frequency shall be determined by the Highway Maintenance Division and Traffic, Engineering and Safety Division respectively, and shall be spelled out as a requirement in program safety directives. Training shall be held in conjunction with or supplemented by utility training, and include characteristics, hazards and precautions for high voltage electricity.

PROCEDURES

A. GENERAL

Prior to the start of a Department operation where contact with energized electrical systems is possible, the supervisor shall identify energized lines or equipment, and reference their location to prominent physical features, or physically mark the pavement beneath overhead lines with spray paint, survey tape, or other means. Their location shall be discussed at a pre-work safety meeting of all employees on the job. Contractors working with Department crews shall attend this meeting and require their employees to conform to Department electrical safety standards. New employees will be informed of electrical hazards and proper procedures.

On construction projects, the contractor shall identify and reference all potential electrical hazards and document such actions to the E.I.C. Energized electrical lines or equipment will be conspicuously marked and workers will be reminded of their location by the project supervisor. New employees shall be informed of electrical hazards and proper precautions and procedures. These procedures shall be adhered to by contractors subject to the compliance procedures of the contract, including work stoppage in extreme cases. The same steps shall be taken on consultant inspection construction projects and engineering contracts using consultants.

Where there is potential for proximity or contact with energized electrical systems, utilities shall be called to decide the need to de-energize or insulate lines, or otherwise protect against accidental contact. Where there is a suspicion of low wires (under 18 feet), the utility shall be notified to verify and take appropriate action.

All electrical contact incidents, including 'near-misses', shall be reported to the Regional Director, the Director of Safety, and the appropriate Main Office Division Director. Refer to MAP 2.14-5, 2.14-5-1, 2.4-3-4, and EB 90-15 for reporting and investigating accidents involving injury or fatality.

B. HIGH RISK TASKS

1. Paving, Patching, Chip Sealing or Widening

Prior to the start of each workday and where practical, a high visibility marker or other device shall be temporarily installed to mark overhead wires, or the pavement marked beneath overhead lines with spray paint or other means. Off-site dump areas shall be reviewed for overhead wires and steps taken

to identify and mark them. The supervisors will discuss electrical safety with appropriate crew members at tailgate safety talks.

A spotter shall be positioned at the front of the paver or widener to direct truck movement and observe for overhead wires. The spotter, supervisor, and employees shall be alert for overhead wires.

All NYSDOT dump trucks shall display a warning decal regarding electrical contact. Independent truck drivers delivering materials to Department or contractor operations shall be offered decals. All drivers will be cautioned about overhead electrical wires before beginning work. Trucks that have emptied their material shall not leave the paver until the box is down. On maintenance contracts failure by an independent driver to comply may result in removal.

On contract maintenance work, the Resident Engineer or designee shall emphasize at the pre-paving meeting the importance of electrical safety requirements and avoiding contact with overhead wires. The Resident Engineer may stop work for contractor non-compliance, but should first ensure that the contractor is informed of procedures and given reasonable opportunity to comply.

2. Aerial Lifts, Cranes, Boom Devices

Where there is potential for proximity or contact with energized lines or equipment, work shall not begin until a safety meeting is conducted and appropriate steps taken to identify, mark, and warn against accidental contact. The supervisor will review operations daily to ensure compliance.

Where the operator's visibility is impaired, a spotter shall guide the operator. Hand signals shall be used and clearly understood between operator and spotter. When visual contact is impaired, the spotter and operator shall be in radio contact.

Aerial lifts, cranes, and boom devices shall have appropriate warning decals.

3. Tree Work

Wires shall be treated as live and high voltage until verified by the utility. Branches touching wires shall be removed by the utility before work begins. Limbs and branches shall not be dropped onto overhead wires. If limbs or branches fall across electrical wires, all work shall stop immediately and the utility called.

When climbing or working in trees, pruners shall try to position themselves so that the trunk or limbs are between their body and electrical wires. If possible, pruners shall not work with their back toward electrical wires. A bucket truck is the preferential method of pruning when climbing poses a greater electrical contact threat.

Personal protective gear shall have appropriate dielectric characteristics needed for working near electricity.

4. Traffic Signal Work

Crews working near energized electrical lines or equipment shall employ as appropriate the following precautions:

Request the utility to determine voltage and take appropriate action to render the work safe

When working on Department electrical systems:

- use rubber blankets, mats, gloves and other insulative equipment and tools specifically approved for such work
- use electrical test equipment to determine if equipment to be worked on is energized

5. Building Maintenance

. Employees working on Department electrical systems shall be knowledgeable about and employ when appropriate OSHA Lock-Out/Tag-Out procedures to prevent exposure to unguarded electrical systems.

C. UNDERGROUND ELECTRICAL LINES AND EQUIPMENT

Before installation, excavation or subsurface exploration where there exists reasonable possibility of contacting any utility lines or equipment, the Underground Facilities Protective Organization (UFPO) shall be called, and a request made for identifying/marketing their location(s).

When UFPO is called, telephone operators will need:

minimum of 2 working days notice prior to work beginning

name of County, City, Village or Town

name and number of street or highway marker

nearest intersection at work site

type of work

date and time work is to begin

caller's name, contractor/Department name and address

phone number for contact

special instructions

Utilities that do not belong to UFPO must be contacted separately. UFPO may not have a complete list of utility owners. The Town, City or County is required to maintain this information and may have to be contacted.

Utilities discovered shall be marked before work begins. Supervisors shall periodically refer their location to all workers, including new employees, subject to exposure.

EMERGENCY RESPONSE

If a power line falls:

Keep everyone at least 10 feet away

Use flagging to protect motorists from fallen or low wires

Call the utility, police or fire department immediately

Place 'guards' around the area

Do not attempt to move the wire(s)

Do not touch anything that is touching the wire(s)

Be alert to water or other conductors present

Crews shall have emergency numbers readily available. These numbers shall include local utility, police/fire and medical assistance.

If an individual becomes energized, **DO NOT TOUCH** the individual nor anything in contact with the person. Call for emergency medical assistance and the utility immediately. If the person is no longer in contact, CPR, rescue breathing or first aid should be administered immediately, but only by a trained person. It is safe to touch the victim once contact is broken or the source de-energized.

Wires that contact vehicles or equipment will cause arcing, smoke and possibly fire. Occupants should remain in the cab and wait for the utility. If necessary to jump from a vehicle, leap with both feet as far away from the vehicle as possible, without touching the equipment. Jumping free of the vehicle is the last resort.



Last Update: April 20, 1999

APPENDIX B & C

TRAINING CERTIFICATES

&

FIT-FOR-DUTY STATEMENTS

Certificate No.: 1085

Certificate of Training
This is to certify that

Tim Biggs

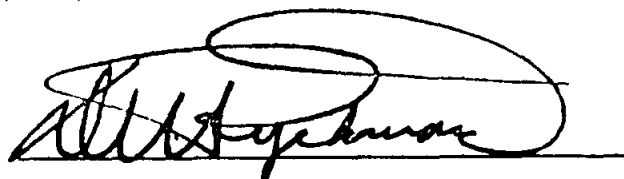
has completed the Forty Hour Training Program for:

**Hazardous Waste
Site Activity**

In Compliance with OSHA 29 CFR 1910.120

Course Dates: May 4, 5, 6, 7, & 8, 1992

Date of Expiration: May 8, 1993



D. W. Ryckman, SC.D., P.E., Diplomate AAEE,
President



2208 Welsch Industrial Court St. Louis, MO 63146 800-325-1398



**McLaren[™]
Hart**

ENVIRONMENTAL ENGINEERING CORPORATION

Certificate of Training

This is to certify that

Timothy Biggs

*has successfully completed an 18 hour course on
Site Safety Officer Training
prepared and conducted by
McLaren/Hart Environmental Engineering Corporation.*

Location of Training: Pittsburgh, PA

Date of Training: October 20, 1994

Instructors: Kuhn, Durst, Less

Date Issued: November 2, 1994

Russell B. Palchak

Corporate Health and Safety Director

Training Provider of Record:
Environmental Training Center
1986 Innerbelt Business Ctr. Dr.
St. Louis, MO 63114-5760
Tel. (314) 428-7020

ENVIRONMENTAL**L** Training Center

Training Location:
Maxim Technologies
1908 Innerbelt Business Ctr. Dr.
St. Louis, MO 63114
Tel. (314) 426-0080

Certifies that

TIMOTHY C. BIGGS

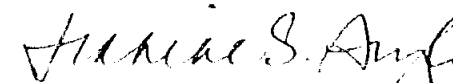
has successfully completed

8 Hours of Annual Health & Safety Training Per 29 CFR 1910.120(e) and (q) For

HAZARDOUS WASTE SITE OPERATIONS

AND EMERGENCY RESPONSE

Employee No: 359-58-5154
Course Date: 03/20/01
Requirement: 29 CFR 1910.120 (e) and (q)
Certificate #: 7-SL032001/02
Expires: 03/20/02



Jeanine S. Arrighi, CET
DIRECTOR

AXIM TECHNOLOGIES, INC.

Local Branch Office
8 Lambert Business Center Drive
Louis, MO 63114

PHYSICIAN'S FITNESS STATEMENT

Medical Monitoring Program

Name <i>Timothy C. Biggs</i>	Date of Exam <i>3/13/01</i>	Social Security No.	Age <i>40</i>
Employer <i>Maxim Technologies, Inc.</i>		Exam Type: <input checked="" type="checkbox"/> Annual <input type="checkbox"/> Pre-Employment	

PULMONARY FUNCTION

A. FEV1 <i>134</i> % 75% or Better Required	B. FVC <i>134</i> % 80% or Better Required	C. Qualified to Wear Respirator <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
---	--	---

II. FIT FOR DUTY

- ☒ Fit for duty, including qualified for respirator
- ☐ Meets minimum criteria of examination protocol and should be able to continue work at hazardous waste sites; recommend following limitations:

☐ Limited Duty: ☐ Permanent ☐ Temporary Duration _____ ☐ Does not meet criteria for employment at this time.

Physician *C. Byler* Date *3/13/01*

Address _____

HEALTHSOUTH MEDICAL CLINIC

111 S. New Ballas Road
St. Louis, MO 63141
(314) 567-5581

Signature *C. Byler*

RESPIRATOR FIT TEST DOCUMENTATION

(Complete all sections)

Employee Information	
Name: <u>Tim Biggs</u>	Employee Number: <u>00826</u>
Company: Maxim Technologies	Department Number: 4509
Address: 1908 Innerbelt Bus. Ctr. Dr. St. Louis, MO 63114	Daytime Phone: 314-426-0880
	Fax: 314-426-0880

Respirator Information	
Manufacturer: MSA	Model Number: <u>Comfo - Elite</u>
Type of face piece (check one): <input checked="" type="checkbox"/> Full-face <input type="checkbox"/> Half-face	Type of respirator (check one): <input checked="" type="checkbox"/> Air Purifying _____ Atmosphere Supplying <input type="checkbox"/> Air line _____ <input type="checkbox"/> SCBA _____

Size of respirator (check one):

☐ Small
 ☒ Medium
 ☐ Large
 ☐ Extra Large
 ☐ Other (please indicate) _____

Fit Test Exercise Documentation				
(The individual performing the test must initial either "PASS" or "FAIL" for each activity. In order to pass the test, all activities must be indicated as "passed".)				
Activity	Banana Oil		Irritant Smoke	
	PASS	FAIL	PASS	FAIL
Normal Breathing	✓		✓	
Deep Breathing	✓		✓	
Move Head Side-to-Side	✓		✓	
Move Head Up and Down	✓		✓	
Talking (Read <i>Rainbow Passage</i>)	✓		✓	
Other (Explain): <u>Bending</u>	✓		✓	

Signature of Tester: Mark 2 Date: 6/29/01

Keep a copy in the employee's health and safety records maintained at the office of employment and send a copy to the Respiratory Protection Program Administrator.



This certifies that

TIMOTHY BIGGS

has completed the requirements for

STANDARD FIRST AID

sponsored by

MAXIM TECHNOLOGIES

Date completed

1-8-99

Norm R. Agator

Chairman, American Red Cross

Instructor's Signature

Ray Fells

Holder's Signature

The American Red Cross recognizes this training as valid
for three years from completion date.

• 60215 •

Cert. 653207 (Jan. 1993)

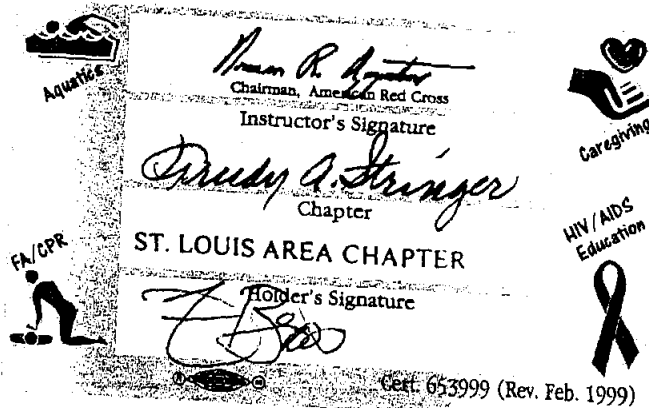


This recognizes that
Timothy Biggs
has completed the requirements for
Workplace - Adult CPR

conducted by
St. Louis Bi-State

Date completed **1-5-01**

The American Red Cross recognizes this certificate
as valid for **1** year(s) from completion date.





Environmental
Science &
Engineering, Inc.

November 1, 1990

Mr. Max Gricevich
Twin City Testing
1908 Innerbelt Business Center Drive
St. Louis, Missouri 63114

Dear Mr. Gricevich:

While employed at Environmental Science & Engineering, Inc. (ESE) Mr. Greg Dawdy worked at a number of Superfund (NPL) sites. Among the sites that I am personally familiar with are Rock Mountain Arsenal in Denver, Colorado and Koppers, Company in Galesburg, Illinois. Mr. Dawdy worked at these sites in or about 1984.

Since 1981 ESE has had a policy that all employees working at Superfund sites must have a 40-hour OSHA equivalent Health and Safety training course. While we do not keep records indefinitely on employees after they leave the company, I can assure you that Mr. Dawdy completed a 40-hour OSHA equivalent course.

Sincerely,

Rick Folkemer, P.E.
Manager-Water Resource Engineer

cn:c-gmsr89-s1/df

"Imagineering a Better World"

No 2054



Riedel Environmental Technologies Inc.

Certificate of Completion

presented to
GREG DAWDY

in recognition of satisfactory completion
of the course of instruction entitled

29CFR 1910.120 Eight Hour Hazardous Materials Waste Site Management

December 18, 1990

Date(s) of Instruction

Michael A. Aron

Instructor

Training Provider of Record:
Environmental Training Center
1986 Innerbelt Business Ctr. Dr.
St. Louis, MO 63114-5760
Tel. (314) 428-7020

E NVIRONMENTAL

Training Center

Training Location:
Maxim Technologies
1908 Innerbelt Business Ctr. Dr.
St. Louis, MO 63114
Tel. (314) 426-0080

Certifies that

GREGORY C. DAWDY

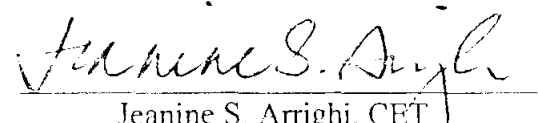
has successfully completed

8 Hours of Annual Health & Safety Training Per 29 CFR 1910.120(e) and (q) For

HAZARDOUS WASTE SITE OPERATIONS

AND EMERGENCY RESPONSE

Employee No: 349-46-0278
Course Date: 03/20/01
Requirement: 29 CFR 1910.120 (e) and (q)
Certificate #: 7-SL032001/03
Expires: 03/20/02



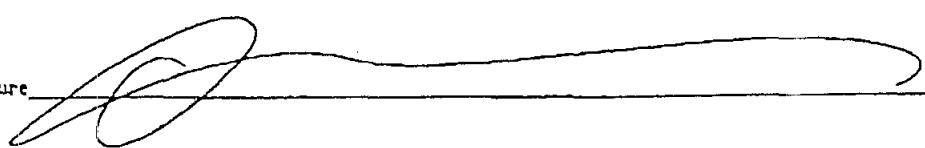
Jeanine S. Arrighi, CET
DIRECTOR

MAXIM TECHNOLOGIES, INC.

Louis Branch Office
8 Innerbelt Business Center Drive
Louis, MO 63114

PHYSICIAN'S FITNESS STATEMENT

Medical Monitoring Program

Name: Gregory C. Dawdy	Date of Exam: 4/18/2000	Social Security No.	Age: 42
Employer: Maxim Technologies, Inc.		Exam Type: <input checked="" type="checkbox"/> Annual <input type="checkbox"/> Pre-Employment	
I. PULMONARY FUNCTION			
A. FEV1 77 % 75% or Better Required	B. FVC 88 % 80% or Better Required	C. Qualified to Wear Respirator <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
II. FIT FOR DUTY			
<input checked="" type="checkbox"/> Fit for duty, including qualified for respirator			
<input type="checkbox"/> Meets minimum criteria of examination protocol and should be able to continue work at hazardous waste sites; recommend following limitations: _____ _____ _____ _____ _____ _____ _____			
<input type="checkbox"/> Limited Duty: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary Duration _____ <input type="checkbox"/> Does not meet criteria for employment at this time.			
Physician _____		Date 4/25/00	
Address _____ HEALTHSOUTH MEDICAL CLINIC 777 S. New Ballas Road St. Louis, MO 63141 (314) 587-6581			
Signature 			

RESPIRATOR FIT TEST DOCUMENTATION

(Complete all sections)

Employee Information	
Name: <u>Greg Dawdy</u>	Employee Number: <u>11784</u>
Company: Maxim Technologies	Department Number: 4509
Address: 1908 Innerbelt Bus. Ctr. Dr. St. Louis, MO 63114	Daytime Phone: 314-426-0880
	Fax: 314-426-0880

Respirator Information	
Manufacturer: MSA	Model Number: <u>Comfo Elite</u>
Type of face piece (check one): <input checked="" type="checkbox"/> Full-face <input type="checkbox"/> Half-face	Type of respirator (check one): <input checked="" type="checkbox"/> Air Purifying _____ Atmosphere Supplying <input type="checkbox"/> Air line _____ <input type="checkbox"/> SCBA _____

Size of respirator (check one):

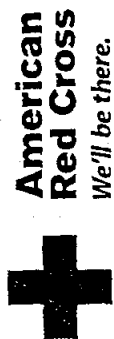
☐ Small
 ☐ Medium
 ☒ Large
 ☐ Extra Large
 ☐ Other (please indicate) _____

Fit Test Exercise Documentation
 (The individual performing the test must initial either "PASS" or "FAIL" for each activity, and in order to pass the test, all activities must be initialed as "passed".)

Activity	Banana Oil		Irritant Smoke	
	PASS	FAIL	PASS	FAIL
Normal Breathing	✓		✓	
Deep Breathing	✓		✓	
Move Head Side-to-Side	✓		✓	
Move Head Up and Down	✓		✓	
Talking (Read <i>Rainbow Passage</i>)	✓		✓	
Other (Explain): <u>Bending</u>	✓		✓	

Signature of Tester: Mark Z. [Signature] Date: 7/19/01

Keep a copy in the employee's health and safety records maintained at the office of employment and send a copy to the Respiratory Protection Program Administrator.



This recognizes that


Gregory Dowdy
has completed the requirements for

Workplace Training: First Aid

conducted by

St. Louis Bi-State
Date completed *7-19-00*

The American Red Cross recognizes this certificate
as valid for *3* year(s) from completion date.

 AquaTice

Norm R. Aguater
Chairman, American Red Cross
Instructor's Signature


B-L


Chapter


ST. LOUIS BI-STATE CHAPTER


Holder's Signature

Gregory C. Dowdy

 FA/CPR

 Caregiving

 HIV/AIDS Education



Cert. 653999 (Rev. Feb. 1999)

American
Red Cross
We'll be there.



This recognizes that
Gregory Dawdy
has completed the requirements for
Workplace - Adult CPR

conducted by
St. Louis Bi-State

Date completed **1-5-01**

The American Red Cross recognizes this certificate
as valid for **1** year(s) from completion date



Aquatics

Thomas R. Agator
Chairman, American Red Cross

Instructor's Signature

Donald Stringer
Chapter

ST. LOUIS AREA CHAPTER

Holder's Signature

Gregory C. Dawdy



Caregiving

HIV/AIDS
Education



FA/CPR



Cert. 653099 (Rev. Feb. 1999)

"Imageneering a Cleaner World"



Riedel Environmental Technologies, Inc.

Certificate of Completion

presented to

NANCY DICKENS

in recognition of satisfactory completion
of the course of instruction entitled

Forty-Hour Hazardous Materials Handling & Response

October 16 - 19, 1989

Date(s) of Instruction

Margaret Wichard

Instructor

"Imagineering a Cleaner World"



Riedel Environmental Technologies, Inc.

Certificate of Completion

presented to

NANCY M. DICKENS

**in recognition of satisfactory completion
of the course of instruction entitled**

Eight Hour Hazardous Waste Site Management

March 13, 1990

Date(s) of Instruction

Margaret L. Wickard

Instructor

Training Provider of Record:
Environmental Training Center
1986 Innerbelt Business Ctr. Dr.
St. Louis, MO 63114-5760
Tel. (314) 428-7020

E NVIRONMENTAL

Training Center

Training Location:
Maxim Technologies
1908 Innerbelt Business Ctr. Dr.
St. Louis, MO 63114
Tel. (314) 426-0080

Certifies that

NANCY M. DICKENS

has successfully completed

8 Hours of Annual Health & Safety Training Per 29 CFR 1910.120(e) and (q) For

HAZARDOUS WASTE SITE OPERATIONS

AND EMERGENCY RESPONSE

Employee No: 499-56-5019
Course Date: 03/20/01
Requirement: 29 CFR 1910.120 (e) and (q)
Certificate #: 7-SL032001/04
Expires: 03/20/02



Jeanine S. Arrighi, CET
DIRECTOR

MAXIM TECHNOLOGIES, INC.
TRANSMITTAL LETTER

NAME OF EMPLOYEE: Nancy Dickens BIRTHDATE: 4/28/50 Date 6/21/00
HOME ADDRESS: [REDACTED] SS#: [REDACTED]

SECTION 1 FACILITY ADMINISTRATOR AUTHORIZING PHYSICAL (INITIALS) _____

CHARGE TO DEPT # _____ DEPT FAS/C _____
PURPOSE OF PHYSICAL: PEP _____ ANNUAL _____ TERMINATION _____
TYPE OF PHYSICAL: CLASS 1 _____ CLASS 3 _____
ASBESTOS _____ DOT _____ OTHER _____

DRUG SCREEN: _____ 10-PANEL _____ DOT _____ NONE

Is job description attached? _____ Yes _____ No

SECTION 2 (PHYSICIAN TO COMPLETE THE NEXT TWO SECTIONS)

Services Performed:	Yes	No
Basic History/Std. Physical Exam	—	—
DOT Physical Exam	—	—
Pulmonary Func. Study	—	—
Chest X-Ray	—	—
Back X-Ray	—	—
Routine Urinalysis	—	—
CBC	—	—
SMAC-25	—	—
Hearing Test	—	—
Drug Screen (10-Panel)	—	—
Drug Screen (DOT-NIDA)	—	—
Range of Motion Test - B200, Cybec or ISTU	—	—

SECTION 3 OCCUPATIONAL REVIEW

1. Physically capable of wearing respiratory device:
☒ Approved _____ Disapproved _____ Not Applicable
If disapproved, please comment: _____

2. Physically fit to perform job functions: ☒ Yes _____ No
If no, please comment: _____

3. Any detected medical condition which would place _____ Yes ☒ No
the employee at risk of impairment on the job.
If yes, please comment: Could lose 30% vision, could get eye correction
lenses

Any physical recommended limitations upon employee's assigned work: _____

Examining Physician's Signature: [Signature] Date: 6/21/00

RESPIRATOR FIT TEST DOCUMENTATION

(Complete all sections)

Employee Information	
Name: <u>Nancy Dickens</u>	Employee Number: <u>28290</u>
Company: Maxim Technologies	Department Number: 4509
Address: 1908 Innerbelt Bus. Ctr. Dr. St. Louis, MO 63114	Daytime Phone: 314-426-0880
	Fax: 314-426-0880

Respirator Information	
Manufacturer: MSA	Model Number: <u>Comfo Elite</u>
Type of face piece (check one): <input checked="" type="checkbox"/> Full-face <input type="checkbox"/> Half-face	Type of respirator (check one): <input checked="" type="checkbox"/> Air Purifying _____ Atmosphere Supplying <input type="checkbox"/> Air line _____ <input type="checkbox"/> SCBA _____
Size of respirator (check one): <input type="checkbox"/> Small <input checked="" type="checkbox"/> Medium <input type="checkbox"/> Large <input type="checkbox"/> Extra Large <input type="checkbox"/> Other (please indicate) _____	

Fit Test Exercise Documentation				
(The individual performing the test must initial either "PASS" or "FAIL" for each activity, and in order to pass the test, all activities must be initialed as "passed.")				
Activity	Banana Oil		Irritant Smoke	
	PASS	FAIL	PASS	FAIL
Normal Breathing	✓		✓	
Deep Breathing	✓		✓	
Move Head Side-to-Side	✓		✓	
Move Head Up and Down	✓		✓	
Talking (Read <i>Rainbow Passage</i>)	✓		✓	
Other (Explain): <u>Bending</u>	✓		✓	

Signature of Tester: Mark Z Date: 7/2/01


Keep a copy in the employee's health and safety records maintained at the office of employment and send a copy to the Respiratory Protection Program Administrator.





This recognizes that
NANCY DICKENS
has completed the requirements for
Workplace Training: First Aid


conducted by

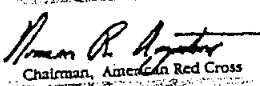
St. Louis Bi-State
Date completed **1-19-00**
The American Red Cross recognizes this certificate
as valid for **3** year(s) from completion date.

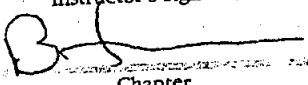
 Aquatics

 Caregiving

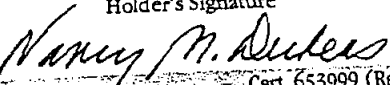
 FA/CPR

 HIV/AIDS Education


Chairman, American Red Cross
Instructor's Signature


Chapter

ST. LOUIS BI-STATE CHAPTER
Holder's Signature


Cert. 653999 (Rev. Feb. 1999)

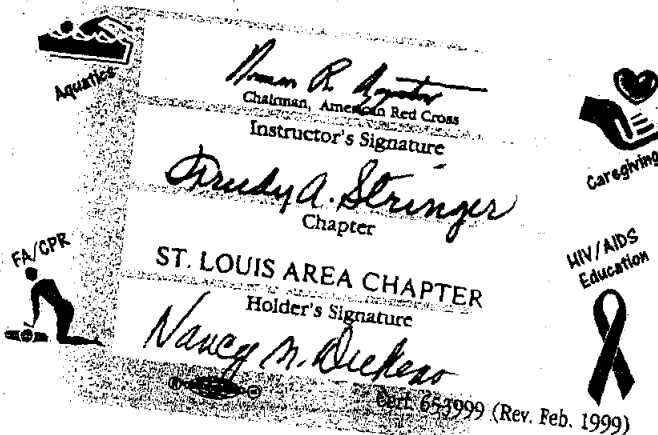


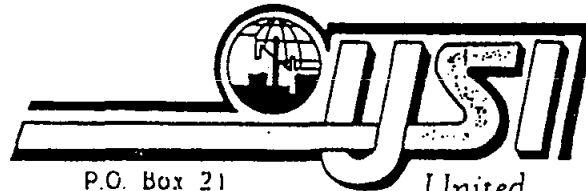
This recognizes that
Nancy Dickens
has completed the requirements for
Workplace - Adult CPR

conducted by
St. Louis Bi-State

Date completed **1-5-01**

The American Red Cross recognizes this certificate
as valid for **1** year(s) from completion date.





P.O. Box 21
621 Ninth Street
Carlyle, Illinois 62231
(618) 594-4023

United
Science
Industries

David E. Bermeroth

*Has attended and satisfactorily passed
an examination covering the contents
of a course entitled*

40-HOUR HAZARDOUS MATERIALS WORKER

(Designed to meet the requirements of 29 CFR 1910.120)

HM-0342

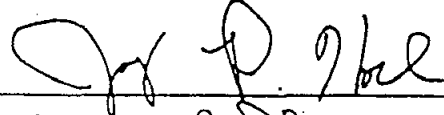
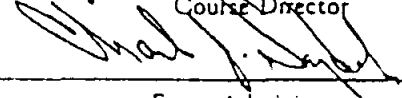
Certificate Number

February 28, 1991

Date

February 27, 1992

Expiration Date


Course Director

Exam Administrator

CERTIFICATE OF TRAINING
MAXIM TECHNOLOGIES, INC.

Hereby Certifies

DAVID GERMEROOTH

Social Security No.

has completed

MANAGER/SUPERVISOR TRAINING
according to 29 CFR 1910.120(e)(4)

02/21/96

Date

ST LOUIS, MO

Location

David Germeroth

Instructor

Training Provider of Record:
Environmental Training Center
1986 Innerbelt Business Ctr. Dr.
St. Louis, MO 63114-5760
Tel. (314) 428-7020

E NVIRONMENTAL

Training Center

Training Location:
Maxim Technologies
1908 Innerbelt Business Ctr. Dr.
St. Louis, MO 63114
Tel. (314) 426-0080

Certifies that

DAVID E. GERMEROOTH

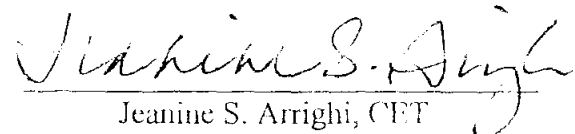
has successfully completed

8 Hours of Annual Health & Safety Training Per 29 CFR 1910.120(e) and (q) For

HAZARDOUS WASTE SITE OPERATIONS

AND EMERGENCY RESPONSE

Employee No: NOT AVAILABLE
Course Date: 03/20/01
Requirement: 29 CFR 1910.120 (e) and (q)
Certificate #: 7-SL032001/05
Expires: 03/20/02



Jeanine S. Arrighi, CET
DIRECTOR

**MAXIM TECHNOLOGIES, INC.
TRANSMITTAL LETTER**

NAME OF EMPLOYEE: DAVID GERMEROH BIRTHDATE: 1/19/60 Date 6/19/01
HOME ADDRESS: [REDACTED] SS#: [REDACTED]

SECTION 1 FACILITY ADMINISTRATOR AUTHORIZING PHYSICAL (INITIALS)

CHARGE TO DEPT # _____ DEPT FAS/C _____
PURPOSE OF PHYSICAL: PEP _____ ANNUAL _____ TERMINATION _____
TYPE OF PHYSICAL: CLASS 1 _____ CLASS 3 _____
ASBESTOS _____ DOT _____ OTHER _____

DRUG SCREEN: _____ 10-PANEL _____ DOT _____ NONE _____

Is job description attached? _____ Yes _____ No

SECTION 2 (PHYSICIAN TO COMPLETE THE NEXT TWO SECTIONS)

Services Performed:	Yes	No
Basic History/Std. Physical Exam	<input checked="" type="checkbox"/>	<input type="checkbox"/>
DOT Physical Exam	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pulmonary Func. Study	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Chest X-Ray	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Back X-Ray	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Routine Urinalysis	<input checked="" type="checkbox"/>	<input type="checkbox"/>
CBC	<input checked="" type="checkbox"/>	<input type="checkbox"/>
SMAC-25	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Hearing Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Drug Screen (10-Panel)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Drug Screen (DOT-NIDA)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Range of Motion Test - B200, Cybec or ISTU	<input checked="" type="checkbox"/>	<input type="checkbox"/>

By Exam Only

SECTION 3 OCCUPATIONAL REVIEW

- Physically capable of wearing respiratory device:
☒ Approved _____ Disapproved _____ Not Applicable _____
If disapproved, please comment: _____
- Physically fit to perform job functions: ☒ Yes _____ No _____
If no, please comment: _____
- Any detected medical condition which would place _____ Yes ☒ No _____
the employee at risk of impairment on the job.
If yes, please comment: _____

Any physical recommended limitations upon employee's assigned work: _____

Examining Physician's Signature: [Signature] Date: 6/27/01

RESPIRATOR FIT TEST DOCUMENTATION

(Complete all sections)

Employee Information	
Name: <u>Dave Germeroth</u>	Employee Number: <u>36759</u>
Company: Maxim Technologies	Department Number: 4509
Address: 1908 Innerbelt Bus. Ctr. Dr. St. Louis, MO 63114	Daytime Phone: 314-426-0880
	Fax: 314-426-0880

Respirator Information	
Manufacturer: MSA	Model Number: <u>Comfo Elite</u>
Type of face piece (check one): <input checked="" type="checkbox"/> Full-face <input type="checkbox"/> Half-face	Type of respirator (check one): <input checked="" type="checkbox"/> Air Purifying _____ Atmosphere Supplying <input type="checkbox"/> Air line _____ <input type="checkbox"/> SCBA _____
Size of respirator (check one): <input type="checkbox"/> Small <input checked="" type="checkbox"/> Medium <input type="checkbox"/> Large <input type="checkbox"/> Extra Large <input type="checkbox"/> Other (please indicate: _____)	

Fit Test Exercise Documentation				
(The individual performing the test must initial either "PASS" or "FAIL" for each activity, and in order to pass the test, all activities must be initialed as "passed".)				
Activity	'Banana Oil		Irritant Smoke	
	PASS	FAIL	PASS	FAIL
Normal Breathing	✓		✓	
Deep Breathing	✓		✓	
Move Head Side-to-Side	✓		✓	
Move Head Up and Down	✓		✓	
Talking (Read <i>Rainbow Passage</i>)	✓		✓	
Other (Explain): <u>Bending</u>	✓		✓	

Signature of Tester: *M. Z. [Signature]* Date: 7/2/01

Keep a copy in the employee's health and safety records maintained at the office of employment and send a copy to the Respiratory Protection Program Administrator.

**American
Red Cross**
We'll be there.



This recognizes that
Dave Germeroth
has completed the requirements for

Workplace - ACPR/AED

conducted by

St. Louis Area Chapter

Date completed

03/01/2001

The American Red Cross recognizes this certificate
as valid for **1** year(s) from completion date.



Aquatics

Norman R. Agutter
Chairman, American Red Cross

Instructor's Signature

W. Dalis

Chapter

ST. LOUIS AREA CHAPTER

Holder's Signature

[Signature]

FA/CPR



Caring

HIV/AIDS
Education



Cert. 653999 (Rev. Feb. 1999)



This certifies that

DAVE GERMEROTH

has completed the requirements for

STANDARD FIRST AID

sponsored by

MAXIM TECHNOLOGIES

Date completed

1-8-99

A handwritten signature in cursive script, reading "Norman R. Agutter".

Chairman, American Red Cross

Instructor's Signature

A handwritten signature in cursive script, reading "Ray Filla".

Holder's Signature

The American Red Cross recognizes this training as valid
for three years from completion date.

© 1993 5202

Cert. 653207 (Jan. 1993)



St. Louis Community College at Florissant Valley

Institute for Continuing Education

Certificate of Completion

This Certifies That

MAX GRICEVICH

Has Successfully Completed

GEOTECHNICAL & GEOENVIRONMENTAL EXPLORATION:
SAFETY AT WASTE SITES
(2.6 CEUs)

Associate Dean of Continuing Education

November 14, 1986

"Imagineering a Cleaner World"



Riedel Environmental Services Inc.

Certificate of Completion

presented to

Max Gricevich

in recognition of satisfactory completion
of the course of instruction entitled

Eight-Hour Hazardous Waste Site Management

October 24, 1988

Date(s) of Instruction

Max G. Gricevich

Instructor

Training Provider of Record:
Environmental Training Center
1986 Innerbelt Business Ctr. Dr.
St. Louis, MO 63114-5760
Tel. (314) 428-7020

E NVIRONMENTAL

Training Center

Training Location:
Maxim Technologies
1908 Innerbelt Business Ctr. Dr.
St. Louis, MO 63114
Tel. (314) 426-0080

Certifies that

MAX GRICEVICH

has successfully completed

8 Hours of Annual Health & Safety Training Per 29 CFR 1910.120(e) and (q) For

HAZARDOUS WASTE SITE OPERATIONS

AND EMERGENCY RESPONSE

Employee No: 330-34-5954
Course Date: 03/20/01
Requirement: 29 CFR 1910.120 (e) and (q)
Certificate #: 7-SL032001/06
Expires: 03/20/02



Jeanine S. Arrighi, CET
DIRECTOR

RESPIRATOR FIT TEST DOCUMENTATION

(Complete all sections)

Employee Information	
Name: <u>Max Gricevich</u>	Employee Number: <u>42405</u>
Company: Maxim Technologies	Department Number: 4509
Address: 1908 Innerbelt Bus. Ctr. Dr. St. Louis, MO 63114	Daytime Phone: 314-426-0880
	Fax: 314-426-0880

Respirator Information	
Manufacturer: MSA	Model Number: <u>UltraTwin</u>
Type of face piece (check one): <input checked="" type="checkbox"/> Full-face <input checked="" type="checkbox"/> Half-face	Type of respirator (check one): <input checked="" type="checkbox"/> Air Purifying _____ Atmosphere Supplying <input type="checkbox"/> Air line _____ <input type="checkbox"/> SCBA _____

Size of respirator (check one):

☐ Small
 ☒ Medium
 ☐ Large
 ☐ Extra Large
 ☐ Other (please indicate) _____

Fit Test Exercise Documentation

(The individual performing the test must initial either "PASS" or "FAIL" for each activity, and in order to pass the test, all activities must be initialed as "passed".)

Activity	Banana Oil		Irritant Smoke	
	PASS	FAIL	PASS	FAIL
Normal Breathing	✓		✓	
Deep Breathing	✓		✓	
Move Head Side-to-Side	✓		✓	
Move Head Up and Down	✓		✓	
Talking (Read <i>Rainbow Passage</i>)	✓		✓	
Other (Explain): <u>Bending</u>	✓		✓	

Signature of Tester: Mark 2 Date: 6/29/01

Keep a copy in the employee's health and safety records maintained at the office of employment and send a copy to the Respiratory Protection Program Administrator.



This certifies that

MAX GRICEVICH

has completed the requirements for

STANDARD FIRST AID

sponsored by

MAXIM TECHNOLOGIES

Date completed

1-8-99

Norm R. Aguilar

Chairman, American Red Cross

Instructor's Signature

Ray Filla

Holder's Signature

Meep J

The American Red Cross recognizes this training as valid
for three years from completion date.

• 5202

Cert. 653207 (Jan. 1993)

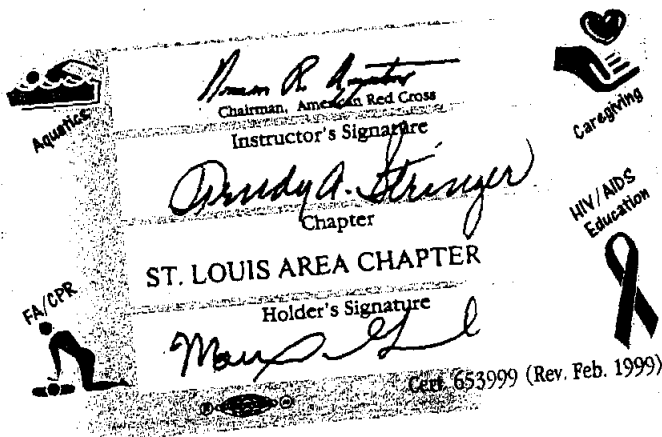


This recognizes that
max Gricevich
has completed the requirements for
Workplace - Adult CPR

conducted by
St. Louis Bi-State

Date completed **1-5-01**

The American Red Cross recognizes this certificate
as valid for **1** year(s) from completion date.





Certificate of Completion

Presented To

Thomas Lachajczyk

March 7-11, 1988

In Recognition of Having Successfully Completed
the Prescribed Course of Study for
Hazardous Waste Site Activities
40-Hour Initial
Health and Safety Training

Corporate Safety Manager
Geraghty & Miller, Inc.

Geraghty & Miller, Inc.

"Imagineering a Cleaner World"



Riedel Environmental Services Inc.

Certificate of Completion

presented to

Thomas Lachajczyk

in recognition of satisfactory completion
of the course of instruction entitled

Eight-Hour Hazardous Waste Site Management

October 24, 1988

Date(s) of Instruction

Margaret Wichard

Instructor

Training Provider of Record:
Environmental Training Center
1986 Innerbelt Business Ctr. Dr.
St. Louis, MO 63114-5760
Tel. (314) 428-7020

E NVIRONMENTAL **L** Training Center

Training Location:
Maxim Technologies
1908 Innerbelt Business Ctr. Dr.
St. Louis, MO 63114
Tel. (314) 426-0080

Certifies that

THOMAS M. LACHAJCZYK

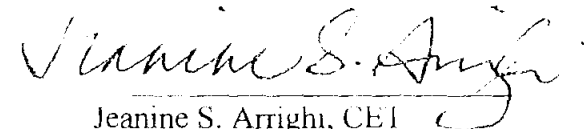
has successfully completed

8 Hours of Annual Health & Safety Training Per 29 CFR 1910.120(e) and (q) For

HAZARDOUS WASTE SITE OPERATIONS

AND EMERGENCY RESPONSE

Employee No: 323-44-4989
Course Date: 03/20/01
Requirement: 29 CFR 1910.120 (e) and (q)
Certificate #: 7-SI.032001/07
Expires: 03/20/02



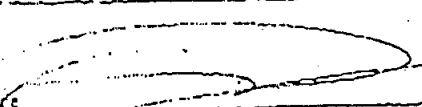
Jeanine S. Arrighi, CEI
DIRECTOR

MAXIM TECHNOLOGIES, INC.

Louis Branch Office
8 Innerbelt Business Center Drive
St. Louis, MO 63114

PHYSICIAN'S FITNESS STATEMENT

Medical Monitoring Program

Name <i>Thomas Lechajczyk</i>	Date of Exam <i>4-12-00</i>	Social Security No.	Age <i>50</i>
Employer <i>Maxim Technologies, Inc.</i>		Exam Type: <input checked="" type="checkbox"/> Annual <input type="checkbox"/> Pre-Employment	
I. PULMONARY FUNCTION <i>See Attached</i>			
A. FEV1 <u> </u> % 75% or Better Required	B. FVC <u> </u> % 80% or Better Required	C. Qualified to Wear Respirator <input type="checkbox"/> Yes <input type="checkbox"/> No	
II. FIT FOR DUTY			
<input checked="" type="checkbox"/> Fit for duty, including qualified for respirator			
<input type="checkbox"/> Meets minimum criteria of examination protocol and should be able to continue work at hazardous waste sites; recommend following limitations: _____ _____ _____ _____ _____ _____ _____			
<input type="checkbox"/> Limited Duty: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary Duration _____ <input type="checkbox"/> Does not meet criteria for employment at this time			
Physician <i>A D Meadows MD</i>		Date <i>4/12/00</i>	
Address _____ HEALTHSOUTH MEDICAL CLINIC 777 S. New Ballas Road St. Louis, MO 63141 (314) 567-6581			
Signature 			

RESPIRATOR FIT TEST DOCUMENTATION
(Complete all sections)

Employee Information	
Name: <u>Tom Lachajczyk</u>	Employee Number: <u>60284</u>
Company: Maxim Technologies	Department Number: 4509
Address: 1908 Innerbelt Bus. Ctr. Dr. St. Louis, MO 63114	Daytime Phone: 314-426-0880
	Fax: 314-426-0880

Respirator Information	
Manufacturer: MSA	Model Number: <u>Comfo Elite</u>
Type of face piece (check one): <input checked="" type="checkbox"/> Full-face <input type="checkbox"/> Half-face	Type of respirator (check one): <input checked="" type="checkbox"/> Air Purifying _____ Atmosphere Supplying <input type="checkbox"/> Air line _____ <input type="checkbox"/> SCBA _____
Size of respirator (check one): <input type="checkbox"/> Small <input checked="" type="checkbox"/> Medium <input type="checkbox"/> Large <input type="checkbox"/> Extra Large <input type="checkbox"/> Other (please indicate) _____	

Fit Test Exercise Documentation				
(The individual performing the test must initial either "PASS" or "FAIL" for each activity; and in order to pass the test, all activities must be initialed as "passed.")				
Activity	Banana Oil		Irritant Smoke	
	PASS	FAIL	PASS	FAIL
Normal Breathing	✓		✓	
Deep Breathing	✓		✓	
Move Head Side-to-Side	✓		✓	
Move Head Up and Down	✓		✓	
Talking (Read <i>Rainbow Passage</i>)	✓		✓	
Other (Explain): <u>Bending</u>	✓		✓	

Signature of Tester: M. Lachajczyk Date: 7/20/01



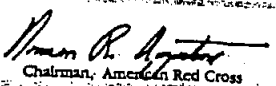

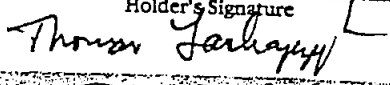


Keep a copy in the employee's health and safety records maintained at the office of employment and send a copy to the Respiratory Protection Program Administrator.



This recognizes that
THOMAS LACHATZYK
has completed the requirements for

Workplace Training: First Aid
conducted by

St. Louis Bi-State
Date completed **1-19-00**
The American Red Cross recognizes this certificate
as valid for **3** year(s) from completion date.

 Aquatics	 FA/CPR	 Chairman, American Red Cross Instructor's Signature  Chapter ST. LOUIS BI-STATE CHAPTER Holder's Signature 	 Caregiving  HIV/AIDS Education
Cert. 653999 (Rev. Feb. 1999)			



This recognizes that
Thomas Lachajczyk
has completed the requirements for
Workplace - Adult CPR
conducted by
St. Louis Bi-State
Date completed **1-5-01**
The American Red Cross recognizes this certificate
as valid for **1** year(s) from completion date.



Thomas R. Hyatt
Chairman, American Red Cross
Instructor's Signature

Druid A. Stringer
Chapter

ST. LOUIS AREA CHAPTER
Holder's Signature

Thomas Lachajczyk



HIV/AIDS
Education



Cert. 653999 (Rev. Feb. 1999)

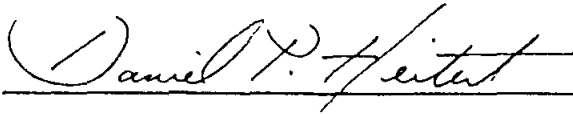
Hazardous Material Waste Operations and Site Training Course

40 HOUR OSHA TRAINING

This is to certify that

Michael McLean

has completed Security Training Center's
40 Hour Hazardous Materials Training Course
in compliance with OSHA 29CFR1910.120



INSTRUCTOR
Daniel P. Heitert, M.A.
Security Training Center
Certified by Missouri Coordinating Board for Higher Education

November 11, 1994

DATE COMPLETED

Training Provider of Record:
Environmental Training Center
1986 Innerbelt Business Ctr. Dr.
St. Louis, MO 63114-5760
Tel. (314) 428-7020

ENVIRONMENTAL

Training Center

Training Location:
Maxim Technologies
1908 Innerbelt Business Ctr. Dr.
St. Louis, MO 63114
Tel. (314) 426-0080

Certifies that

MICHAEL MILEAN

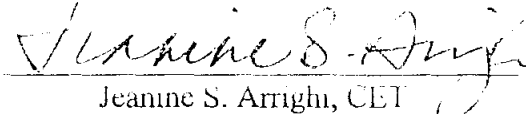
has successfully completed

8 Hours of Annual Health & Safety Training Per 29 CFR 1910.120(e) and (q) For

HAZARDOUS WASTE SITE OPERATIONS

AND EMERGENCY RESPONSE

Employee No: 322-74-8852
Course Date: 03/20/01
Requirement: 29 CFR 1910.120 (e) and (q)
Certificate #: 7-SL032001/10
Expires: 03/20/02


Jeanine S. Arrighi, CET
DIRECTOR

Certificate of Completion

2 Hour Asbestos Awareness Training

The following individual has completed a two hour asbestos awareness training course which satisfies the requirements of 29 CFR 1926.1101(k)(6)(vi) for Class IV asbestos workers.

Topics covered in this class Included:

Definition of Hazards

Asbestos Hazards

Nature of Asbestos Hazards

Health Risks

Types of Asbestos Containing Materials

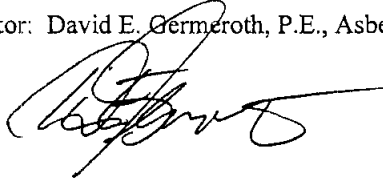
Minimizing Asbestos Hazards and Exposure to Asbestos

Date of Course: 23 February 2000

Attendee: Mike McLean



Instructor: David E. Germeroth, P.E., Asbestos Management Planner #: SSS122199-220AMPR



**MAXIM TECHNOLOGIES, INC.
TRANSMITTAL LETTER**

NAME OF EMPLOYEE: Michael Miles BIRTHDATE: 12-29-60
 HOME ADDRESS: [REDACTED]

SECTION 1 FACILITY ADMINISTRATOR AUTHORIZING PHYSICAL (INITIALS) _____

CHARGE TO DEPT # _____ DEPT FAS/C _____
 PURPOSE OF PHYSICAL: PEP _____ ANNUAL _____ TERMINATION _____
 TYPE OF PHYSICAL: CLASS 1 _____ CLASS 3 _____
 ASBESTOS _____ DOT _____ OTHER _____

DRUG SCREEN: _____ 10-PANEL _____ DOT _____ NONE

Is job description attached? _____ Yes _____ No

SECTION 2 (PHYSICIAN TO COMPLETE THE NEXT TWO SECTIONS)

Services Performed:	Yes	No
Basic History/Std. Physical Exam	<input checked="" type="checkbox"/>	<input type="checkbox"/>
DOT Physical Exam	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pulmonary Func. Study	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Chest X-Ray	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Back X-Ray	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Routine Urinalysis	<input checked="" type="checkbox"/>	<input type="checkbox"/>
CBC	<input checked="" type="checkbox"/>	<input type="checkbox"/>
SMAC-25	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Hearing Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Drug Screen (10-Panel)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Drug Screen (DOT-NIDA)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Range of Motion Test - B200, Cybec or ISTU	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- ROM by exam only.

SECTION 3 OCCUPATIONAL REVIEW

- Physically capable of wearing respiratory device:
☒ Approved _____ Disapproved _____ Not Applicable
 If disapproved, please comment: _____
- Physically fit to perform job functions: ☒ Yes _____ No
 If no, please comment: _____
- Any detected medical condition which would place _____ Yes ☒ No
 the employee at risk of impairment on the job.
 If yes, please comment: _____

Any physical recommended limitations upon employee's assigned work: _____

Examining Physician's Signature: [Signature] Date: 12/29/00

RESPIRATOR FIT TEST DOCUMENTATION

(Complete all sections)

Employee Information	
Name: <u>Mike McLean</u>	Employee Number: <u>12181</u>
Company: Maxim Technologies	Department Number: 4509
Address: 1908 Innerbelt Bus. Ctr. Dr. St. Louis, MO 63114	Daytime Phone: 314-426-0880
	Fax: 314-426-0880

Respirator Information	
Manufacturer: MSA	Model Number: <u>Ultra-Twin</u>
Type of face piece (check one): <input checked="" type="checkbox"/> Full-face <input type="checkbox"/> Half-face	Type of respirator (check one): <input checked="" type="checkbox"/> Air Purifying _____ Atmosphere Supplying <input type="checkbox"/> Air line _____ <input type="checkbox"/> SCBA _____

Size of respirator (check one):

☐ Small
 ☐ Medium
 ☒ Large
 ☐ Extra Large
 ☐ Other (please indicate) _____

Fit Test Exercise Documentation

(The individual performing the test must initial either "PASS" or "FAIL" for each activity, and in order to pass the test, all activities must be marked as "passed.")

Activity	Banana Oil		Irritant Smoke	
	PASS	FAIL	PASS	FAIL
Normal Breathing	✓		✓	
Deep Breathing	✓		✓	
Move Head Side-to-Side	✓		✓	
Move Head Up and Down	✓		✓	
Talking (Read <i>Rainbow Passage</i>)	✓		✓	
Other (Explain): <u>Bending</u>	✓		✓	

Signature of Tester: Mark Z [Signature] Date: 6/29/01

Keep a copy in the employee's health and safety records maintained at the office of employment and send a copy to the Respiratory Protection Program Administrator.

American
Red Cross



This recognizes that
MICHAEL McLEAN
has completed the requirements for

STANDARD FIRST AID

conducted by
ST LOUIS BI-STATE
Date completed **3-18-99**
The American Red Cross recognizes this certificate
as valid for 3 years from completion date.



LIV/AIDS
Education



Norm R. Agator
Chairman, American Red Cross

Instructor's Signature

Victoria
Chapter

ST. LOUIS

Holder's Signature

MM

Cert. 653207L (Rev July 1997)

American
Red Cross



This recognizes that
Michael McLean
has completed the requirements for

Workplace - Adult CPR

conducted by

St. Louis Bi-State

Date completed **1-19-00**

The American Red Cross recognizes this certificate
as valid for **1** year(s) from completion date.

Aquatics

Caregiving

HIV/AIDS Education

FA/CPR

Chairman, American Red Cross
Instructor's Signature

Chapter

ST. LOUIS BI-STATE CHAPTER

Holder's Signature

32100

Cert. 653999 (June 1997)

G & S Safety Services Of Tennessee, Inc.

Environmental Training Division

presents this

Certificate Of Completion

to

JOHN B. MULHEARN

for 40 hours of successful participation in

HAZARDOUS WASTE OPERATIONS TRAINING

this 11th day of MARCH 19 93

this course is part of a series in

Hazardous Waste Management Training

Ralph E. Kauer

Course Instructor

R. W. R. O.

Director of Training

Training Provider of Record:
Environmental Training Center
1986 Innerbelt Business Ctr. Dr.
St. Louis, MO 63114-5760
Tel. (314) 428-7020

E NVIRONMENTAL **L** Training Center

Training Location:
Maxim Technologies
1908 Innerbelt Business Ctr. Dr.
St. Louis, MO 63114
Tel. (314) 426-0080

Certifies that

J. B. MULHEARN

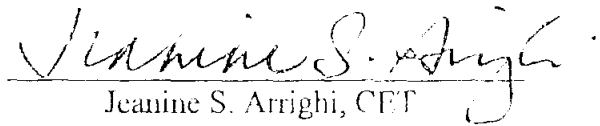
has successfully completed

8 Hours of Annual Health & Safety Training Per 29 CFR 1910.120(e) and (q) For

HAZARDOUS WASTE SITE OPERATIONS

AND EMERGENCY RESPONSE

Employee No: 438-82-6889
Course Date: 03/20/01
Requirement: 29 CFR 1910.120 (e) and (q)
Certificate #: 7-SL032001/11
Expires: 03/20/02


Jeanine S. Arrighi, CET
DIRECTOR

MAXIM TECHNOLOGIES, INC.

1 Branch Office
08 Lowerbelt Business Center Drive
Louis, MO 63114

PHYSICIAN'S FITNESS STATEMENT

Medical Monitoring Program

Name <u>Brian M. Thamm</u>	Date of Exam <u>1/16/01</u>	Social Security No. _____	Age <u>34</u>
----------------------------	-----------------------------	---------------------------	---------------

Employer, <u>Maxim Technologies, Inc.</u>	Exam Type: <input checked="" type="checkbox"/> Annual <input type="checkbox"/> Pre Employment
---	--

PULMONARY FUNCTION		
A. FEV ₁ <u>85%</u> 75% or Better Required	B. FVC <u>92%</u> 80% or Better Required	C. Qualified to Wear Respirator <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

I. FIT FOR DUTY

☒ Fit for duty, including qualified for respirator

☐ Meets minimum criteria of examination protocol and should be able to continue work at hazardous waste sites; recommend following

limitations: _____

☐ Limited Duty: ☐ Permanent ☐ Temporary Duration _____ ☐ Does not meet criteria for employment at this date.

Physician _____ Date _____

Address _____

Signature _____

Cathy Cerda

1/16/01

RESPIRATOR FIT TEST DOCUMENTATION

(Complete all sections)

Employee Information	
Name: <u>Brian Mulhearn</u>	Employee Number: <u>1902</u>
Company: Maxim Technologies	Department Number: 4509
Address: 1908 Innerbelt Bus. Ctr. Dr. St. Louis, MO 63114	Daytime Phone: 314-426-0880
	Fax: 314-426-0880

Respirator Information	
Manufacturer: MSA	Model Number: <u>Advantage 1000</u>
Type of face piece (check one): <input type="checkbox"/> Full-face <input checked="" type="checkbox"/> Half-face	Type of respirator (check one): <input checked="" type="checkbox"/> Air Purifying _____ Atmosphere Supplying <input type="checkbox"/> Air line _____ <input type="checkbox"/> SCBA _____
Size of respirator (check one): <input type="checkbox"/> Small <input type="checkbox"/> Medium <input checked="" type="checkbox"/> Large <input type="checkbox"/> Extra Large <input type="checkbox"/> Other (please indicate _____)	

Fit Test Exercise Documentation				
(The individual performing the test must initial either "PASS" or "FAIL" for each activity, and in order to pass the test, all activities must be initialed as "passed.")				
Activity	Banana Oil		Irritant Smoke	
	PASS	FAIL	PASS	FAIL
Normal Breathing	✓		✓	
Deep Breathing	✓		✓	
Move Head Side-to-Side	✓		✓	
Move Head Up and Down	✓		✓	
Talking (Read <i>Rainbow Passage</i>)	✓		✓	
Other (Explain): <u>Bending</u>	✓		✓	

Signature of Tester: *Mark 2* Date: 7/23/01

Keep a copy in the employee's health and safety records maintained at the office of employment and send a copy to the Respiratory Protection Program Administrator.

American
Red Cross



American
Red Cross



Brian Mulhearn

has completed the requirements for

Adult CPR

conducted by

St. Louis Bi-State

Date completed **07/27/1999**

The American Red Cross recognizes this certificate
as valid for **1** year(s) from completion date.

This recognizes that

Brian Mulhearn

has completed the requirements for

Standard First Aid

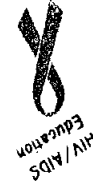
conducted by

St. Louis Bi-State

Date completed **07/27/1999**

The American Red Cross recognizes this certificate
as valid for **3** year(s) from completion date.

(Cert. 653999 (June 1997))



Holder's Signature
ST. LOUIS BI-STATE

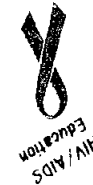
(Chapter)

Instructor's Signature

Chairman, American Red Cross



(Cert. 653999 (June 1997))



Holder's Signature

(Chapter)

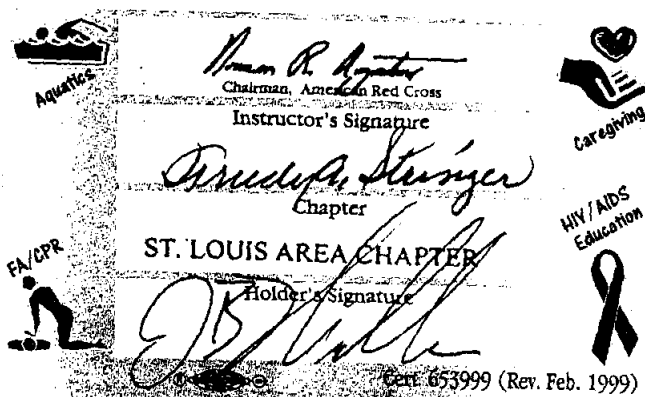
Instructor's Signature

Chairman, American Red Cross





This recognizes that
Brian Mulhearn
has completed the requirements for
Workplace - Adult CPR
conducted by
St. Louis Bi-State
Date completed **1-5-01**
The American Red Cross recognizes this certificate
as valid for **1** year(s) from completion date.



Environmental Training Consultants, Inc.

Certificate of Training

This certifies that
James L. Richards

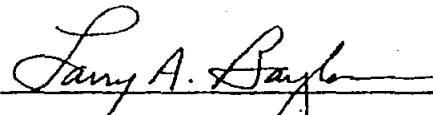
has received FORTY hours of training for attending the
OSHA HAZARDOUS WASTE SITE WORKER
OSHA 29 CFR 1910.120

May 3-6, 1993

Itasca, Illinois

Certificate Number 93-2409

SSN:



Larry A. Baylor, President

Environmental Training Consultants, Inc.
1050 Granville, Itasca, Illinois 60143 (708) 773-2833

"Solving Environmental Concerns Through Training"

CEU: 5.0

1st Environmental Information Systems

DOT HAZARDOUS MATERIALS TRAINING COURSE

THIS IS TO CERTIFY THAT

James Richards

has completed a Hazardous Materials Training Course in
Compliance with 49 CFR 172.700

Barbara J. Miller

Instructor

Certificate Number 30099303

30 September 1993

Date Completed

Environmental Training Consultants, Inc.

Certificate of Training

This certifies that
James L. Richards

has received EIGHT hours of training for attending the
OSHA HAZARDOUS WASTE SITE SUPERVISOR

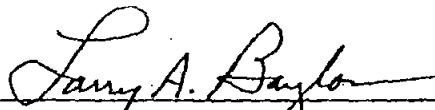
OSHA 29 CFR 1910.120

May 7, 1993

Itasca, Illinois

Certificate Number 93-2431

SSN: 1-530



Larry A. Baylor, President

Environmental Training Consultants, Inc.
1050 Granville, Itasca, Illinois 60143 (708) 773-2833

"Solving Environmental Concerns Through Training"

CEU: 1.0

Training Provider of Record:
Environmental Training Center
1986 Innerbelt Business Ctr. Dr.
St. Louis, MO 63114-5760
Tel. (314) 428-7020

E NVIRONMENTAL **L** Training Center

Training Location:
Maxim Technologies
1908 Innerbelt Business Ctr. Dr.
St. Louis, MO 63114
Tel. (314) 426-0080

Certifies that

JAMES L. RICHARDS

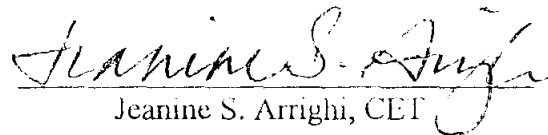
has successfully completed

8 Hours of Annual Health & Safety Training Per 29 CFR 1910.120(e) and (q) For

HAZARDOUS WASTE SITE OPERATIONS

AND EMERGENCY RESPONSE

Employee No: 495-84-8055
Course Date: 03/20/01
Requirement: 29 CFR 1910.120 (e) and (q)
Certificate #: 7-SL032001/12
Expires: 03/20/02


Jeanine S. Arrighi, CET
DIRECTOR

MAXIM TECHNOLOGIES, INC.
TRANSMITTAL LETTER

NAME OF EMPLOYEE:

Jennifer Smith

BIRTHDATE:

Date

7-3-01

HOME ADDRESS:

SS#:

SECTION 1 FACILITY ADMINISTRATOR AUTHORIZING PHYSICAL (INITIALS)

CHARGE TO DEPT #

DEPT FAS/C

PURPOSE OF PHYSICAL:

PEP

ANNUAL

TERMINATION

TYPE OF PHYSICAL:

CLASS 1

CLASS 3

ASBESTOS

DOT

OTHER

DRUG SCREEN:

10-PANEL

DOT

NONE

Is job description attached?

Yes

No

SECTION 2 (PHYSICIAN TO COMPLETE THE NEXT TWO SECTIONS)

Services Performed:

Yes

No

Basic History/Std. Physical Exam

✓

-

DOT Physical Exam

-

✓

Pulmonary Func. Study

✓

-

Chest X-Ray

-

✓

Back X-Ray

✓

✓

Routine Urinalysis

✓

-

CBC

-

-

SMAC-25

-

-

Hearing Test

✓

-

Drug Screen (10-Panel)

-

✓

Drug Screen (DOT-NIDA)

-

✓

Range of Motion Test - B200, Cybec or ISTU

✓

-

By exam only.

SECTION 3 OCCUPATIONAL REVIEW

1. Physically capable of wearing respiratory device:
✓ Approved ___ Disapproved ___ Not Applicable
If disapproved, please comment: _____

2. Physically fit to perform job functions: ✓ Yes ___ No
If no, please comment: _____

3. Any detected medical condition which would place ___ Yes ✓ No
the employee at risk of impairment on the job.
If yes, please comment: _____

Any physical recommended limitations upon employee's assigned work:

Examining Physician's Signature:

C. Byrd

Date:

7/3/01

RESPIRATOR FIT TEST DOCUMENTATION

(Complete all sections)

Employee Information	
Name: <u>Jim Richards</u>	Employee Number: <u>2040</u>
Company: Maxim Technologies	Department Number: 4509
Address: 1908 Innerbelt Bus. Ctr. Dr. St. Louis, MO 63114	Daytime Phone: 314-426-0880
	Fax: 314-426-0880

Respirator Information	
Manufacturer: MSA	Model Number: <u>Comfo Elite</u>
Type of face piece (check one): <input checked="" type="checkbox"/> Full-face <input type="checkbox"/> Half-face	Type of respirator (check one): <input checked="" type="checkbox"/> Air Purifying _____ Atmosphere Supplying <input type="checkbox"/> Air line _____ <input type="checkbox"/> SCBA _____

Size of respirator (check one):

☐ Small
 ☒ Medium
 ☐ Large
 ☐ Extra Large
 ☐ Other (please indicate: _____)

Fit Test Exercise Documentation				
(The individual performing the test must initial either "PASS" or "FAIL" for each activity, and in order to pass the test, all activities must be initialed as "passed.")				
Activity	Banana Oil		Irritant Smoke	
	PASS	FAIL	PASS	FAIL
Normal Breathing	✓		✓	
Deep Breathing	✓		✓	
Move Head Side-to-Side	✓		✓	
Move Head Up and Down	✓		✓	
Talking (Read <i>Rainbow Passage</i>)	✓		✓	
Other (Explain):	✓		✓	

Signature of Tester: Matt 2

Date: 7/19/01

Keep a copy in the employee's health and safety records maintained at the office of employment and send a copy to the Respiratory Protection Program Administrator.

American
Red Cross



This recognizes that
Jim Richards

has completed the requirements for
Standard First Aid

conducted by
St. Louis Bi-State

Date completed **07/27/1999**

The American Red Cross recognizes this certificate
as valid for **3** year(s) from completion date.

American
Red Cross



This recognizes that
Jim Richards

has completed the requirements for
Adult CPR

conducted by
St. Louis Bi-State

Date completed **07/27/1999**

The American Red Cross recognizes this certificate
as valid for **1** year(s) from completion date.



Norm R. Agator
Chairman, American Red Cross
Instructor's Signature



[Signature]

Chapter
ST. LOUIS BI-STATE

James J. Throckmold, PhD
Holder's Signature

HIV/AIDS
Education



32100



Cert. 653999 (June 1997)



Norm R. Agator
Chairman, American Red Cross
Instructor's Signature



[Signature]

Chapter
ST. LOUIS BI-STATE

James J. Throckmold, PhD
Holder's Signature

HIV/AIDS
Education



32100



Cert. 653999 (June 1997)

MAXIM TECHNOLOGIES, INC.
TRANSMITTAL LETTER

NAME OF EMPLOYEE: Thomas Richards BIRTHDATE: 5/30/67 Date 5/10/01
HOME ADDRESS [REDACTED]

SECTION 1 FACILITY ADMINISTRATOR AUTHORIZING PHYSICAL (INITIALS) _____

CHARGE TO DEPT # _____ DEPT FAS/C _____
PURPOSE OF PHYSICAL: PEP _____ ANNUAL _____ TERMINATION _____
TYPE OF PHYSICAL: CLASS 1 _____ CLASS 3 _____
ASBESTOS _____ DOT _____ OTHER _____

DRUG SCREEN: _____ 10-PANEL _____ DOT _____ NONE _____

Is job description attached? _____ Yes _____ No _____

SECTION 2 (PHYSICIAN TO COMPLETE THE NEXT TWO SECTIONS)

Services Performed:	Yes	No
Basic History/Std. Physical Exam	<input checked="" type="checkbox"/>	—
DOT Physical Exam	<input checked="" type="checkbox"/>	—
Pulmonary Func. Study	<input checked="" type="checkbox"/>	—
Chest X-Ray	<input checked="" type="checkbox"/>	—
Back X-Ray	<input checked="" type="checkbox"/>	—
Routine Urinalysis	<input checked="" type="checkbox"/>	—
CBC	<input checked="" type="checkbox"/>	—
SMAC-25	<input checked="" type="checkbox"/>	—
Hearing Test	<input checked="" type="checkbox"/>	—
Drug Screen (10-Panel)	<input checked="" type="checkbox"/>	—
Drug Screen (DOT-NIDA)	<input checked="" type="checkbox"/>	—
Range of Motion Test - B200, Cybec or ISTU	<input checked="" type="checkbox"/>	— By Exam Only

SECTION 3 OCCUPATIONAL REVIEW


1. Physically capable of wearing respiratory device:
☒ Approved _____ Disapproved _____ Not Applicable _____
If disapproved, please comment: _____
2. Physically fit to perform job functions: ☒ Yes _____ No _____
If no, please comment: If no heavy lifting
3. Any detected medical condition which would place ☒ Yes _____ No _____
the employee at risk of impairment on the job.
If yes, please comment: Low Back Pain with history of disc herniation

Any physical recommended limitations upon employee's assigned work: _____


Examining Physician's Signature: C. Byler Date: 5/10/01




This recognizes that
James Richards
has completed the requirements for
Workplace - Adult CPR
conducted by
St. Louis Bi-State
Date completed **1-5-01**
The American Red Cross recognizes this certificate
as valid for **1** year(s) from completion date.




Aquatics




FA/CPR



Caregiving




HIV/AIDS
Education



Chairman, American Red Cross

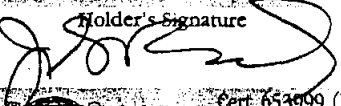
Instructor's Signature



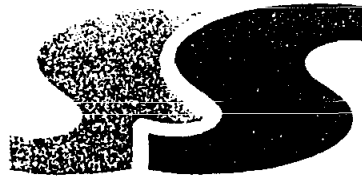
Chapter

ST. LOUIS AREA CHAPTER

Holder's Signature



Cert. 653999 (Rev. Feb. 1994)



Safety Support Services, Incorporated

Environmental and Occupational Safety & Health Consultants

1410 South Jefferson Avenue
St. Louis, Missouri 63104
Phone: (314) 773-4747

Does hereby certify that
Jim D. Shetley

*has successfully completed the 40 hour initial
course of instruction for accreditation under*
29 CFR 1910.120

Hazardous Waste Operations and Emergency Response

Class Date: August 17-21, 1998
Exam Date: August 21, 1998
Number: SSS082198-271HW40
Expires: August 21, 1999
Student SSN:

Douglas L. Mueller, CSP, CET
Certified Safety Professional
Certified Environmental Trainer



Training Provider of Record:
Environmental Training Center
1986 Innerbelt Business Ctr. Dr.
St. Louis, MO 63114-5760
Tel. (314) 428-7020

E NVIRONMENTAL

Training Center

Training Location:
Maxim Technologies
1908 Innerbelt Business Ctr. Dr.
St. Louis, MO 63114
Tel. (314) 426-0080

Certifies that

JAMES D. SHETLEY

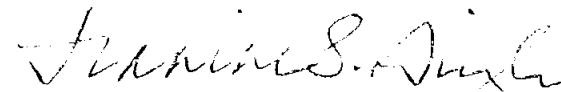
has successfully completed

8 Hours of Annual Health & Safety Training Per 29 CFR 1910.120(e) and (q) For

HAZARDOUS WASTE SITE OPERATIONS

AND EMERGENCY RESPONSE

Employee No: 327-54-8810
Course Date: 03/20/01
Requirement: 29 CFR 1910.120 (e) and (q)
Certificate #: 7-SL032001/14
Expires: 03/20/02



Jeanine S. Arrighi, CET
DIRECTOR

MAXIM TECHNOLOGIES, INC.
TRANSMITTAL LETTER

NAME OF EMPLOYEE: JIM SHETLEY BIRTHDATE: 5-9-01
HOME ADDRESS: [REDACTED] SS#: [REDACTED]

SECTION 1 FACILITY ADMINISTRATOR AUTHORIZING PHYSICAL (INITIALS) _____

CHARGE TO DEPT # _____ DEPT FAS/C _____
PURPOSE OF PHYSICAL: PEP _____ ANNUAL _____ TERMINATION _____
TYPE OF PHYSICAL: CLASS 1 _____ CLASS 3 _____
ASBESTOS _____ DOT _____ OTHER _____

DRUG SCREEN: _____ 10-PANEL _____ DOT _____ NONE

Is job description attached? _____ Yes _____ No

SECTION 2 (PHYSICIAN TO COMPLETE THE NEXT TWO SECTIONS)

Services Performed:	Yes	No
Basic History/Std. Physical Exam	<input checked="" type="checkbox"/>	—
DOT Physical Exam	<input checked="" type="checkbox"/>	—
Pulmonary Func. Study	<input checked="" type="checkbox"/>	—
Chest X-Ray	<input checked="" type="checkbox"/>	—
Back X-Ray	—	—
Routine Urinalysis	<input checked="" type="checkbox"/>	—
CBC	<input checked="" type="checkbox"/>	—
SMAC-25	<input checked="" type="checkbox"/>	—
Hearing Test	<input checked="" type="checkbox"/>	—
Drug Screen (10-Panel)	—	—
Drug Screen (DOT-NIDA)	—	—
Range of Motion Test - B200, Cybec or ISTU	<input checked="" type="checkbox"/>	—

By Exam only

SECTION 3 OCCUPATIONAL REVIEW

1. Physically capable of wearing respiratory device:
☒ Approved _____ Disapproved _____ Not Applicable _____
If disapproved, please comment: _____
2. Physically fit to perform job functions: ☒ Yes _____ No
If no, please comment: _____
3. Any detected medical condition which would place _____ Yes ☒ No
the employee at risk of impairment on the job.
If yes, please comment: _____

by physical recommended limitations upon employee's assigned work:

Examining Physician's Signature: *CBylardo* Date: 7/17/01

RESPIRATOR FIT TEST DOCUMENTATION

(Complete all sections)

Employee Information	
Name: <u>Jim Shetley</u>	Employee Number: <u>92868</u>
Company: Maxim Technologies	Department Number: 4509
Address: 1908 Innerbelt Bus. Ctr. Dr. St. Louis, MO 63114	Daytime Phone: 314-426-0880
	Fax: 314-426-0880

Respirator Information	
Manufacturer: MSA	Model Number: <u>Comfo Elite</u>
Type of face piece (check one): <input checked="" type="checkbox"/> Full-face <input type="checkbox"/> Half-face	Type of respirator (check one): <input checked="" type="checkbox"/> Air Purifying _____ Atmosphere Supplying <input type="checkbox"/> Air line _____ <input type="checkbox"/> SCBA _____
Size of respirator (check one): <input type="checkbox"/> Small <input checked="" type="checkbox"/> Medium <input type="checkbox"/> Large <input type="checkbox"/> Extra Large <input type="checkbox"/> Other (please indicate: _____)	

Fit Test Exercise Documentation				
(The individual performing the test must initial either "PASS" or "FAIL" for each activity, and in order to pass the test, all activities must be initiated as "passed.")				
	Banana Oil		Irritant Smoke	
Activity	PASS	FAIL	PASS	FAIL
Normal Breathing	✓		✓	
Deep Breathing	✓		✓	
Move Head Side-to-Side	✓		✓	
Move Head Up and Down	✓		✓	
Talking (Read <i>Rainbow Passage</i>)	✓		✓	
Other (Explain): <i>Bending</i>	✓		✓	

Signature of Tester: Mark 2

Date: 6/29/01

Keep a copy in the employee's health and safety records maintained at the office of employment and send a copy to the Respiratory Protection Program Administrator.

Norman R. Agator

Chairman, American Red Cross

Instructor's Signature

Ray Filla

Holder's Signature

Jim Shetley

The American Red Cross recognizes this training as valid
for three years from completion date.

Cert: 653207 (Jan. 1993)

American Red Cross

This certifies that

JIM SHETLEY

has completed the requirements for

STANDARD FIRST AID

sponsored by






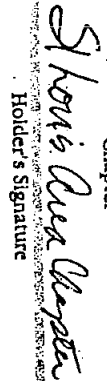
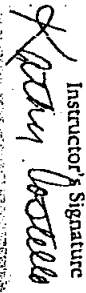
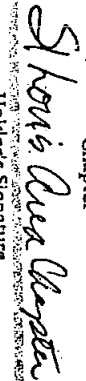
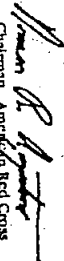
MAXIM TECHNOLOGIES

Date completed

1-8-99



This recognizes that
JAMES SHETLEY
has completed the requirements for
ADULT CPR
conducted by
St Louis Area Chapter
Date completed **2-26-00**
The American Red Cross recognizes this certificate
as valid for **1** year from completion date.

 32109	 Aquatics
 First Aid	 Blood/Blood Pressure
 American Red Cross	
Cert. 653212L (Rev. July 1997)	
 Holder's Signature	 Instructor's Signature
 Chapter	 Chairman, American Red Cross

ENVIRONMENTAL
Training Center

CERTIFIES THAT

MARK L. SIEVERS

has successfully completed

40 HOUR INITIAL HEALTH & SAFETY TRAINING PER 29 CFR 1910.120 FOR

HAZARDOUS WASTE SITE OPERATIONS

SSN _____

Course date AUGUST 9 to 13, 1993

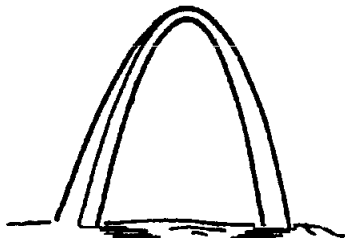
Requirement 29 CFR 1910.120

Certificate No. 7-SL080993-04

Training Site: 1988 INNERBELT BUSINESS CTR. DR.
ST. LOUIS, MISSOURI 63114-5760
TELEPHONE 314/428-7020

C. McTeal
Instructor

Ronald Pearson
Director, Training



PSH inc - Training Center

St. Louis, Missouri

This Certifies That

Mark L. Sievers

Has successfully completed an 8-hour
Manager/Supervisor course of instruction under

29 CFR 1910.120

Hazardous Waste Operation and Emergency Response

Class Date: May 18, 1994
Exam Date: May 18, 1994
Number: PSH051894-002HWMS
SSN:

Carol E. Hoag, President

Course Provider: **PSH inc**

440 North 4th Street, Suite 203, St. Louis, Missouri 63102-2650
(314) 231-7774

Training Provider of Record:
Environmental Training Center
1986 Innerbelt Business Ctr. Dr.
St. Louis, MO 63114-5760
Tel. (314) 428-7020

E NVIRONMENTAL **Training Center** **L**

Training Location:
Environmental Training Center
1986 Innerbelt Business Ctr. Dr.
St. Louis, MO 63114-5760
Tel. (314) 428-7020

Certifies that

MARK L. SIEVERS

has successfully completed

8 Hours of Annual Health & Safety Training Per 29 CFR 1910.120(e) and (q) For

HAZARDOUS WASTE SITE OPERATIONS

AND EMERGENCY RESPONSE

Soc.Sec.No: NOT AVAILABLE
Course Date: 04/23/01
Requirement: 29 CFR 1910.120 (e) and (q)
Certificate #: 7-SL042301/07
Expires: 04/23/02



Jeanine S. Arrighi, CET
DIRECTOR

MAXIM TECHNOLOGIES, INC.
TRANSMITTAL LETTER

Date 5/9/01

NAME OF EMPLOYEE: Mark L. Sievers BIRTHDATE: 12/16/61
HOME ADDRESS: [REDACTED]

SECTION 1 FACILITY ADMINISTRATOR'S REPORT SICAL (INITIALS) MLS

CHARGE TO DEPT # 4509 DEPT FAS/C

PURPOSE OF PHYSICAL: PEP ANNUAL X TERMINATION

TYPE OF PHYSICAL: CLASS 1 CLASS 3
ASBESTOS DOT OTHER

DRUG SCREEN: 10-PANEL DOT X NONE

Is job description attached? Yes No

SECTION 2 (PHYSICIAN TO COMPLETE THE NEXT TWO SECTIONS)

Services Performed:	Yes	No
Basic History/Std. Physical Exam	<u>✓</u>	<u> </u>
DOT Physical Exam	<u> </u>	<u> </u>
Pulmonary Func. Study	<u> </u>	<u> </u>
Chest X-Ray	<u>✓</u>	<u> </u>
Back X-Ray	<u> </u>	<u> </u>
Routine Urinalysis	<u> </u>	<u> </u>
CBC	<u>✓</u>	<u> </u>
SMAC-25	<u>✓</u>	<u> </u>
Hearing Test	<u>✓</u>	<u> </u>
Drug Screen (10-Panel)	<u> </u>	<u> </u>
Drug Screen (DOT-NIDA)	<u> </u>	<u> </u>
Range of Motion Test - B200, Cybec or ISTU	<u>✓</u>	<u>By Exam Only</u>

SECTION 3 OCCUPATIONAL REVIEW

1. Physically capable of wearing respiratory device:
✓ Approved Disapproved Not Applicable
If disapproved, please comment:
2. Physically fit to perform job functions: ✓ Yes No
If no, please comment:
3. Any detected medical condition which would place Yes ✓ No
the employee at risk of impairment on the job.
If yes, please comment:

Any physical recommended limitations upon employee's assigned work:

Examining Physician's Signature: C. Bigler Date: 5/9/01

RESPIRATOR FIT TEST DOCUMENTATION

(Complete all sections)

Employee Information

Name: <u>Mark L. Sievers</u>	Employee Number: <u>11998</u>
Company: Maxim Technologies	Department Number: 4509
Address: 1908 Innerbelt Bus. Ctr. Dr. St. Louis, MO 63114	Daytime Phone: 314-426-0880
	Fax: 314-426-0880

Respirator Information

Manufacturer: MSA	Model Number: <u>Advantage 1000</u>
Type of face piece (check one): <input checked="" type="checkbox"/> Full-face <input type="checkbox"/> Half-face	Type of respirator (check one): <input checked="" type="checkbox"/> Air Purifying _____ Atmosphere Supplying <input type="checkbox"/> Air line _____ <input type="checkbox"/> SCBA _____
Size of respirator (check one): <input type="checkbox"/> Small <input type="checkbox"/> Medium <input checked="" type="checkbox"/> Large <input type="checkbox"/> Extra Large <input type="checkbox"/> Other (please indicate) _____	

Fit Test Exercise Documentation

(The individual performing the test must initial either "PASS" or "FAIL" for each activity, and in order to pass the test, all activities must be initialed as "passed".)

Activity	Banana Oil		Irritant Smoke	
	PASS	FAIL	PASS	FAIL
Normal Breathing	✓		✓	
Deep Breathing	✓		✓	
Move Head Side-to-Side	✓		✓	
Move Head Up and Down	✓		✓	
Talking (Read <i>Rainbow Passage</i>)	✓		✓	
Other (Explain): <u>Bending</u>	✓		✓	

Signature of Tester: Nancy A. Decker

Date: 7/2/01

Keep a copy in the employee's health and safety records maintained at the office of employment and send a copy to the Respiratory Protection Program Administrator.




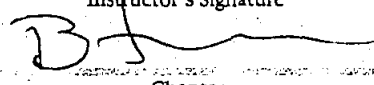





This recognizes that
MARK STEVERS
has completed the requirements for

Workplace Training: First Aid
conducted by

St. Louis Bi-State
Date completed **1-19-00**

The American Red Cross recognizes this certificate
as valid for **3** year(s) from completion date.

 Aquatics	 Caregiving
 Chairman, American Red Cross Instructor's Signature	
 Chapter	
ST. LOUIS BI-STATE CHAPTER	
 FA/CPR	 HIV/AIDS Education
 Holder's Signature	
Cert. 653999 (Rev. Feb. 1999)	



This recognizes that
Mark Sievers
has completed the requirements for
Workplace - Adult CPR

conducted by
St. Louis Bi-State

Date completed **1-5-01**

The American Red Cross recognizes this certificate
as valid for **1** year(s) from completion date.



Norm R. Ayer
Chairman, American Red Cross
Instructor's Signature

Druid Stringer
Chapter

ST. LOUIS AREA CHAPTER

Mark Sievers
Holder's Signature



HIV/AIDS
Education



Cert. 653999 (Rev. Feb. 1999)

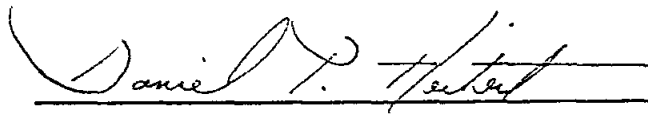
Hazardous Material Waste Operations and Site Training Course

40 HOUR OSHA TRAINING

This is to certify that

Jennifer R Smith

has completed Security Training Center's
40 Hour Hazardous Waste Operations & Emergency Response Training Course
in compliance with OSHA 29CFR1910.120



INSTRUCTOR
Daniel P. Heitert, M.A.
Security Training Center
Certified by Missouri Coordinating Board for Higher Education

July 14, 2000

DATE COMPLETED

Training Provider of Record:
Environmental Training Center
1986 Innerbelt Business Ctr. Dr.
St. Louis, MO 63114-5760
Tel. (314) 428-7020

E NVIRONMENTAL **Training Center** **L**

Training Location:
Environmental Training Center
1986 Innerbelt Business Ctr. Dr.
St. Louis, MO 63114-5760
Tel. (314) 428-7020

Certifies that

JENNIFER R. SMITH

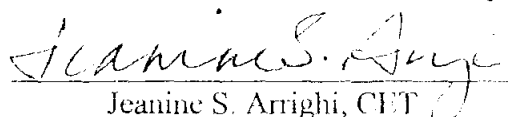
has successfully completed

8 Hours of Annual Health & Safety Training Per 29 CFR 1910.120(e) and (q) For

HAZARDOUS WASTE SITE OPERATIONS

AND EMERGENCY RESPONSE

Soc.Sec.No: 491-86-4417
Course Date: 07/30/01
Requirement: 29 CFR 1910.120 (e) and (q)
Certificate #: 7-SL073001/09
Expires: 07/30/02


Jeanine S. Arrighi, CET
DIRECTOR

RESPIRATOR FIT TEST DOCUMENTATION

(Complete all sections)

Employee Information	
Name: <u>Jennifer Smith</u>	Employee Number: <u>2236</u>
Company: Maxim Technologies	Department Number: 4509
Address: 1908 Innerbelt Bus. Ctr. Dr. St. Louis, MO 63114	Daytime Phone: 314-426-0880
	Fax: 314-426-0880

Respirator Information	
Manufacturer: MSA	Model Number: <u>Advantage 1000</u>
Type of face piece (check one): <input checked="" type="checkbox"/> Full-face <input type="checkbox"/> Half-face	Type of respirator (check one): <input checked="" type="checkbox"/> Air Purifying _____ Atmosphere Supplying <input type="checkbox"/> Air line _____ <input type="checkbox"/> SCBA _____
Size of respirator (check one): <input type="checkbox"/> Small <input checked="" type="checkbox"/> Medium <input type="checkbox"/> Large <input type="checkbox"/> Extra Large <input type="checkbox"/> Other (please indicate _____)	

Fit Test Exercise Documentation				
(The individual performing the test must initial either "PASS" or "FAIL" for each activity, and in order to pass the test, all activities must be marked as "passed")				
Activity	Banana Oil		Irritant Smoke	
	PASS	FAIL	PASS	FAIL
Normal Breathing	✓		✓	
Deep Breathing	✓		✓	
Move Head Side-to-Side	✓		✓	
Move Head Up and Down	✓		✓	
Talking (Read <i>Rainbow Passage</i>)	✓		✓	
Other (Explain): <u>Bending</u>	✓		✓	

Signature of Tester: *M. Smith* Date: 7/2/01

Keep a copy in the employee's health and safety records maintained at the office of employment and send a copy to the Respiratory Protection Program Administrator.



Safety Support Services, Incorporated

Environmental and Occupational Safety & Health Consultants

Does hereby certify that

Jennifer R. Smith

*has successfully completed and passed the course examination with
a minimum score of 70% for accreditation under AHERA (TSCA Title II)*

Asbestos Building Inspector

This training course is accredited by the MDNR and the IDPH



Safety Support Services, Incorporated

Environmental and Occupational Safety & Health Consultants

Does hereby certify that

Jennifer R. Smith

*has successfully completed and passed the course examination
with a minimum score of 70% for accreditation under
77 Illinois Administrative Code Part 845 and Missouri 19 CSR 70.30*

Lead Inspector

This training course is accredited by the MDPH and the IDPH



American
Red Cross



This recognizes that
JENNIFER SMITH
has completed the requirements for

STANDARD FIRST AID

conducted by

ST. LOUIS

Date completed *7/22/00*

The American Red Cross recognizes this certificate
as valid for 3 years from completion date.

American
Red Cross



This recognizes that
JENNIFER SMITH
has completed the requirements for

ADULT CPR

conducted by





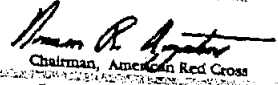

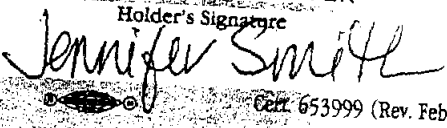
ST. LOUIS AREA

Date completed *7/22/00*

The American Red Cross recognizes this certificate
as valid for 1 year from completion date.



This recognizes that
Jennifer Smith
has completed the requirements for
Workplace - Adult CPR
conducted by
St. Louis Bi-State
Date completed **1-5-01**
The American Red Cross recognizes this certificate
as valid for **1** year(s) from completion date.

 Aquatics
 Caregiving
 FA/CPR
 HIV/AIDS Education

Chairman, American Red Cross
Instructor's Signature

Chapter
ST. LOUIS AREA CHAPTER
Holder's Signature

© 653999 (Rev. Feb. 1999)

APPENDIX D

COMMENT / RESPONSE PACKAGE

COMMENT/RESPONSE PACKAGE

Response to Draft Addendum to the Site Safety and Health Plan Remedial Investigation at the NFSS

REVIEWER: R. A. Hoover

DATE: 11 September 01

DEC COMMENT NUMBER	SECTION	COMMENT	RESPONSE
01	1.1, page 1	Acronyms SSHPA and RI/FS are not on the acronyms list. Should add these to the list.	Acronyms will be added to the acronyms list
02	2.1.2, page 2	1 st sentence in paragraph. Grammar is poor. I think this should read, "Maxim will oversee the performance of a limited gamma walkover survey as described in Section 3.1.1 of the FSP"	The sentence will be corrected as follows: <i>Maxim will oversee the performance of a limited gamma walkover survey as described in Section 3.1.1 of the FSP Addendum.</i>
03	3.0	1. Where is the discussion of potential airborne hazards, especially radioactive? This subject needs to be addressed, even if only to say it doesn't exist. 2. This document lacks a discussion of rad contamination and access control for contaminated equipment and personnel.	These items are addressed in the Radiation Protection Plan Addendum
04	3.1, page 3	Document needs to define what is meant by the term "Grubbing".	Grubbing refers to the removal of cut brush/trees. A statement will be added to the SSHPA which defines "grubbing".
05	3.2, page 3 to 4	The use of the words Threshold Limit Value (TLV) and Permissible Exposure limits (PEL) although widely used are inconsistent with the terminology used in table 3-1, where the term Exposure Limits is used.	Exposure limits is used as a general column heading in Table 3-1. The specific exposure limits, whether PEL, TWA, REL, REL-Ceiling, or STEL are presented in the table are defined and listed for each contaminant of concern as available.
06	3.5, page 11	The sentence "It is anticipated that the field operations associated with this project will commence in the fall/winter of 2001." It is not needed and it gives the appearance of a commitment being made.	Sentence will be removed.

07	3.6.1.7, page 16	Will back up alarms be in use? Please add comment.	The paragraph will be changed as follows: <i>All large brush clearing equipment will be equipped with functioning backup alarms. The proper functioning of these alarms will be documented on the daily equipment inspection forms presented as Exhibit 3-1.</i>
08	3.6.5, page 17	1. Is there a reference for the ALARA procedures to be used? 2. Section is too brief. It seems to me that more information is needed to be presented or referenced as to what the hazards are and what the HP Tech will be doing. For instance is there an airborne rad hazard, will monitoring be done at the access points for rad contamination of personnel or equipment,	These items are addressed in the Radiation Protection Plan Addendum.
09	5.0	No mention is made of records. Statement on retention of records is needed.	The following statement will be added to Section 5.1: <i>Worker training records and certificates will be maintained at Maxim's NFSS job trailer and at Maxim's St. Louis office.</i>
10	5.5, page 20	Need to add statements on decontamination and on records.	These items are addressed in the Radiation Protection Plan Addendum.
11	7.0	Although I agree that bioassays are in all likely hood not needed: 1. there should be a discussion of why they are not and how it will be shown that there are no intakes, such as air sampling checks for contamination on the workers (such as nasal smears). Although this is not the right place for the discussion, it needs to be addressed someplace. 2. There should be a discussion of what is to be done if it is decided that a bioassay is needed.	These items are addressed in the Radiation Protection Plan Addendum.
12	8.0, page 23	Should make a statement on internal dosimetry	These items are addressed in the Radiation Protection Plan Addendum.
13	15.0, page 30	There is no mention of other kinds of emergencies. For instance should state somewhere what is to be done if an injured worker is found to be radioactively contaminated.	These items are addressed in the Radiation Protection Plan Addendum.
14	Table 3-1	If we are going to include Cs-137 on the list, shouldn't we add Sr-90? Usually the two are expected to be present together. Since the statement of work also states the Ra-226 and Th-230 were of concern. these radionuclide should be added as well.	These items are addressed in the Radiation Protection Plan Addendum.
15	Table 3-2	Need to add comments on Rad Hazards and airborne rad hazards.	These items are addressed in the Radiation Protection Plan Addendum