Environmental Chemical Corporation

1125 Rt. 22 West
Suite 310
Bridgewater, NJ 08807
908-595-1777phone
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TRANSMITTAL LETTER

TO: Mr. [redacted]

U.S. Army Corps of Engineers Buffalo District
1776 Niagara Street
Buffalo, N. Y. 14207

DATE: 26 August 2010 **PROJECT NO.:** 5210.004

RE: Niagara Falls Storage Site (NFSS) - for the Transportation and Disposal of Remedial Investigation Derived and Legacy Waste

SENDING:

[X] Attached AND [X] Under separate cover via _MAIL_____ the following items:

[ ] Shop drawings [ ] Prints [X] Plans [ ] Samples

[ ] Copy of letter [ ] Change order [ ] Cert Payroll [ ] Specifications

COPIES	DESCRIPTION
1	**Final Health, Safety and Radiation Protection Plan :** **This plan is Presented under the Accident Prevention Plan (APP) title and includes the following Supplement Plans:** **SP-1: Site Safety and Health Plan** **SP2: Emergency Action Plan** **SP3: Hazard Communications Plan** **SP4: Radiation Protection Plan** **SP5: Hazardous Material Management Plan**

TRANSMITTED:

Submittal Schedule	Submittal Type Required	Classification
S Prior to Shipment	**O** Original	**FIO** For information only
A Per S/C Schedule	**P** Print/Photocopy	**R1** PDT Review and Accept.
M Prior to Mobilization	**E** Electronic Format	**R2** CX/LRD/HQ Rev./Accept.
W Prior to Commencing Work	**M** Microfilm	
Y Prior to Progress Payment	**PH** Photograph	

REMARK(S): If you have any questions please do not hesitate to call me at [redacted] or email me at [redacted] My cell phone number is [redacted]

CC:

SIGNED: [redacted]

Digitally signed by [redacted]
Date: 2010.08.26 17:29:38 -04'00'

[redacted]
Project Manager

SUBMITTAL REQUIREMENTS SUMMARY

NOTICES

1. To each item submitted, the Contractor shall attach a copy of this form and circle the title of the item being submitted.
2. Failure to submit required submittals as delineated on this form may result in withholding of payment in accordance with provisions of the Contract.
3. The Contract Administrator is responsible for distributing submittals to the requesting Department (e.g., Construction). The Department is responsible for further distributions (e.g., Site Superintendent).

Submittal		Scope of Work (SOW) Paragraph	Classification	ITR Required	Submittal Schedule (Calendar Days after NTP)	Submittal (No.) and Type
1	Draft Sampling and Analysis Plan	5.1.1	R1	Yes	14	E, O
2	Draft Health, Safety and Radiation Protection Plan	5.1.2	R1	Yes	14	E, O
3	Draft Quality Control Plan and ITR documentation	5.1.3	R1	Yes	14	E, O
4	Draft Waste Management, Transportation, and Disposal Plan	5.1.4	R1	Yes	14	E, O
5	Final Work Plans	5.1	R1	Yes	35	E, O
6	IDW and Legacy Waste Manifests and Shipping Documents	5.5.2	R1	Yes	7 days prior to waste shipments	E, O
7	Draft Close Out Report	5.6.1	R1	Yes	As Specified in 5.6.1 and 6.1	E, O
8	Final Close Out Report	5.6.1	R1	Yes	As Specified in 5.6.1 and 6.1	E, O

FINAL

ACCIDENT PREVENTION PLAN

Transportation and Disposal of Remedial Investigation Derived and Legacy Waste

Niagara Falls Storage Site, Lewiston, NY

August 2010

Prepared for:

US Army Corps of Engineers ®
Buffalo District

U.S. Army Corps of Engineers
Buffalo District

Prepared by:

Environmental Chemical Corporation (ECC)
1125 Route 22 West
Bridgewater, NJ 08807

Prepared under:
Contract No.: W91ZLK-05-D-0009
Delivery Order 0004

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LIST OF ACRONYMS AND ABBREVIATIONS

AEA	Atomic Energy Act
AHA	Activity Hazard Analysis
ANSI	American National Standard Institute
APP	Accident Prevention Plan
CCQC	Contractor Chemical Quality Control
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CGI	Combustible gas indicator
cm	Centimeter
COC	Chain of custody
CPR	cardiopulmonary resuscitation
CRZ	Contamination Reduction Zone
CWA	Clean Water Act
DFW	Definable feature of work
DOD	Department of Defense
DOT	Department of Transportation
dpm	Disintegrations Per Minute
DQCR	Daily Quality Control Report
EM	Engineer Manual
EP	Engineer Pamphlet
ESQ	Environment, Safety, and Quality
EZ	Exclusion Zone
FTP	Field Technical Procedure
FUSRAP	Formerly Utilized Sites Remedial Action Program
GEL	GEL Laboratories, LLC
HAZWOPER	Hazardous Waste Operations and Emergency Response
HTRW	Hazardous, Toxic, and Radioactive Waste
IATA	International Air Transport Association
IDW	Investigation-derived waste
LLRW	Low-level radioactive waste
MDA	Minimum Detectable Activity
MDL	Method Detection Limit
mrem	Millirem
MSDS	Material Safety Data Sheet
NELAC	National Environmental Laboratory Accreditation Conference
NELAP	National Environmental Laboratory Accreditation Program
NFSS	Niagara Falls Storage Site

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LIST OF ACRONYMS AND ABBREVIATIONS (Continued)

NRC	Nuclear Regulatory Commission
NYCRR	New York Codes Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
OSHA	Occupational Safety and Health Administration
PHSM	Project Health and Safety Manager
PID	Photo-ionization detector
PM	Project Manager
POTW	Publicly-owned treatment works
PPE	Personal Protective Equipment
PT	Performance Testing
QA	Quality Assurance
QAP	Quality Assurance Plan
QC	Quality Control
QSM	Quality Systems Manual
RCRA	Resource Conservation and Recovery Act
REMG	Resident Engineer Management Guide
RI	Remedial Investigation
RL	Reporting Limit
RMA	Radioactive Materials Area
RPP	Radiation Protection Plan
RPM	Radiation Protection Manager
SDWA	Safe Drinking Water Act
SNM	Special nuclear material
SOP	Standard Operating Procedure
SSHP	Site Safety and Health Plan
SSHO	Site Safety and Health Officer
SOW	scope of work
T&D	transportation and disposal
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency

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1.0 INTRODUCTION AND SIGNATURES

This Accident Prevention Plan (APP) has been prepared by ECC to provide environmental services for packaging, loading, and transportation and disposal (T&D) of IDW wastes presently stored at the Niagara Falls Storage Site located in Lewiston, New York. Work conducted under this contract will be performed in accordance with applicable Federal, state, and local safety and occupational health laws and regulations including: Occupational Safety and Health Administration (OSHA) standards (including 29 Code of Federal Regulations [CFR] 1910 and 29 CFR 1926) and the United States Army Corps of Engineers (USACE) Safety and Health Requirements Manual (EM 385-1-1, 15 September 2008). The contents of the APP are subject to review and revision as new information becomes available.

Plan Preparer:

[redacted] CHMM Date [redacted] Phone Number
Project Health & Safety Manager

Plan Concurrence:

[redacted] Date [redacted] Phone Number
ESQ Program Manager

Plan Approval:

[redacted] PMP Date [redacted] Phone Number
Project Manager

Accepted:

USACE Date Phone Number

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1.1 Purpose

This APP has been developed based on known and anticipated hazards that may arise during performance of the Scope of Work (SOW). At least one copy of the APP will be kept in a readily accessible on-site location (i.e., field office trailer, other) during all field activities. The APP consists of several components that together define the Safety and Health program for the packaging, loading, and T&D of IDW wastes presently stored at the Niagara Falls Storage Site located in Lewiston, New York.. The components of the Safety & Health Program are summarized in Table 1-1.

Table 1-1
The Accident Prevention Plan and its Components
NFSS T&D
Niagara Falls Storage Site
Lewiston, New York

Document	Purpose
APP	• The APP provides general safety and health requirements and practices. • These requirements are in Sections 1 through 12 of the APP.
Activity Hazard Analysis (AHA)	• The AHAs address specific hazards and precautions for major activities of the project/task order. • AHAs are listed in Section 11 and are included as Appendix A.
ECC Corporate Standard Operating Procedures (SOPs)	• SOPs are referenced in the APP and meet the requirements for some supplemental plans included as attachments to this APP. • Referenced SOPs are available on ECC's intranet page (ECCONET) and are available at each project site.
Supplemental Plans	• Depending upon the scope of the project/task order, supplemental plans may be required to address the health and safety requirements of various activities. • Specific supplemental plans for the project/task order are identified in Section 9, along with their location in the APP, or as a reference to an existing Environment, Safety, and Quality SOP.

Notes:
AHA – Activity Hazard Analysis
SOP – Standard Operating Procedure

1.2 Application

The requirements established by this APP are mandatory and apply to all ECC employees, its subcontractors, and any other personnel entering designated work areas at the project site during active field operations. All project assigned personnel are required to sign off on the APP "Compliance Agreement Form" after receiving training on this plan and before working at the sites. In addition, ECC shall make a copy of this plan available, if requested, to any authorized personnel who must enter the work area. Documentation of all project sign-offs shall be kept on site at all times, and copies relinquished upon request.

1.3 Revisions

Changes in the SOW, field changes, or unanticipated site conditions may require APP modification and approval in order to retain field safety compliance with contract requirements and OSHA regulations. All changes to the APP shall be prepared and/or reviewed by ECC's Site Safety and Health Officer (SSHO), and submitted to the ECC Project Health and Safety Manager (PHSM) and the Senior/Project Manager. The revisions will also be submitted to the Contracting Officer's Representative (COR) for acceptance, if required.

2.0 BACKGROUND INFORMATION

This section presents a brief description of the project including site description, SOW, key personnel, and phases of work.

Contractor: **ECC**

Contract number: **W91ZLK-05-D-0009, TO 0004**

Project Name: **Transportation and Disposal of Remedial Investigative Derived and Legacy Waste, Niagara Falls Storage Site, Lewiston, NY**

2.1 Site History and Description

In 1942, the War Department obtained 7,500 acres in northwestern Niagara County, New York for the construction of a trinitrotoluene (TNT) production facility designated the LOOW. TNT production, production support, and storage areas were constructed on 2,500 acres in the eastern portion of LOOW. The remaining 5,000 acres surrounding the production area were left as an undeveloped buffer zone and allowed for possible expansion of the plant from 6 to 12 production lines. The plant expansion never occurred, and this acreage in the western portion of LOOW remained undeveloped. In 1943 after approximately 9 months of operation, LOOW was decommissioned due to excess production at other TNT plants. The 2,500 acre production area of LOOW was used by various Department of Defense (DoD) agencies including the Air Force and Navy. Two manufacturing plants were subsequently built on the property: Air Force Plant 68, and the Navy IPPP. The Army constructed NMB NF-03/05.

In the mid 1940s approximately 1,500 acres in the southern portion of the LOOW were transferred to the USACE - Manhattan Engineer District (MED). The MED subsequently became the U.S. Atomic Energy Commission (AEC), then the Energy Research and Development Administration (ERDA), and finally the U.S. Department of Energy (DOE). Portions of the 1,500 acres were used for storage of radioactive materials during the development of the atomic bomb. However, from the 1950s to 1980s, radioactive materials formerly located throughout the 1,500 acre property were consolidated into the current 191 acre NFSS area. Refer to Figure 1 depicting the NFSS site.

From November 1999 to October 2003, Tetra Tech, formerly Maxim Technologies (Maxim), sampled surface water, sediment, soil, groundwater, and other media to support a three-phased RI at NFSS. Solid investigation-derived waste (IDW) from RI Phases I and II were sampled for radiological and chemical constituents, along with other waste disposal criteria, and disposed of at Waste Control Specialists (WCS) in Andrews, Texas in 2002.

Solid IDW generated from RI Phase III and trenching activities on NFSS and NFSS Vicinity Property G (VPG) was sampled for required waste disposal parameters to assure compliance with waste disposal criteria at WCS. Tetra Tech submitted a disposal application for the solid IDW generated from RI Phase III to WCS for approval under a separate delivery order. Since WCS cannot accept special nuclear material (SNM), a WCS representative requested additional analysis to confirm that SNM is not present in the NFSS/VPG solid waste. According to Title I of the Atomic Energy Act of 1954 (AEA 1954), SNM is defined as "(1) plutonium, uranium enriched in the isotope 233 or in the isotope 235, and any other material which the Commission, pursuant to the provisions of Section 51, determines to be special nuclear material, but does not include source material; or (2) any material artificially enriched by any of the foregoing, but does not include source material."

Since 142 of the 162 solid IDW drums were not sampled to determine if SNM existed and sampling results for 3 of the 20 drums sampled (or 15%) indicated that either SNM existed (2 drums) or uranium exceeded the maximum waste acceptance criteria (WAC) (1 drum), additional work was deemed necessary for approval of bulk disposal of the entire Phase III RI solid IDW waste stream. Additionally, wastewater, generated during the RI, was sampled and disposed of under another contract. Due to the need to filter wastewater prior to disposal, additional solid IDW (expended filters, sediment, protective clothing, etc.) was generated. It is assumed that 8 additional drums of solid IDW were generated from this task, bringing the total number of drums to 170. When the Contractor submitted a disposal application for the solid IDW generated from RI Phase III to WCS for approval, WCS indicated that although they cannot accept SNM, they can broker such solid IDW to Energy Solutions (ES) in Clive, Utah.

Since WCS cannot accept SNM and Energy Solutions will be a higher cost, Tetra Tech conducted an assessment to determine if it were more cost-effective for the government to assume the 142 drums were SNM (without sufficient radiological analysis) and dispose at ES without further sampling or to conduct additional sampling and attempt to reduce the number of SNM drums requiring disposal at ES and increase the number being sent to WCS for bulk disposal. The results of the cost evaluation identified the most cost-effective path for the government was to conduct additional sampling in an attempt to reduce the number of drums brokered to ES and send the non-SNM drums to WCS.

2.2 Scope of Work

The scope of services will include the preparation, packaging for shipment, loading and providing safe transportation of FUSRAP IDW and Legacy waste from the current storage location on the NFSS Site to a designated off-site disposal facility accepted by USACE. A full inventory of the wastes and containers present was included in the USACE SOW. The work will be performed in accordance with all applicable, relevant and appropriate Federal, State and Local laws and regulations, as well as USACE guidance and disposal facility requirements.

2.3 Key Personnel

Table 2-1 lists key personnel for this project. Resumes of the SSHO, and PHSM are included in Appendix B.

Table 2-1
Key Personnel
Niagara Falls Storage Site
Lewiston, New York

Name	Title	Organization	Phone Number(s)
[redacted]	NFSS Project Manager	USACE Buffalo District	
[redacted]	Program Manager	ECC	[redacted]
[redacted]	Project Manager	ECC	[redacted]
[redacted] CIH, CSP	Corporate Health & Safety/ Environment, Safety, and Quality (ESQ) Program Manager	ECC	[redacted] (office) (fax) (mobile)
[redacted] CHMM	PHSM and Quality Control Manager (QCM)	ECC	[redacted] (office) (mobile)
[redacted]	SSHO and QCS	ECC	[redacted] (mobile)
[redacted]	Site Superintendent	ECC	[redacted] (mobile)

Notes: ESQ – Environment, Safety, and Quality QCM – Quality Control Manager

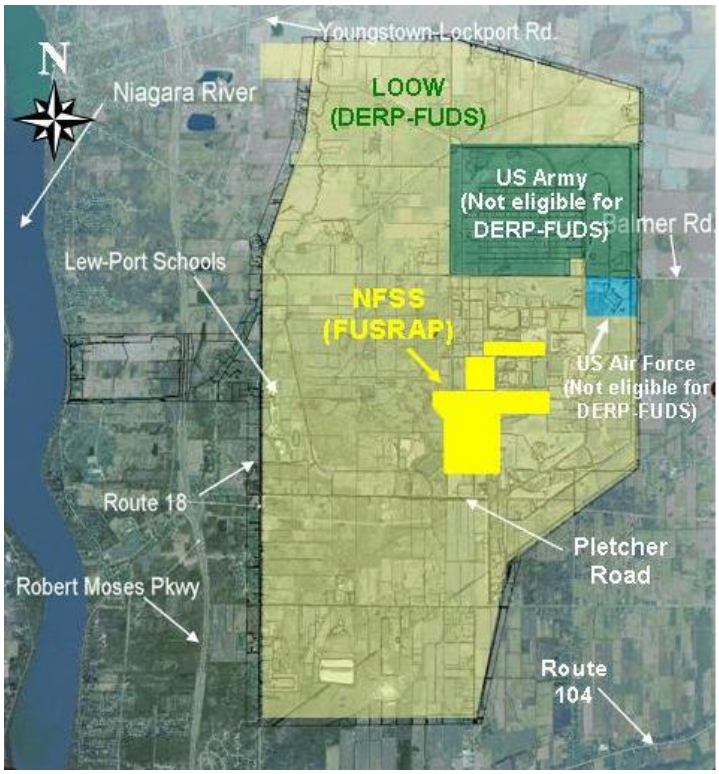

FIGURE 1
NFSS SITE AREA MAP
Niagara Falls Storage Site
Lewiston, New York

2.4 Phases of Work

The major Definable Features of Work (DFWs) are listed in the Work Plan. AHAs will be prepared to address activities within each major DFW listed in Table 2-2 and included in Appendix A of this APP. As this APP is generated as part of a set of work plans to be used to perform the scope of work, it is preliminary in nature. The APP is based on information available at the time, with the intention of being updated and modified.

Table 2-2
Definable Features of Work
Niagara Falls Storage Site
Lewiston, New York

Mobilization and Site Preparation*
Sampling and Analysis*,[1]
Repackaging / Overpacking Containers*
Preparation of Containers for Loading*
Release Surveys for Shipping Containers*
Loading of Containers*
Pump Out of Storage Tanks (liquid waste)*
Sizing of Storage Tanks*
Site Restoration and Demobilization*

Notes:
* Indicates those AHAs included in Appendix A with this submission. Not all DFWs will have job-specific AHAs generated for them.
[1] If warranted

3.0 STATEMENT OF SAFETY AND HEALTH POLICY

The ECC Corporate ESQ statement is presented in Figure 2. The statement will be posted at the job site on the safety and health bulletin board and in other applicable locations.

The safety goal for this project is the execution of work tasks without incidents involving personal injury, significant property damage, reportable environmental releases, or quality defects requiring re-work.

Objectives to meet this goal include:

- ❑ Conduct client kickoff meeting before the start of the project;
- ❑ Hold subcontractor pre-construction meetings before work begins;
- ❑ Implement the three-phase quality control (QC) system;
- ❑ Conduct site orientation, including review of this APP with all project participants;
- ❑ Use only trained and qualified workers;
- ❑ Generate AHAs for all major DFWs and train workers in AHA content;
- ❑ Perform daily work-site inspections;
- ❑ Conduct daily Plan-of-the-Day and Daily Safety Tailgate Meetings;
- ❑ Conduct inspections by qualified Safety and Health personnel; and
- ❑ Employee participation activities such as milestone recognition, ECCOSLIPs, and establishing of a safety committee by the on-site team.

4.0 ORGANIZATION, RESPONSIBILITIES, AND LINES OF AUTHORITY

ECC and its subcontractors are responsible for implementing this APP. Personnel responsibilities for project safety and the lines of authority of these safety personnel are described below. Resumes of key safety personnel are provided in Appendix B.

4.1 Health and Safety Responsibilities

The following sections describe the key personnel involved in this project and their responsibilities. To achieve the goals of the APP, each individual must fulfill their responsibilities and comply with the health and safety requirements. Failure to do so could result in removal from the site.

No work will be conducted on the site without the presence of the SSHO or designated Competent Person. Pre-task analysis (AHA, Daily Safety Tailgate Meeting, Job Safety Analysis) will be conducted prior to doing work.

4.1.1 ECC Project Manager

Reports through Program Director to Chief Operating Officer

The Project Manager, [redacted], represents ECC in all aspects of work under the contract and is responsible for the following:

- Providing leadership by setting an example for all site personnel through actions and words regarding the importance of proper health and safety practices and holding project staff accountable for safety performance;
- Ensuring an adequate project budget is available to implement the APP;
- Ensuring that subcontractor SOW include appropriate safety provisions and expectations;
- Conducting general safety inspections during site visits and at least once per month;
- Participating in the investigation of unplanned events, high loss potential incidents, and accidents;
- Ensuring that unplanned events, high loss potential incidents, and accidents are properly reported to the and ECC's ESQ reporting network;
- Notifying the ESQ Manager of any changes in the SOW or site conditions; and,
- Ensuring that the APP is updated to address new hazards.

4.1.2 Site Manager/Site Supervisor

Reports to Project Manager

The Site Manager or Site Supervisor, [redacted] will also function in this role on the project. As the Site Supervisor [redacted] is responsible for:

- Setting an example for all site personnel through actions and words regarding the importance of proper health and safety practices on the job;
- Assisting in the development of AHAs before beginning work;
- Communicating all health and safety issues and daily work plans and schedules with the SSHO;
- Ensuring all employees and subcontractors are properly trained and implement the APP;
- Monitoring overall safety performance of field personnel;

- Conducting a weekly general safety inspection of the site;
- Enforcing safety rules and correcting work practices or conditions that may result in injury or hazard exposure;
- Immediately stopping site operations in emergencies or serious hazard exposure;
- Preparing and submitting required work progress and incident reports; and
- Ensuring proper equipment is provided, utilized, and maintained in accordance with manufacturer recommendations.

4.1.3 ECC Project Health and Safety Manager

Reports to the Corporate Health and Safety/ESQ Program Manager

The PHSM, [redacted] CHMM, will oversee the overall project health and safety program structure and implementation. Corporately, [redacted] reports through the Corporate ESQ CONUS Manager, [redacted], CIH, CSP, to the ECC Vice President of ESQ. The PHSM is responsible for the following:

- Reviewing and signing the APP prior to submittal, and approving any modifications;
- Developing and/or reviewing AHAs prepared for the project;
- Approving the appointment of the SSHO and ensuring that the SSHO has the appropriate training and competencies to perform all expected duties;
- Being available on a 24-hour basis for consultation with the SSHO during on-site emergencies or as needed;
- Providing on-site consultation as needed to ensure the APP is fully implemented;
- Conducting general safety inspections during site visits and at least once per quarter;
- Participating in the investigation of unplanned events, high loss potential incidents, and accidents;
- Evaluating air monitoring data and recommending changes to engineering controls, work practices, and personal protective equipment (PPE); and,
- Assisting in development of on-site training, which will be provided by the SSHO.

Additionally, [redacted] will serve the role of the QCSM and will be responsible for establishing and ensuring compliance with site control procedures, including:

- Attending and conducting QC meetings and training sessions;
- Reviewing project submittals;
- Reporting equipment malfunctions and deficiencies to the PM; and,
- Ensuring compliance with the SOW and specifications.

4.1.4 Site Health and Safety Supervisor

Reports to the Project Manager at the project level and to the PHSM / ESQ Manager at the corporate level. For this project the SSHO will have co-lateral functional responsibilities for both safety and quality control.

The SSHO, [redacted] implements the task-specific APP. In accordance with USACE EM 385-1-1, the SSHO must have completed the 30-hour OSHA construction safety course (or an equivalent course meeting the 30-hour training objectives); 24 hours of construction safety coursework every 4 years; and at least 5 years experience in construction industry safety or 3 years experience plus a CSP or degree in safety and health. The SSHO will be responsible for:

- Serving as the general site Competent Person (no work will be done unless the SSHO or a suitable Competent Person is on site);
- Overseeing compliance with the APP procedures and OSHA regulations through informal daily inspections;
- Developing (or assisting subcontractors with the development of) project-specific AHAs before work begins;
- Reporting to the site on a full-time basis for the duration of field activities;
- Serving as a member of the QC staff on matters relating to safety and health;
- Stopping work if unacceptable safety and health conditions exist, and taking necessary action to re-establish and maintain safe working conditions;
- Consulting and coordinating modifications to the APP with the PHSM and ECC Senior/Project Manager;
- Ensuring all site personnel and visitors are properly trained in site hazards;
- Conducting air monitoring and preparing air monitoring reports;
- Maintaining all required safety and health records (e.g., OSHA 300 Logs, incident/accident reports, training certificates and qualifications, equipment checklists, safety plans, air monitoring data and reports) throughout the life of the project; and.
- The SSHO will be on site during all work activities. If an alternate SSHO is needed, they must meet all SSHO requirements per EM 385-1-1 01.A.17.

4.1.5 Project Health Physicist and Health Physics Technician

[redacted] will be the Project Health Physicist. The PHP will be responsible for monitoring the implementation of all radiation safety activities. The PHP is responsible for the project radiation monitoring program. The PHP will be in contact daily with the onsite Senior Health Physics Technician who will oversee all operations relating to radioactive material handling.

The PHP advises the PM on all aspects of Radiation Protection (RP) and Operational Health Physics. The PHP will monitor all radiological safety activities on the project and approve RPP implementing procedures and documents. The PHP may delegate daily oversight functions to the HPT. The PHP has the authority to suspend operations and/or restrict personnel access at the project as a result of nonconformance to this SSHP or other applicable regulations, and when radiological conditions change beyond the scope of a RWP.

The PHP shall be technically qualified, meeting the experience, training, and education requirements listed below:

1. Formally trained in radiation protection that includes the following topics: physics of radiation; radiation's interaction with matter; mathematics necessary for the subject matter; biological effects of radiation; type and use of instruments for detection, monitoring and surveying radiation; radiation safety techniques and procedures; and use of time, distance, shielding, engineering controls and PPE to reduce radiation exposure.

2. Hands-on training in the uses of all the equipment, instrumentation, procedures and theory used in their unit.

3. Knowledge of regulations (NRC, EPA, DOE, DOT, and DOD to include all applicable components) pertaining to radioactive materials, radiation generating devices, radioactive and mixed waste; and

4. Knowledge of the USACE Radiation Safety Program and recordkeeping requirements for work with radioactive materials and radiation generating devices.

[redacted] the Project's Sr. Health Physics Technician, will inspect and monitor work activities to ensure site operations, including load out activities, are being conducted in accordance to this SSHP, RPP, and USACE requirements, applicable federal regulations, and industry accepted as-low-as-reasonably-achievable (ALARA) principles.

[redacted] will report directly to the PHP. The HPT is assigned by the PHP to provide support field activity implementation of RPP requirements. The HPT provide guidance in RPP matters to field personnel. The HPT will have stop-work authority for radiological safety matters and activities that could result in an unsafe act or condition.
HPTs are responsible for the following:

- Conducting routine and job-specific radiological surveys (i.e., radiation, contamination, and airborne radioactivity)
- Establishing radiological postings
- Implementing the personal protective equipment (PPE) and respiratory protection programs for the purpose of keeping radiation exposures as low as reasonably achievable (ALARA)
- Maintaining and operating portable HP survey instrumentation used in the performance of RP activities
- Performing unconditional release surveys of material from the restricted area
- Performing transportation radiological surveys according to applicable Department of Transportation (DOT) regulations
- Assisting the SSHO with IH&S monitoring and inspections to a level commensurate with training and experience

4.1.6 Project Quality Control Systems Manager

Reports to Project Manager and ECC's Corporate Construction Quality Control Manager

Based on the extent and duration of the scheduled field activities ECC has designated [redacted] as the Project Quality Control System Manager (QCSM). In addition, ECC has identified [redacted] as the alternate QCSM. The QCSM implements the task specific Construction Quality Control Plan. In accordance with Part Two of General Requirements RFP for Window Replacement, Building 1 the QCS must have completed the course entitled "Construction Quality Management (CQM) for Contractors." and shall maintain a current certification, 5 yrs of combined experience as a Superintendent, QC Manager, Project Manager, or Project Engineer on similar size and type construction contracts, and at least two years experience as a QC Manager, be familiar with requirements of USACE EM 385-1-1, and experience in the areas of hazard identification and safety compliance.

The QCSM & alternate will be responsible for:

- Participate in the Post Award Kick-off, Partnering, Preconstruction, Design Development, and Coordination, and Mutual Understanding Meetings,
- Implement the "Three Phase of Control" plan for each DFOW and notify the contracting officer at least 3 business days in advance of each Preparatory and Initial Phase meeting and submit respective checklists to the Contracting Officer the next business day,
- Attending and conducting QC meetings and training sessions,
- Ensure that no construction begins before the DOR has finalized the design for that segment of work, and construction submittals are approved as required,
- Inspect all work and rework, using international Conference of Building Officials certified QC specialist as applicable, to ensure its compliance with contract requirements, and maintain a rework log,
- Reviewing project submittals,
- Reporting equipment malfunctions and deficiencies to the PM and SSHO,
- Immediately stop any segment of work, which does not comply with the contract and plans and specifications, and direct the removal and replacement of any defective work,
- Ensure that contractor reports are prepared daily,
- Holding (weekly/bi-weekly) QC meetings with appropriate attendees,
- Update as-built drawings daily,
- Ensure all required keys, operation and maintenance manuals, warranty certificates, and the As-built drawings are correct and complete,
- Assure that all applicable test, special inspections, and observations required by the contract are performed,
- Provide daily QC reports to the USACE representative at their request, and
- Ensuring compliance with the SOW and specifications.

4.1.7 Field Personnel

Field personnel report to Site Manager/Supervisor

Field personnel are responsible for understanding and abiding by the APP and performing work in a safe and responsible manner. Specific responsibilities include the following:

- Acting in a responsible manner at all times in order to prevent incidents, injury, and exposure to themselves and co-workers;
- Reporting all incidents, including near misses, and hazards to the SSHO;
- Attending and participating in all daily safety tailgate meetings;
- Following the instructions and directions of the SSHO;
- Utilizing the PPE provided;
- Following all field safety procedures for safe work practices;
- Performing tasks as instructed (unless the individual feels unqualified to perform the task(s) safely); and,
- Reporting any personal condition that could affect safety (e.g., fatigue, drowsiness, illness, impairment by medications, influence by drugs or alcohol, emotional stress).

4.1.8 Subcontractors

Subcontractors report to Site Manager/Supervisor

Subcontractors that perform work for ECC under this APP are responsible for the health and safety of their employees. The presence of an SSHO and the implementation of the APP do not relieve subcontractors of their responsibilities as employers. Specific responsibilities of subcontractors include:

- Complying with the requirements of their SOW;
- Development of AHAs for their work activities;
- Maintaining a safe and healthy work environment;
- Complying with contract requirements, laws, regulations, and EM 385-1-1;
- Reviewing the APP to ensure that the health and safety requirements of their specific tasks are satisfied;
- Performing all work in accordance with the APP requirements;
- Providing trained and experienced workers for the specific work activities;
- Participating in the Daily Safety Tailgate Meetings;
- Identifying additional training needs for unique tasks;
- Enforcing company- and project-specific rules and procedures during work activities;
- Reporting all incidents and participating in the investigations;
- Participating in routine site inspection activities;
- Ensuring all equipment brought to the site is in a "new or like new" condition, routinely inspected, and maintained in safe working order; and,
- Setting a positive safety example for all project staff.

4.1.9 Site Visitors

Site visitors will be responsible for the following:

- Participating in a site briefing and signing the visitor log at site entry point,
- Following all site rules and instructions,
- Being escorted at all times unless otherwise approved by the SSHO, and,
- Wearing appropriate PPE.

4.2 Lines of Authority

The SSHO has a technical and administrative reporting relationship to the PHSM who reports directly to the ECC Vice President for ESQ. The reporting relationship provides for access to safety and health expertise as well as an independent reporting and line of communication. The SSHO has a functional reporting relationship to the Senior/Project Manager, providing the Senior/Project Manager and team with a resource for safety and health support for the project.

Additionally, the SSHO has a functional reporting relationship to the Senior/Project Manager and their team. The SSHO will perform daily and weekly health and safety inspections and provide general support to the Senior/Project Manager for health and safety issues.

4.3 Competent Persons

The SSHO serves as the project's general Competent Person, per EM 385-1-1 01.A.17 and 29 CFR 1926.20(b) (2). Competent Persons for specific activities (i.e., excavation, fall protection, etc.) will be designated in the AHAs for those activities.

4.4 Disciplinary Procedures

All employees are required to comply with APP policies and procedures. ECC reserves the right to discipline or terminate (when justified) employees at its sole discretion for serious safety infractions. Discipline will be in accordance with the Disciplinary Policy described in the ECC Employee Handbook, which describes a progressive disciplinary procedure, but allows for immediate termination for serious or egregious infractions. ECC expects that all subcontractors will exercise proper discipline or terminate its employees at its sole discretion when justified. ECC retains the right to deny access to the site to any individual not compliant with safety requirements, in accordance with our subcontract agreement.

4.5 Manager and Supervisor Accountability

ECC managers and supervisors are accountable for providing a safe work environment through proper staffing, training, equipment availability, and by setting a leadership example for safety. Annual performance reviews and incentive plans for managers and supervisors include assessments of project safety performance as well as the individual's demonstrated attitude toward safety.

5.0 SUBCONTRACTORS AND SUPPLIERS

ECC will use several primary subcontractors for project activities as list below. As stated in Section 4.1.7, subcontractors that perform work for ECC under this APP are responsible for the health and safety of their employees. The presence of an SSHO and the implementation of the APP do not relieve subcontractors of their responsibilities as employers.

5.1 Identification of Subcontractors and Suppliers

Subcontractors known at this time to participate in this project are described in Table 5-1.

Table 5-1
Subcontractors
Niagara Falls Storage Site
Lewiston, New York

Subcontractor	Scope of Services
I.C.E.	Transportation & Disposal Coordinator
WCS	Disposal Facility

5.2 Managing Subcontractors

Subcontractor safety is critical to successful project performance. Subcontractors are expected to comply with the provisions of this APP and the AHAs. Subcontractor safety performance on the job will be monitored and substandard practices and conditions will be addressed immediately. Furthermore, subcontractor safety performance will be evaluated in the ECC procurement system where the information can be used for future subcontracting decisions.

5.3 Supplier Control

All suppliers of safety-related items are required to provide approved and appropriate safety and health materials for the project. The material supplied must meet the specifications, testing criteria or third party certifications. These criteria are identified in the SOW, APP, or as recommended by the SSHO. For safety-critical items, specifications will be identified and receipt inspections will be conducted and documented.

Each hazardous material supplied for site use will be accompanied by a Material Safety Data Sheet (MSDS) and will be added to the site list of hazardous materials. MSDSs and the list of hazardous materials will be maintained by the SSHO.

Health and safety related supplies will be obtained from recognized safety supply vendors and will meet specified OSHA or consensus standards. These items will be inspected upon receipt by the SSHO or the QCM.

6.0 MEETINGS AND TRAINING REQUIREMENTS

All ECC and subcontractor project personnel will have the requisite training and/or certifications required to be assigned to the project and implement all assigned tasks safely. On-site workers that have the possibility of exposure to site contaminants on hazardous waste remediation sites, will be required to have OSHA Hazardous Waste Operations and Emergency Response (HAZWOPER) training or certification. The requirement for this project will be that all field personnel will meet OSHA 1910.120 training and medical clearance requirements.

6.1 Project Meetings and Training Requirements

The training listed in Table 6-1 will be provided to project personnel as noted. In addition to the topics listed below, the SSHO may identify additional topics and work tasks to be included in the training requirements. These special requirements may be noted on project AHAs requiring additional training. All required training will be documented and this documentation maintained on-site.

6.2 Radiation Safety Training Requirements

Radiation safety training will be required for site workers. In addition to being part of a daily safety briefing, radiation worker training will be in accordance with Section 4.0 of the Radiation Protection Plan (Appendix E, SP-5 to this plan). Topics will include:

- Site-specific procedures for handling and storing radioactive materials;
- Health and safety hazards associated with exposure to site-specific radioactive material;
- Familiarity with this SSHP and other project-specific procedures regarding protection from radiation exposure;
- Worker responsibility to report unsafe acts or procedures which might result in worker exposure to radiation;
- Worker response to on-site events and occurrences with radioactive material;
- Hands-on practice with frisking techniques and use of instrumentation; and
- Workers' rights and responsibilities with respect to working with radioactive material.
-

Table 6-1
Project Meetings and Training Requirements
Niagara Falls Storage Site
Lewiston, New York

Topic	Description	Personnel
General Training		
APP	Review of APP requirements during site orientation, before commencement of field work.	All project personnel
SSHP	Site specific hazards and control requirements, before commencement of field work. Includes training in proper use and care of PPE.	All project personnel
RPP	Radiation safe work practices and procedures to be followed during implementation of the project field activities.	All project personnel
Security Plan	Security measures and procedures to be followed during the storage and transportation of waste shipments to the disposal facility	All project personnel
WMTDP	Storage, handling, loading, and manifesting of waste shipments	All project personnel
AHAs	Activity-specific hazards, controls, and training requirements for a specific phase or activity, prior to commencement of activity.	Workers, supervisors, and oversight personnel engaged in the activity
(HAZWOPER – General Training	40-Hour OSHA HAZWOPER initial training for general site employees, and 3 days of Supervised on-the-job training for site workers.	Workers, supervisors, and oversight personnel working on-site who must enter the exclusion zone or whose work exposes them to health or safety hazards related to hazardous waste or contaminated media.
HAZWOPER Supervisor Training	8-Hours of training for supervising activities on hazardous waste sites.	Supervisors at HAZWOPER sites
HAZWOPER Refresher	8-Hours of annual refresher training for workers on hazardous waste sites.	Workers, supervisors, and oversight personnel working on-site who must enter the exclusion zone or whose work exposes them to health or safety hazards related to hazardous waste or contaminated media.
Emergency Action Plan	Roles, responsibilities, recognition of emergency conditions, reporting and notification, evacuation, and other procedures.	All project personnel, with detailed information on procedures for workers with special responsibilities
Hazard Communication	Requirements for MSDSs and labels; hazards of site materials and controls; signs and symptoms of exposure; location of and access to Hazardous Materials and their MSDSs.	All project personnel potentially exposed to hazardous materials
MEC Awareness	Suspected site ordnance, MEC identification, safety and health hazards, and operating procedures hazards.	All project personnel potentially exposed to MEC
Fire Extinguisher	General education on selection, distribution, and proper use of fire extinguishers.	Personnel designated as Fire Watch (other personnel as deemed necessary)
OSHA 30-hour construction or equivalent	Common hazards, controls, and OSHA requirements for construction activities.	SSHO

Table 6-1 (Continued)
Project Meetings and Training Requirements
Niagara Falls Storage Site
Lewiston, New York

Daily Safety Briefing	Review of Plan-of-the-Day and daily hazards; presentation of a specific topic; refresher training on various issues; and changes in hazards, controls, or procedures.	All field workers, supervisors, and field oversight personnel
Weekly Safety Meeting	Incidents, modifications to APP, upcoming work, new hazards, etc.	All field workers, supervisors, and field oversight personnel
First aid/ Cardiopulmonary resuscitation (CPR)	Red Cross, National Safety Council or other authorized course, with current refresher.	At least two project assigned personnel
Forklifts	Hazards and operation procedures, including machine-specific safe operating procedures.	Forklift operators
Other heavy equipment operations	Qualified by Construction Manager, Supervisor or Equipment Supervisor as documented on ECC Equipment Operator Qualifications Form	Equipment operators
Power tools (e.g., chain saws, chippers)	Hazards; proper use and maintenance of tools as described in operations manual. Powder-operated tool users certified by manufacturer.	Project personnel using power tools

Notes:
CPR – Cardiopulmonary Resuscitation

6.3 Visitor Indoctrination Policy

All site visitors will be required to review the daily tailgate safety issues and sign the visitor's log. At a minimum, all visitors must be informed of the anticipated hazards, PPE requirements, designated work zones, escort procedures, and emergency procedures.

7.0 SAFETY AND HEALTH INSPECTIONS

The ECC team including its subcontractors will perform periodic health and safety inspections throughout the duration of the project. Results of all health and safety compliance review audits or inspections will become part of the project file.

7.1 General Inspection Procedures

Table 7-1 lists the general inspection requirements for this project. Findings that represent deficiencies in the implementation of the APP or EM 385-1-1 (15 September 2008) and cannot be corrected immediately, will be added to the Deficiency Tracking Log (corrective actions log), which will be posted in the administrative area and updated on a daily basis. Inspections will be conducted by qualified and/or competent individuals, where required. ECC's SSHO will function as the competent person for the overall project activities. The SSHO's resume is included in Appendix B. The SSHO will be supplemented by other competent persons for specific activities (i.e., excavations/trenching, etc.). These competent persons will be identified in the AHA's prior to implementing the specific activities.

Additional specific inspection requirements may be required and, if so, will be incorporated in the AHA's, and/or site SOPs, or Field Operating Procedures, where applicable.

Table 7-1
General Inspection Requirements
Niagara Falls Storage Site
Lewiston, New York

What	Who	When	Documentation
General site conditions	SSHO	Daily	Log book
	SSHO	Weekly	Site Health and Safety Inspection Checklist and Action Item Report, cc: Program Manager, Program/Project ESQ Manager
	Project/Construction Manager	Monthly	
	Program/PHSM	Quarterly	
Mobile construction equipment including drill rigs	Operators	Initial and Daily	Inspection checklist, cc: Construction/Equipment Supervisor
Construction tools and equipment	Users	Daily	None. Tag defective items "out of service"
Excavation/Trenching	Competent person (to be identified prior to commencing activities)	Daily	If greater than 4 feet deep, use ECC Daily Competent Person Inspection form. If less than 4 feet deep, use the field log book.
Ladders	SSHO	Weekly	Log book, tag or inspection log form
Emergency supplies and equipment (fire extinguishers, spill response, emergency, first aid, etc.)	SSHO	Weekly	Log book, tag or inspection log form
PPE	SSHO	Initial, Periodic	None
	Users	Daily	None
First Aid Kit(s)	SSHO	Weekly	None, utilize inspection tag
Eye Wash	SSHO	Weekly	None, utilize inspection tag

Table 7-1 (continued)
General Inspection Requirements
Niagara Falls Storage Site
Lewiston, New York

Fire Extinguisher(s)	SSHO	Monthly	None, utilize inspection tag
Hazardous energy sources and processes (electrical systems, etc.)	Qualified person	Initial	Per operating instructions, QCP, Operations & Maintenance procedures
	User/Operator	Daily	None
	Authorized personnel	Before and after work under lockout/tagout procedure	Permit or lockout log
Extension Cords	Users / SSHO	Prior to Use / Quarterly	SSHO – record in field log book
GFCI **(**ground fault circuit interrupter) Outlets	SSHO	Quarterly	Color-coded tape / recorded in field log book

Notes:
GFCI - ground fault circuit interrupter

7.2 External Inspections and Certifications

If regulatory agency personnel arrive on site to conduct an inspection, the Senior PM or PM and one of the following individuals will be contacted immediately:

- COR;
- ESQ Manager;
- Vice President, ESQ; or,
- General Counsel.

If a citation is issued to ECC or its subcontractors, a copy of the citation will be submitted to the USACE Project Manager along with a Corrective Action Plan.

8.0 INCIDENT REPORTING AND INVESTIGATION

This section describes the project incident reporting and investigation procedures.

8.1 Incident Summary

The SSHO will provide a monthly incident summary to the ESQ Manager. The summary will include the number of person-hours worked during the month and a list of incidents meeting the definition in Section 8.2. The incident summary shall be posted on the Safety Bulletin Board.

8.2 Incident Investigation, Reports, Logs

All incidents/injuries regardless of severity will be reported to the USACE COR within 4 hours of occurrence. Additionally all incidents are reported immediately to the SSHO, PHSM, and Senior/Project Manager.

- OSHA-recordable injuries or illnesses (e.g., medical treatment beyond first aid);
- Injuries to authorized visitors or the general public;
- Fires and explosions of any magnitude;
- Spills and environmental releases;
- Tool or equipment failure which results (or could result in) serious injury;
- Property damage, equipment damage, or environmental damage resulting in a loss of more than $500 (If $2,000 or more it will be reported to the client); and
- Any event which, under slightly different circumstances, could have resulted in one of the above (i.e., High Loss Potential – HIPO).

All injuries will be reported to the COR as soon as possible; however, no later than 24 hours after the incident.

The PM with the assistance of the SSHO, will investigate the incident and complete all necessary incident reports and logs, including the ECC Incident Report and client or regulatory agency reports.

All incidents, regardless of severity, require some type of investigation and corrective action. Immediate and basic causes will be identified, evaluated, and used to support the recommended corrective actions.

A project-specific OSHA 300 Log (Log of Work-Related Injuries and Illnesses) will be kept at the job site. Minor injuries requiring only first aid will be recorded on a project-specific First Aid Log. From February 1 through April 30 of each year, OSHA Form 300A (Summary of Work-Related Injuries and Illnesses) will be posted on the project safety and health bulletin board.

8.3 Immediate Notification of Major Accidents

The COR will be verbally notified immediately of any incidents that involve, or appear to involve:

- ❑ A fatal injury;
- ❑ A permanent total disability;
- ❑ A permanent partial disability;
- ❑ The hospitalization of three or more people resulting from a single occurrence;
- ❑ Property damage of $200,000 or more;
- ❑ An arc-flash incident/accident;
- ❑ A weight-handling mishap; or

- ❑ A High Visibility Accident (may generate publicity or high visibility).

The Senior/Project Manager will contact Rich Gioscia, Vice President ESQ, and Mike McSherry (CONUS) immediately if a major incident occurs, as it may require immediate reporting to OSHA or state agencies.

At the time of any major incident, project site conditions will be preserved and secured until released by the investigation team (i.e., ECC, client, government agency).

9.0 PLANS, PROGRAMS, AND PROCEDURES

Table 9-1 lists the plans, programs, and procedures to this project. Appendix F provides an APP checklist listing where project-specific APP items are identified and located.

Table 9-1
Plans, Programs, and Procedures
Niagara Falls Storage Site
Lewiston, New York

Site Layout and Support Facilities	Applicable to this Project?	If Required, Location or Reference
Access and Haul Road Plan	No	
Night Operations Lighting Plan	No	
Site Layout Plans	No	
Other		
Emergency Preparedness	Required Yes/No	If Required, Location or Reference
Emergency Action Plan	Yes	Appendix E, SP-2
Fire Prevention Plan	No	
Wild Land Fire Management Plan	No	
Severe Weather Contingency Plan For Floating Plant Or Marine Operations	No	
Emergency Rescue (Tunneling)	No	
Underground Construction Fire Plan	No	
Other		

Hazard Assessment and Control	Required Yes/No	If Required, Location or Reference
Abrasive Blasting Plan	No	
Alcohol and Drug Abuse Prevention Plan	Yes	SOP ESQ-1.8
Asbestos Abatement Plan	No	
Blasting Safety Plan	No	
Confined Space Entry Plan	No	
Compressed Air Plan	No	
Critical Lift Procedures And Plans	No	
Crystalline Silica Monitoring Plan	No	
Dust Monitoring & Control Program	No	
Demolition Plan (to include engineering survey)	No	
Diving Plan	No	
Excavation/Trenching Plan	No	
Fall Protection and Prevention Plan (site-specific)	No	
Float Plan	No	
Formwork and Shoring Erection and Removal Plans	No	
Hazard Communication Program	Yes	SOP ESQ-5.10 , Appendix E, SP-3

Table 9-1 (Continued)
Plans, Programs, and Procedures
Niagara Falls Storage Site
Lewiston, New York

Hazardous Energy Control Plan	No	
Cold/Heat Stress Monitoring Plan	Yes	SOP ESQ-8.4 & 8.5
Health Hazard Control Program	No	
Lead Abatement Plan	No	
Lead Remediation	No	
Lift Slab Plan	No	
Maintenance and Traffic Control Plan	No	
Pre-cast Concrete Plan	No	
Process Safety Management Plan	No	
Radiation Safety Program	Yes	Appendix E, SP-4 - RPP
Site Safety and Health Plan for Hazard, Toxic, and Radioactive Waste Work	Yes	Appendix E, SP-1 - SSHP
Steel Erection Plan	No	
Other: Hazardous Material Management Plan	Yes	Attachment SP-5

10.0 MEDICAL SURVEILLANCE AND SUPPORT

This section describes the NFSS project medical surveillance, First Aid and CPR support, hospital and its emergency route, and medical case management.

10.1 Medical Surveillance Requirements

General requirements for hazardous waste operations: All field personnel (and management personnel on-site) will have a current medical exam clearance (physician's written opinion) in accordance with OSHA standards prior to entering regulated work areas. Complete results of each individual's medical examination results are maintained by the medical provider and will not to be kept on-site.

The SSHO will ensure appropriate subcontractor's medical screenings are completed, documented, and these records are available at the work site.

Special requirements: Special medical and biological testing requirements for the project are included in Section 4 of the SSHP (Appendix E).

10.2 On-site First Aid Support

In accordance with EM 385-1-1, Section XX ECC will have at least two personnel onsite who are FA trained. The SSHO will be trained in First Aid, CPR, and blood borne pathogens. On-site first aid kits must meet the requirements of OSHA 1910.266 and American National Standard Institute (ANSI Z308.1). First aid kits will be assigned to each field crew.

10.3 Hospital and Emergency Route

Local emergency medical support contact information is contained in Appendix C**.** Local hospital emergency rooms must be notified of the potential types of injuries and the contaminants involved. An emergency route map is provided as Appendix C.

10.4 Medical Transport of Employees and Case Management

For non-emergency injuries, a local clinic will be identified with the assistance of the Corporate Medical Consultant, Dr. Peter Greaney or the WorkCare Occupational Health Nurse. These individuals will be contacted prior to transporting the injured worker to the clinic. The WorkCare provider will attempt to contact the clinic ahead of the arrival of the patient to establish oversight of case management. When there are two or more people on-site, an employee with minor injury may be transported by car after first aid treatment is given. The SSHO or other project management personnel will transport the injured person to the facility. 911 will be called for severe injuries.

Injured employees that require medical treatment or are taken to a doctor, hospital, clinic, etc., will not be allowed to resume work without a written return to work statement from the treating physician. This statement shall supply a medical diagnosis of the problem, the date of return to work, and work limitations. Should a return to work statement such as "light duty" be given, the treating physician will be contacted to determine the specific limitation. ECC will make an assessment of work the employee normally performs whether or not the limitation interferes with the employee's normal work.

Whenever there are questions on the appropriateness of the diagnosis or prescribed course of treatment, WorkCare will be contacted to arrange for a second opinion.

11.0 RISK MANAGEMENT PROCESSES

ECC's Corporate ESQ SOPs will be utilized to assist in the identification and implementation of appropriate hazard control measures. The Table of Contents for these SOPs is presented in Appendix D. SOPs may be referenced throughout the APP and its attachments, appendices and supplemental plans. Copies of the ECC ESQ SOP's are available to all ECC employees and to the client, at their request.

11.1 Activity Hazard Analyses – Policy and Procedure

Major activities to be performed will be covered in an AHA. Craft labor and/or technical field personnel involvement in AHA development will be encouraged. All personnel involved in a task must review the AHA before performing the task. This review will be appropriately documented by the SSHO or their designee. Upon commencement and throughout the activity, the AHA will be used to verify compliance with the prescribed hazard controls and to note any potential changes in process and, therefore, potential hazards. Table 11-1 is an initial list of AHAs anticipated for this project includes:

Table 11-1
Activity Hazard Analyses
Niagara Falls Storage Site
Lewiston, New York

Mobilization and Site Preparation
Waste Container Sampling
Packaging / Overpacking of Waste Containers
Loading of Waste Containers
Pumping of Liquid from AST's
AST Demolition
Release Surveys
Site Restoration and Demobilization

Most of the required AHAs are included in Appendix A. However, additional AHAs may be identified before and during the remediation project. Appendix A will be finalized after all AHAs are reviewed and updated by the SSHO and subcontractors performing the work at the site. If the SOW changes, or if alternate or improved methods and/or equipment are determined during the project, then additional AHAs may be generated and added to Appendix A.

11.2 Site Control

Site control procedures for this project may include the establishment of Work Zones to prevent unauthorized or unsafe access to work areas.

The SSHO, as well as employees, will remain alert for any unauthorized entry to the work site(s) and will take necessary actions to control the work area(s). Authorized site visitors may visit the site after meeting the following conditions:

- Receiving site hazard and safety instructions from the SSHO;
- Reviewing and complying with the essential elements of the APP;
- Using appropriate PPE to enter regulated work areas, per the APP; and

- Reporting any observed unsafe act or condition at, or affecting, the work site.
- A visitor's log will be maintained at the site.

Some or all of the following measures will be implemented to protect the public from site hazards:

Postings of appropriate signage (i.e. "Do Not Enter", "Contaminated Soil, No Trespassing", "No Unauthorized Access", "Exclusion Zone – Do Not Enter", etc.) or demarcation of the site perimeter with yellow caution tape stating "Caution" or "Do No Enter".

Installation of temporary orange snow fencing at the exclusion zone (or Site) perimeter to restrict access. Within restricted Site area, strategic parking of construction equipment to restrict access to portions of the site.

11.3 Construction Hazards and Controls

The four leading causes of death on construction sites include:

- ***Falls from elevations,***
- ***Struck-by incidents (mostly mobile equipment and loads),***
- ***Caught-in or between (mostly trench collapses), and***
- ***Electrocution.***

The following ECC ESQ SOPs are intended to address these and other common hazards on construction sites:

- Underground Utilities (ESQ-7.6)
- Excavation (ESQ-7.7)
- Fall Prevention and Protection (ESQ-5.5)
- Scaffolds (ESQ-5.14)
- Mobile Equipment Operations (ESQ-5.3)
- Hoisting and Rigging (ESQ-7.5)
- Electrical Safety (ESQ-5.7)
- Control of Hazardous Energy (ESQ-7.3)
- Confined Spaces (ESQ-7.1)
- Hot Work (ESQ-7.2)

11.4 Personal Protective Equipment

The purpose of PPE and clothing is to protect individuals from chemical and physical hazards.

11.4.1 Basic Requirements

The basic requirements for PPE at the project sites include ANSI approved hard hats, ANSI approved safety glasses (high impact, with side protection), ANSI approved safety-toe footwear, long trousers and short sleeved shirts. Hand protection will consist, at a minimum, of nitrile gloves whenever there is a possibility of contact with contaminated soil and leather work gloves when working with hand and portable power tools, or handling materials and equipment with sharp edges or caught-between hazards.

11.4.2 Hazard Assessments

Specific work tasks with unique hazards and/or PPE requirements must be evaluated or reevaluated prior to beginning work. PPE requirements, based on this assessment, will be included in Section 3 of the SSHP or in the AHA for the specific task. All workers must be trained in the requirements of the APP, SSHP and the applicable AHAs prior to beginning work. The required PPE may be changed by the SSHO, based on the results of air monitoring, or on task-specific needs. Downgrades will require the approval of the PHSM unless otherwise permissible by the SSHP.

11.4.3 Personal Protective Equipment Inspection and Care

Inspection and care of PPE are covered in the ECC Corporate SOP HS-6.1.

11.4.4 Personnel Decontamination

All personnel, clothing and equipment leaving the established exclusion zone (EZ) areas will be either decontaminated or discarded within the boundaries of the established Contamination Reduction Zone (CRZ). The decontamination procedures will be an organized process, with a series of stations to provide the maximum level of decontamination. Depending on the contaminants involved, and the potential risks, the decontamination process may range from a simple removal of gross, visible debris from work clothing, to a more intensive wet rinsing of protective coveralls. Specific decontamination procedures will be modified as necessary following establishment of work zones and observations of the work tasks. All contaminated PPE, and solutions used for decontamination, will be disposed of properly.

Standard personnel decontamination procedures include the following:

Level D (e.g., leaving the site or support zone):
- Ensure no gross contamination remains on work boots
- Wash hands, face, arms, and other exposed skin

Modified Level D:
- Move to the designated decontamination area
- Decontaminate small equipment if necessary (i.e., equipment is leaving the EZ)
- Remove gross debris, accumulation of soil/mud from boot covers
- Remove protective coverall from the inside out
- Remove boot covers
- Remove gloves
- Wash hands, face, arms, and other exposed skin

Level C:
- Move to the designated decontamination area
- Decontaminate small equipment if necessary (i.e., equipment is leaving the EZ)
- Remove gross debris, accumulation of soil/mud from boot covers
- Remove protective coverall from the inside out
- Remove boot covers
- Remove respirator
- Remove gloves
- Wash/clean respirator
- Properly store respirator
- Wash hands, face, arms, and other exposed skin

11.4.5 Respiratory Protection Program

ECC does not anticipate the need for respiratory protection for the field crew since all waste is presently containerized. However, if a spill occurs resulting in the release of rad-impacted materials, an initial field evaluation will be performed to determine if engineering controls will be adequate. If required respiratory protection is deemed necessary by the PHSM / CHP, ECC shall implement and maintain a site-specific Respiratory Protection Program to supplement ECC SOP ESQ-6.2 for its employees and subcontractors and train them on its contents. The program will be administered by the SSHO.

11.4.6 General Site Rules

The following site rules are applicable to all ECC projects:

- Eat, drink, use gum or tobacco products, or apply cosmetics in designated areas only;
- Do not smoke within the Site Area or near sources of ignition; areas shall be marked where smoking is permitted;
- Wash hands, face, and any exposed skin during decontamination, before eating, drinking or using tobacco products, and at the end of each shift;
- Participate in Daily Safety Tailgate Meetings;
- Continually observe work location and be alert to changes that may affect safety;
- Avoid direct contact with contamination by not purposefully walking, touching, or contacting any obviously contaminated surfaces;
- Immediately report incidents, accidents, near misses, or unusual situations to SSHO.
- Use PPE provided, and as instructed by the SSHO;
- Avoid hand-to-mouth or hand-to-face activities;
- Instruments and safety equipment/vehicles and construction equipment shall be inspected prior to use;
- Minimize the number of personnel in a work area to reduce potential exposures;
- Work within physical and mental limits;
- Take adequate rest breaks and replace body fluids (water and electrolyte) continuously;
- At all times follow the instructions of the SSHO or designee;
- Do not deviate from the APP or the instruction of the SSHO;
- Avoid rushing and/or taking short cuts;
- Handle and dispose all waste generated from decontamination procedures per contract requirements; no waste shall be disposed without the direction of the Senior Project Manager/Project Manager;
- Conduct visual checks on machinery and equipment prior to use, and complete the daily inspection form;
- Take precautions to prevent spillage and splashing; contain spilled liquid if possible;
- Alert your senses to potentially dangerous situations (e.g., strong, irritating, or nauseating odors);
- Familiarize yourself with the physical characteristics of the sites;
- Dispose of all wastes generated during activities as directed by the SSHO or designee.

Conformance with these site rules is mandatory for continued project participation.

Table 11-2 lists the minimum standards for most types of PPE to be used on the project.

Table 11-2
Minimum PPE for All Work
Niagara Falls Storage Site
Lewiston, New York

PPE	REQUIREMENT
Footwear	Protective safety footwear (steel or composite toe) boots (minimum height of 6 inches) will be worn by all workers on the project. Boots must have ANSI Z-41 / ASTM F2412-05 & F2413-05 approval.
Head Protection	Hard hats will be worn by all employees at all times at the project sites. Hard hats must meet the requirements of ANSI Z-89. Use of hard hats is mandatory.
Eye Protection	Protective safety glasses approved for High Impact (ANSI Z87+) with side shields will be worn by all site workers at all times. In addition, safety goggles and/or face shields will be required for Soil Stabilization/Treatment, and possibly for other certain tasks, based on the discretion of the SSHO. All eye protection must meet ANSI Z-87 requirements.
Hearing Protection	Protective ear plugs or muffs shall be worn when workers are exposed to potentially damaging noise including jack hammers, power saws and grinders, and combustion engines without mufflers.
Gloves	All workers shall use gloves appropriate to the hazard to protect hands against abrasion, laceration, puncture, hot materials and surfaces, cold weather, cryogenic materials, and hazardous chemicals and biological agents. Hand protection will consist of nitrile gloves whenever there is a possibility of contact with contaminated soil. Leather work gloves shall be worn when working with hand and portable power tools, or handling materials and equipment with sharp edges or caught-between hazards.
Clothing	Workers shall wear clothing that protects their skin from damage – sleeved shirts and long pants at a minimum. Workers exposed to chemicals (i.e. during soil stabilization/treatment), wet concrete, asphalt, and other hazardous contaminants will wear appropriate clothing for the hazard. Workers using power tools or operating equipment shall not wear very loose or flowing clothing that may get caught in the equipment.
High Visibility Vest	All employees will wear an ANSI Type 2 (or equivalent, per the SSHP), retro-reflective safety vest at all times while working on the project near heavy equipment operations or vehicular traffic.

Other PPE will be identified in the SSHP for HAZWOPER sites and in the AHAs for specific phases of work.

ECC's PPE Program (ESQ-6.1) and Respiratory Protection Program (ESQ-6.2) provide additional information on selection, use, maintenance, inspection and cleaning of equipment.

12.0 AWARENESS AND COMMUNICATION

For the NFSS T&D project, hazard awareness and communication is an important part of the APP. The following sections describe awareness and communication efforts to be implemented.

12.1 Accident Prevention Signs, Tags, and Labels

Standard accident prevention signs, tags, and labels will be used to communicate hazards and precautions in accordance with Section 8 of EM 385-1-1. Examples that may be used include:

- A project sign, including running injury-free record;
- Danger, Warning, and Caution signs;
- Work zone signs;
- PPE requirement signs;
- Lockout/tagout tags;
- Inspection and Do Not Use tags; and
- National Fire Protection Association or Hazardous Materials Identification System signs and labels.

Specific items will be determined by the SSHO.

12.2 Postings

Required postings and general safety awareness reminder posters will be used to communicate information to site project personnel and visitors. In addition to the safety and health bulletin board described below, posters may be used throughout the site as determined by the SSHO. Poster topics will be directed at the known hazards on the site for the project.

12.3 Daily Safety Briefings

Daily briefings are used to communicate daily activities, hazards, and precautions, as well as to solicit input from site project personnel and visitors on safety issues or improvements. The briefings may also be used to present safety training topics and refresher items.

12.4 Safety and Health Bulletin Board

ECC will erect and maintain a project safety and health bulletin board in an area commonly accessed by workers. The bulletin board will be kept current, in clear view of on-site workers, and protected against the elements and unauthorized removal. It will contain at least the following safety and health information:

- Map denoting the route to the nearest emergency care facility;
- Emergency phone numbers;
- Copy of the current APP mounted on or adjacent to the bulletin board (or instructions to its location), which will be accessible on the site by all workers;
- Copy of current AHAs mounted on or adjacent to the bulletin board (or instructions to its location), which will be accessible on the site by all workers;

- OSHA Form 300A (posted from February 1 through April 30 of each year) on or adjacent to the bulletin board;
- Safety and health promotional posters;
- Date of last lost workday injury;
- OSHA safety and health poster; and,
- Copy of Safety and Occupational Health Deficiency Tracking Log mounted on or adjacent to, the bulletin board (or instructions to its location) where it will be accessible by all workers upon request (see below for required content).

The Safety and Occupational Health Deficiency Tracking Log will list the status of safety and health deficiencies in chronological order. The list will be updated daily and will include:

- Date deficiency identified,
- Description of deficiency,
- Name of person responsible for correcting deficiency,
- Projected resolution date, and,
- Date actually resolved.

FIGURES

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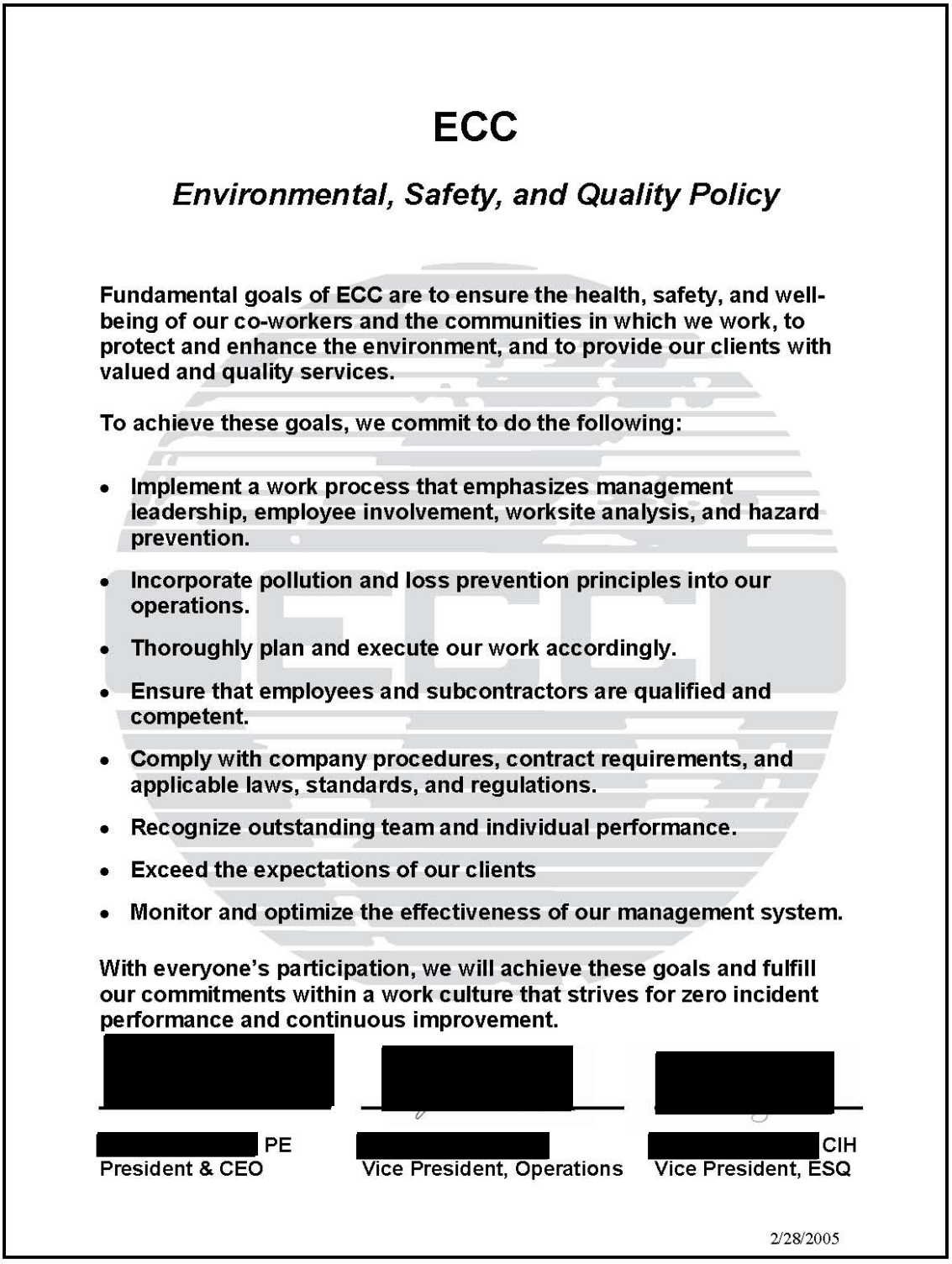

ECC

Environmental, Safety, and Quality Policy

Fundamental goals of ECC are to ensure the health, safety, and well-being of our co-workers and the communities in which we work, to protect and enhance the environment, and to provide our clients with valued and quality services.

To achieve these goals, we commit to do the following:

- **Implement a work process that emphasizes management leadership, employee involvement, worksite analysis, and hazard prevention.**
- **Incorporate pollution and loss prevention principles into our operations.**
- **Thoroughly plan and execute our work accordingly.**
- **Ensure that employees and subcontractors are qualified and competent.**
- **Comply with company procedures, contract requirements, and applicable laws, standards, and regulations.**
- **Recognize outstanding team and individual performance.**
- **Exceed the expectations of our clients**
- **Monitor and optimize the effectiveness of our management system.**

With everyone's participation, we will achieve these goals and fulfill our commitments within a work culture that strives for zero incident performance and continuous improvement.

[redacted] PE
President & CEO

[redacted]
Vice President, Operations

[redacted] CIH
Vice President, ESQ

2/28/2005

Figure 2
ECC Corporate Environment, Safety, and Quality Statement

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APPENDICES

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APPENDIX A
Activity Hazard Analyses

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Environmental Chemical Corporation
Activity Hazard Analysis (AHA)

Activity/Work Task: **AST Demolition (Sizing & Packaging)**	Overall Risk Assessment Code (RAC) (Use highest code)	**D**
Project Location: **NFSS – Lewiston, NY**	**Risk Assessment Code (RAC) Matrix**	
Contract Number: **W91ZLK-05-D-009, 0004**	**Severity**	**Probability**
Date Prepared: **07/31/10**		Frequent / Likely / Occasional / Seldom / Unlikely
Prepared by (Name/Title): [redacted] **CHMM, PHSM**	Catastrophic	**A / B / C / D / E**
	Critical	**A / B / C / D / E**
Reviewed by (Name/Title): [redacted] **Project Health and Safety and Quality Control Manager**	Marginal	**A / B / C / D / E**
	Negligible	**A / B / C / D / E**

Notes: (Field Notes, Review Comments, etc.)

Step 1: Review each **"Hazard"** with identified safety **"Controls"** and determine RAC (See above)

"Probability" is the likelihood to cause an incident, near miss, or accident and identified as: Frequent, Likely, Occasional, Seldom or Unlikely.

"Severity" is the outcome/degree if an incident, near miss, or accident did occur and identified as: Catastrophic, Critical, Marginal, or Negligible

Step 2: Identify the RAC (Probability/Severity) as E, H, M, or L for each "Hazard" on AHA. Annotate the overall highest RAC at the top of AHA.

RAC Chart

E = Extremely High Risk
H = High Risk
M = Moderate Risk
L = Low Risk

JOB STEPS	POTENTIAL SAFETY / HEALTH HAZARDS	RECOMMENDED CONTROLS **Consider People, Equipment, Materials and Environment** *(Note: Standard PPE required for this activity includes Hard Hat, Safety glasses with side protection, and safety-toe footwear. Additional PPE requirements are listed in this column depending on the hazard. This constitutes the Workplace Hazard Assessment per 29 CFR 1910.132. Additional assessments and PPE selection when needed will be documented on a daily briefing sign-in form and signed by the SSHS in accordance with ECC SOP ESQ 6.1. Hazard assessment and respirator selection for inhalation hazards are documented in the site Respiratory Protection Plan if respirators are part of PPE.)*	RAC
Cutting of AST's (AST constructed of HPDE)	Slips & Trips	• Work area shall be set up to reduce tripping hazards	D
	Struck-By	• Sections of AST being cut shall be supported in a fashion so, once cut, they will not fall onto personnel	D
	Sprains & Strains	• Personnel shall use proper lifting techniques to lift cut sections of AST • Personnel will be limited to lifting 50-lbs maximum. Items/materials exceeding 50-lbs. shall be handled with an additional worker or mechanically.	D

Environmental Chemical Corporation
Activity Hazard Analysis (AHA)

Placement of metal bands around tank sections (palletized)	Pinch Points	• Personnel shall observe and recognize possible pinch point locations • Hand tools shall be employed to reduce the need for placement of hands or other appendages within pinch point areas • Leather palm work gloves shall be used to protect hands and fingers	**D**
	Sprains & Strains	• Personnel shall use proper lifting techniques to lift cut sections of AST • Personnel will be limited to lifting 50-lbs maximum. Items/materials exceeding 50-lbs. shall be handled with an additional worker or mechanically.	**D**
	Cuts / Lacerations	• Wear leather palm work gloves when handling metal bands	**D**
	Struck-By	• Make sure only essential personnel are proximate to the banding operation • Inspect banding tool and material before use, any defective material should be discarded. • Level D PPE shall be used including eye protection. Avoid face in the area of the banding tool during cutting / crimping task	
Placement of palletized waste onto transportation vehicle (trailer / box truck)	Struck-by load	• Ground personnel will maintain as safe distance from load. At no point shall any personnel permit themselves under a suspended load • A designated spotter shall be used to guide the forklift & load onto / into the transport vehicle. • The truck driver shall remain away from suspended load until pallet/containers are placed on floor of truck	**D**
	Caught In Between	• No personnel shall place themselves between the forklift, boom, suspended, and vehicle • Only a designated spotter may guide the forklift operator into position. • Spotter must be in communication / eye sight at all times while forklift is active	**D**
	Pinch Points	• Personnel shall observe and recognize possible pinch point locations • Hand tools shall be employed to reduce the need for placement of hands or other appendages within pinch point areas • Leather palm work gloves shall be used to protect hands and fingers • Watch placement of feet when using a pallet jack to move loads. Do not place them underneath pallet or in travel path of jack	**D**
	Sprains / Strains	• When using a pallet jack make sure to push load instead of pulling. Use more then one person to help move the load.	**D**
Stop work and notify your supervisor if you are not sure how to perform your task safely!	***Stop work and notify your supervisor if you are not sure how to perform your task safely!***	***Stop work and notify your supervisor if you are not sure how to perform your task safely!***	

Environmental Chemical Corporation
Activity Hazard Analysis (AHA)

Equipment to be Used	Training Requirements/Competent or Qualified Personnel name(s)	Inspection Requirements
1. Rough terrain forklift 2. Hand tools <u>Support Zone</u> • Cell phone or Radio communication • Eyewash station • Fire extinguishers • First aid kit, • drinking water • 911 Air horn • Spill containment supplies • Air Monitoring equipment, if needed • Emergency decontamination supplies **PPE: Level D (hardhat, steel toe boots, work gloves, orange safety vest, safety glasses, and hearing protection as needed)**	• Only qualified operators permitted to operate mobile equipment. • Operators of forklifts will have recent certification / training in safe forklift operation (20 CFR 1910, Subpart N – Powered Industrial Trucks) • First Aid/Cardiopulmonary Resuscitation training (at least two individuals onsite) • Initial Safety Orientation • Daily Safety Tailgate Meetings • Emergency Response Plan	• Equipment - Receipt and inspected by supervisor. • Daily equipment inspection by operator • Weekly inspection of Fire Extinguishers and First Aid Kits. • Daily inspection of hand and power tools with replacement of damaged items.

Environmental Chemical Corporation
Activity Hazard Analysis (AHA)

Activity/Work Task: **AST Content Removal (Pumping Liquids)**	Overall Risk Assessment Code (RAC) (Use highest code) **D**
Project Location: **NFSS – Lewiston, NY**	
Contract Number: **W91ZLK-05-D-009, 0004**	
Date Prepared: **07/31/10**	
Prepared by (Name/Title): [redacted] **CHMM, PHSM**	
Reviewed by (Name/Title): [redacted] **Project Health and Safety and Quality Control Manager**	
Notes: (Field Notes, Review Comments, etc.)	

Risk Assessment Code (RAC) Matrix

Severity	Probability				
	Frequent	Likely	Occasional	Seldom	Unlikely
Catastrophic	**A**	**B**	**C**	**D**	**E**
Critical	**A**	**B**	**C**	**D**	**E**
Marginal	**A**	**B**	**C**	**D**	**E**
Negligible	**A**	**B**	**C**	**D**	**E**

Step 1: Review each **"Hazard"** with identified safety **"Controls"** and determine RAC (See above)

"Probability" is the likelihood to cause an incident, near miss, or accident and identified as: Frequent, Likely, Occasional, Seldom or Unlikely.

"Severity" is the outcome/degree if an incident, near miss, or accident did occur and identified as: Catastrophic, Critical, Marginal, or Negligible

Step 2: Identify the RAC (Probability/Severity) as E, H, M, or L for each "Hazard" on AHA. Annotate the overall highest RAC at the top of AHA.

RAC Chart

E = Extremely High Risk
H = High Risk
M = Moderate Risk
L = Low Risk

JOB STEPS	POTENTIAL SAFETY / HEALTH HAZARDS	RECOMMENDED CONTROLS **Consider People, Equipment, Materials and Environment** *(Note: Standard PPE required for this activity includes Hard Hat, Safety glasses with side protection, and safety-toe footwear. Additional PPE requirements are listed in this column depending on the hazard. This constitutes the Workplace Hazard Assessment per 29 CFR 1910.132. Additional assessments and PPE selection when needed will be documented on a daily briefing sign-in form and signed by the SSHS in accordance with ECC SOP ESQ 6.1. Hazard assessment and respirator selection for inhalation hazards are documented in the site Respiratory Protection Plan if respirators are part of PPE.)*	RAC
Vacuum Truck Set Up	Slips & Trips	• Work area shall be set up to reduce tripping hazards	**D**
	Struck-By	• Wheels on vacuum truck shall be chocked • All hoses shall be secured by using Cam-Loc fittings to avoid accidental dislodging. All hoses shall be secured to reduce kicking	**D**
	Sprains & Strains	• Personnel shall use proper lifting techniques to lift and place hose sections • Personnel will be limited to lifting 50-lbs maximum. Items/materials exceeding 50-lbs. shall be handled with an additional worker or mechanically.	**D**
	Falls (> 6-Ft)	• Operator of vacuum truck shall wear PFAS (body harness & lanyard) when accessing the top of the tanker. Operator must be attached to an anchorage point while on top of the tanker.	**D**

Environmental Chemical Corporation
Activity Hazard Analysis (AHA)

Start-Up & Operation of Vacuum Truck	Struck-By	• Wheels on vacuum truck shall be chocked • All hoses shall be secured by using Cam-Loc fittings to avoid accidental dislodging. All hoses shall be secured to reduce kicking	**D**
	Excessive Noise Exposure	• Personnel shall donn hearing protection when work zone sound levels exceed 85 dBA.	**D**
	Fire	• Vacuum truck will have functional and appropriately rated fire extinguisher readily available for use.	**D**
Pumping of liquid from AST's	Falls (< 6-Ft)	• Workers shall use a ladder or work platform to access opening to AST • Ladders and/or platforms shall be inspected before use. • Only ladders rated IIIA and constructed of fiberglass shall be used • Extension ladders shall be secured to eliminate possible dislodgement or sliding • Personnel accessing ladders or work platforms shall use 3-point contact	**D**
	Dermal Exposure to Liquids	• Personnel handing hoses shall wear chemical resistant gloves • If, during the pumping process, there is a potential for a splash hazard, tyvek coveralls and face shield shall be used	
	Sprains & Strains	• Personnel shall use proper lifting techniques to lift and place hose sections • Personnel will be limited to lifting 50-lbs maximum. Items/materials exceeding 50-lbs. shall be handled with an additional worker or mechanically.	**D**
Stop work and notify your supervisor if you are not sure how to perform your task safely!	***Stop work and notify your supervisor if you are not sure how to perform your task safely!***	***Stop work and notify your supervisor if you are not sure how to perform your task safely!***	

Equipment to be Used	Training Requirements/Competent or Qualified Personnel name(s)	Inspection Requirements
1. Vacuum Tucak 2. Hand tools <u>Support Zone</u> • Cell phone or Radio communication • Eyewash station • Fire extinguishers • First aid kit, • drinking water • 911 Air horn • Spill containment supplies • Air Monitoring equipment, if needed • Emergency decontamination supplies **PPE: Level D (hardhat, steel toe boots, work gloves, orange safety vest, safety glasses, and hearing protection as needed)**	• Only qualified operators permitted to operate vacuum truck & equipment • First Aid/Cardiopulmonary Resuscitation training (at least two individuals onsite) • Initial Safety Orientation • Daily Safety Tailgate Meetings • Emergency Response Plan	• Equipment - Receipt and inspected by supervisor. • Daily equipment inspection by operator • Weekly inspection of Fire Extinguishers and First Aid Kits. • Daily inspection of hand and power tools with replacement of damaged items.

Environmental Chemical Corporation
Activity Hazard Analysis (AHA)

Activity/Work Task: **Site Demobilization**	Overall Risk Assessment Code (RAC) (Use highest code)	**D**
Project Location: **NFSS – Lewiston, NY**	**Risk Assessment Code (RAC) Matrix**	
Contract Number: **W91ZLK-05-D-009, 0004**	**Severity**	**Probability**
Date Prepared: **07/31/10**		Frequent / Likely / Occasional / Seldom / Unlikely
Prepared by (Name/Title): [redacted] **CHMM, PHSM**	Catastrophic	**A / B / C / D / E**
	Critical	**A / B / C / D / E**
Reviewed by (Name/Title): [redacted] **Project Health and Safety and Quality Control Manager**	Marginal	**A / B / C / D / E**
	Negligible	**A / B / C / D / E**

Notes: (Field Notes, Review Comments, etc.)

Step 1: Review each **"Hazard"** with identified safety **"Controls"** and determine RAC (See above)

"Probability" is the likelihood to cause an incident, near miss, or accident and identified as: Frequent, Likely, Occasional, Seldom or Unlikely.

"Severity" is the outcome/degree if an incident, near miss, or accident did occur and identified as: Catastrophic, Critical, Marginal, or Negligible

Step 2: Identify the RAC (Probability/Severity) as E, H, M, or L for each "Hazard" on AHA. Annotate the overall highest RAC at the top of AHA.

RAC Chart

E = Extremely High Risk
H = High Risk
M = Moderate Risk
L = Low Risk

JOB STEPS	POTENTIAL SAFETY / HEALTH HAZARDS	RECOMMENDED CONTROLS **Consider People, Equipment, Materials and Environment** *(Note: Standard PPE required for this activity includes Hard Hat, Safety glasses with side protection, and safety-toe footwear. Additional PPE requirements are listed in this column depending on the hazard. This constitutes the Workplace Hazard Assessment per 29 CFR 1910.132. Additional assessments and PPE selection when needed will be documented on a daily briefing sign-in form and signed by the SSHS in accordance with ECC SOP ESQ 6.1. Hazard assessment and respirator selection for inhalation hazards are documented in the site Respiratory Protection Plan if respirators are part of PPE.)*	RAC
Breakdown of field equipment	Cuts / Lacerations	• Wear leather palm work gloves when handling wood (split wood) or metal (rough edges /burrs)	**D**
	Sprains/strains	• Use proper body position when moving / lifting equipment and materials. Do not lift and carry more than comfortable weight for individual, 50 lbs. max.	**D**
	Slips/Trips	• Wear high traction safety-toe footwear. • Avoid areas bounded by orange construction fencing • Keep loads manageable to not obstruct vision.	**D**

Environmental Chemical Corporation
Activity Hazard Analysis (AHA)

Disconnection of generators / fuel tanks & breakdown of secondary containment structures	Electrocution	• Ensure & verify that the generator has been turned off and that all temporary power cords have been removed from the outlets.	D
	Cuts / Lacerations / punctures	• Wear leather gloves when handling temporary power cords and wood frame sections Utilize approved safety cutting hand tools to cut plastic sheeting	D
	Exposure to diesel fuel (dermal / ocular)	• Wear nitrile gloves when disconnecting external fuel lines from storage tank • Make sure fuel in lines is drained off into container • Bleed off any pressure in the fuel lines • Fuel supply lines should be pointed away from your face when disconnecting	E
	Sprains/strains	• Use proper body position when moving / lifting materials. • Do not lift and carry more than comfortable weight for individual, 50 lbs. max.	D
	Pinch Points	• Use proper hand tools to disconnect and prepare the generator for off site transport • Recognize and avoid possible pinch points	E
Transporting Generators to staging area (for equipment supplier pick up)	Struck-by load	• All personnel shall keep a safe distance away from any suspended load • The load shall be secured prior to lifting and transport	D
	Struck-by equipment	• Ground personnel will maintain as safe distance from equipment travel path. • A spotter shall be used in areas that have limited visibility or movement. Spotter shall remain in line of sight with equipment operator • Operator will wear seat belt during equipment operation.	D
Storage or packaging of equipment / materials	Sprains/strains	• Use proper body position when moving / lifting equipment and materials. • Do not lift and carry more than comfortable weight for individual, 50 lbs. max.	D
	Caught between	• Personnel shall remain a safe distance from loads being placed adjacent to other objects or materials	D
Release Rad Survey of heavy equipment / crane (from inside “posted” areas	Struck-by equipment	• Ground personnel will maintain as safe distance from equipment travel path. • A spotter shall be used in areas that have limited visibility or movement. Spotter shall remain in line of sight with equipment operator • Operator will wear seat belt during equipment operation.	E
	Crushed-by	• All safety devices (i.e., isolation, chocks) shall be engaged on the equipment if hydraulic buckets or arms need to be elevated for Rad survey (i.e., direct reads, smears). If equipment is not supplied with safety devices then appropriate cribbing or blocking shall be used.	E

Environmental Chemical Corporation
Activity Hazard Analysis (AHA)

		• Operator will verify that any stored energy has been released or isolated prior to allowing personnel to survey equipment. • The equipment shall be turned off and key removed from the equipment during survey activities.	
Removal of field trailer	Struck-by hand tools	• Wear leather gloves, safety-glasses, hard hats, safety-toe footwear. • Inspect hand tools prior to use and remove from service if damaged	**D**
	Sprains/strains	• Do not lift and carry more than comfortable weight for individual, 50 lbs. max. • Do not pull on trailer anchors to remove from ground. Utilize mechanized equipment to remove anchors	**D**
	Pinch Points	• Use proper hand protection and/or hand tools to connect and prepare the trailer for off site transport including the removal of blocking under trailer • Recognize and avoid possible pinch points	**D**
	Caught between	• Personnel shall remain outside area between trailer hitch and towing vehicle during positioning.	**E**
Stop work and notify your supervisor if you are not sure how to perform your task safely!	***Stop work and notify your supervisor if you are not sure how to perform your task safely!***	***Stop work and notify your supervisor if you are not sure how to perform your task safely!***	

Equipment to be Used	Training Requirements/Competent or Qualified Personnel name(s)	Inspection Requirements
1. Rough-terrain forklift 2. Hand tools <u>Support Zone</u> • Cell phone or Radio communication • Eyewash station • Fire extinguishers • First aid kit, • drinking water • 911 Air horn • Spill containment supplies • Air Monitoring equipment, if needed • Emergency decontamination supplies **PPE: Level D (hardhat, steel toe boots, work gloves, orange safety vest, safety glasses, and hearing protection as needed)**	• Only qualified operators permitted to operate mobile equipment. • Operators of forklifts will have recent certification / training in safe forklift operation (20 CFR 1910, Subpart N – Powered Industrial Trucks) • First Aid/Cardiopulmonary Resuscitation training (at least two individuals onsite) • Initial Safety Orientation • Daily Safety Tailgate Meetings • Emergency Response Plan	• Equipment - Receipt and inspected by supervisor. • Daily equipment inspection by operator • Weekly inspection of Fire Extinguishers and First Aid Kits. • Daily inspection of hand and power tools with replacement of damaged items.

Environmental Chemical Corporation
Activity Hazard Analysis (AHA)

Activity/Work Task: **Packaging / Overpacking of Waste Containers**	Overall Risk Assessment Code (RAC) (Use highest code) **D**
Project Location: **NFSS – Lewiston, NY**	
Contract Number: **W91ZLK-05-D-009, 0004**	
Date Prepared: **07/31/10**	
Prepared by (Name/Title): [redacted] **CHMM, PHSM**	
Reviewed by (Name/Title): [redacted] **Project Health and Safety and Quality Control Manager**	
Notes: (Field Notes, Review Comments, etc.)	

Risk Assessment Code (RAC) Matrix

Severity	Probability				
	Frequent	Likely	Occasional	Seldom	Unlikely
Catastrophic	**A**	**B**	**C**	**D**	**E**
Critical	**A**	**B**	**C**	**D**	**E**
Marginal	**A**	**B**	**C**	**D**	**E**
Negligible	**A**	**B**	**C**	**D**	**E**

Step 1: Review each **"Hazard"** with identified safety **"Controls"** and determine RAC (See above)

"Probability" is the likelihood to cause an incident, near miss, or accident and identified as: Frequent, Likely, Occasional, Seldom or Unlikely.

"Severity" is the outcome/degree if an incident, near miss, or accident did occur and identified as: Catastrophic, Critical, Marginal, or Negligible

Step 2: Identify the RAC (Probability/Severity) as E, H, M, or L for each "Hazard" on AHA. Annotate the overall highest RAC at the top of AHA.

RAC Chart

E = Extremely High Risk
H = High Risk
M = Moderate Risk
L = Low Risk

JOB STEPS	POTENTIAL SAFETY / HEALTH HAZARDS	RECOMMENDED CONTROLS **Consider People, Equipment, Materials and Environment** *(Note: Standard PPE required for this activity includes Hard Hat, Safety glasses with side protection, and safety-toe footwear. Additional PPE requirements are listed in this column depending on the hazard. This constitutes the Workplace Hazard Assessment per 29 CFR 1910.132. Additional assessments and PPE selection when needed will be documented on a daily briefing sign-in form and signed by the SSHS in accordance with ECC SOP ESQ 6.1. Hazard assessment and respirator selection for inhalation hazards are documented in the site Respiratory Protection Plan if respirators are part of PPE.)*	RAC
Establish area for overpacking waste containers (i.e., placement of polyethylene liner)	Sprains/strains	• Use two people to carry heavy loads (ploysheeting boxes). Do not lift and carry more than comfortable weight for individual, 50 lbs. max.	**D**
	Cuts and Lacerations with hand tool	• Leather palm work gloves shall be used when handling utility knives • Only spring loaded, self-retracting safety utility knives will be used on the project. A safety scissor (EMS type) may be used in place of a utility knife	**D**
Lifting of damaged / non-conforming waste container	Struck-by load	• Ground personnel will maintain as safe distance from drum. At no point shall any personnel permit themselves under a suspended load • Use of a drum grappler or similar device shall be used to control the load	**D**

Environmental Chemical Corporation
Activity Hazard Analysis (AHA)

	Pinch Points	• Personnel shall observe and recognize possible pinch point locations • Hand tools shall be employed to reduce the need for placement of hands or other appendages within pinch point areas • Leather palm work gloves shall be used to protect hands and fingers	**D**
	Use of improper or damaged rigging	• A drum grappler or similar lifting device shall be used • All rigging, including lifting straps shall be rated for the intended load and inspected prior to use by the operator • All rigging found to be damaged shall be rendered unusable and discarded	**D**
Placement of damaged / non-conforming waste container	Struck-by load	• Ground personnel will maintain as safe distance from drum. At no point shall any personnel permit themselves under a suspended load • Use of a drum grappler or similar device shall be used to control the load	**D**
	Pinch Points	• Personnel shall observe and recognize possible pinch point locations • Hand tools shall be employed to reduce the need for placement of hands or other appendages within pinch point areas • Leather palm work gloves shall be used to protect hands and fingers	**D**
	Exposure to contaminated material (drum contents – liquid)	• All containers shall be inspected for potential leaks • Contain lids shall be tightened • During handling of containers with liquid splash protection (body & face) shall be available to the crew.	**D**
Closure of Overpack Container	Pinch Points	• Personnel shall observe and recognize possible pinch point locations • Hand tools shall be employed to reduce the need for placement of hands or other appendages within pinch point areas • Leather palm work gloves shall be used to protect hands and fingers	**D**
	Sprains/strains	• Use proper hand tools to place and secure container lids	**D**
	Cuts / Lacerations	• Wear leather palm work gloves when handling metal container lids, drum rigs, and bolts	**D**

Environmental Chemical Corporation
Activity Hazard Analysis (AHA)

Placement of metal bands around waste containers (palletized)	Pinch Points	• Personnel shall observe and recognize possible pinch point locations • Hand tools shall be employed to reduce the need for placement of hands or other appendages within pinch point areas • Leather palm work gloves shall be used to protect hands and fingers	**D**
	Sprains/strains	• Use proper hand tools to place and secure container lids	**D**
	Cuts / Lacerations	• Wear leather palm work gloves when handling metal container lids, drum rigs, and bolts	**D**
	Struck-By	• Make sure only essential personnel are proximate to the banding operation • Inspect banding tool and material before use, any defective material should be discarded. • Level D PPE shall be used including eye protection. Avoid face in the area of the banding tool during cutting / crimping task	**D**
Stop work and notify your supervisor if you are not sure how to perform your task safely!	***Stop work and notify your supervisor if you are not sure how to perform your task safely!***	***Stop work and notify your supervisor if you are not sure how to perform your task safely!***	

Equipment to be Used	Training Requirements/Competent or Qualified Personnel name(s)	Inspection Requirements
1. Rough-terrain forklift 2. Rigging – drum grappler, nylon slings 3. Hand tools <u>Support Zone</u> • Cell phone or Radio communication • Eyewash station • Fire extinguishers • First aid kit, • drinking water • 911 Air horn • Spill containment supplies • Air Monitoring equipment, if needed • Emergency decontamination supplies **PPE: Level D (hardhat, steel toe boots, work gloves, orange safety vest, safety glasses, and hearing protection as needed)**	• Only qualified operators permitted to operate mobile equipment. • Operators of forklifts will have recent certification / training in safe forklift operation (20 CFR 1910, Subpart N – Powered Industrial Trucks) • First Aid/Cardiopulmonary Resuscitation training (at least two individuals onsite) • Initial Safety Orientation • Daily Safety Tailgate Meetings • Emergency Response Plan	• Equipment - Receipt and inspected by supervisor. • Daily equipment inspection by operator • Weekly inspection of Fire Extinguishers and First Aid Kits. • Daily inspection of hand and power tools with replacement of damaged items.

Environmental Chemical Corporation
Activity Hazard Analysis (AHA)

Activity/Work Task: **Mobilization and Site Preparation**	Overall Risk Assessment Code (RAC) (Use highest code) **D**
Project Location: **NFSS – Lewiston, NY**	**Risk Assessment Code (RAC) Matrix**
Contract Number: **W91ZLK-05-D-009, 0004**	
Date Prepared: **07/31/10**	
Prepared by (Name/Title): [redacted] **CHMM, PHSM**	
Reviewed by (Name/Title): [redacted] **Project Health and Safety and Quality Control Manager**	

Severity	Probability				
	Frequent	Likely	Occasional	Seldom	Unlikely
Catastrophic	**A**	**B**	**C**	**D**	**E**
Critical	**A**	**B**	**C**	**D**	**E**
Marginal	**A**	**B**	**C**	**D**	**E**
Negligible	**A**	**B**	**C**	**D**	**E**

Notes: (Field Notes, Review Comments, etc.)

Step 1: Review each **"Hazard"** with identified safety **"Controls"** and determine RAC (See above)

"Probability" is the likelihood to cause an incident, near miss, or accident and identified as: Frequent, Likely, Occasional, Seldom or Unlikely.

"Severity" is the outcome/degree if an incident, near miss, or accident did occur and identified as: Catastrophic, Critical, Marginal, or Negligible

Step 2: Identify the RAC (Probability/Severity) as E, H, M, or L for each "Hazard" on AHA. Annotate the overall highest RAC at the top of AHA.

RAC Chart

E = Extremely High Risk
H = High Risk
M = Moderate Risk
L = Low Risk

JOB STEPS	POTENTIAL SAFETY / HEALTH HAZARDS	RECOMMENDED CONTROLS **Consider People, Equipment, Materials and Environment** *(Note: Standard PPE required for this activity includes Hard Hat, Safety glasses with side protection, and safety-toe footwear. Additional PPE requirements are listed in this column depending on the hazard. This constitutes the Workplace Hazard Assessment per 29 CFR 1910.132. Additional assessments and PPE selection when needed will be documented on a daily briefing sign-in form and signed by the SSHS in accordance with ECC SOP ESQ 6.1. Hazard assessment and respirator selection for inhalation hazards are documented in the site Respiratory Protection Plan if respirators are part of PPE.)*	RAC
Setting of temporary facilities: 1. Spotting of office trailer 2. Leveling and anchoring of trailer 3. Connection to electrical service	Struck-by moving trailer/truck	• Ensure spotter for delivery truck stays in line-of-sight of driver at all times.	**D**
	Caught in or under trailer	• Use a spotter to coordinate activities of driver and person setting cribbing or jackstands. • Keep hands out of pinch points.	**D**
	Struck by hand tools, e.g. hammering in anchors and ground rods	• Wear leather gloves, safety-glasses, hard hats, safety-toe footwear. Keep hands out of pinch points.	**D**
	Cuts on trailer anchoring straps	• Wear leather gloves	**D**
	Contact with live electrical parts	• Utility connections will be made by a licensed electrician. Arc and current protection will be used by the electrician for any work within 4 ft of live conductors (flame-resistant clothing, V-rated tools and gloves, eye protection for <240V). • System will be tested by electrician to assure proper grounding	**E**

Environmental Chemical Corporation
Activity Hazard Analysis (AHA)

		and polarity before turnover.	
Receipt / positioning of heavy or specialized equipment	Struck-by equipment	• Ground personnel will maintain as safe distance. • Operator will wear seat belt during off-loading.	D
	Equipment tip-over	• Avoid tracks, tires on one side going off edge of trailer. Keeps ground engaging tools low?	D
Installation of temporary work zones fencing/barricade	Struck-by hand tools	• Wear leather gloves, safety-glasses, hard hats, safety-toe footwear. Keep hands out of pinch points. • Use post driver, not sledge hammer for placing fence posts.	D
	Sprains/strains	• Use two people to carry heavy loads of fencing/posts. Do not lift and carry more than comfortable weight for individual, 50 lbs. max.	D
	Struck-by hand tools (hammer setting silt fence posts)	• Wear leather gloves, safety-glasses, hard hats, safety-toe footwear. Keep hands out of pinch points.	D
	Sprains/strains	• Use two people to carry heavy loads of fencing/posts. Do not lift and carry more than comfortable weight for individual, 50 lbs. max. • Lift hay bales with arms and legs. Use smooth motions, avoid twisting when unloading trailer and setting bales.	D
Establishment of work zones, decontamination stations for personnel and equipment	Slips/trips/falls	• Wear high traction safety-toe footwear. • Keep loads manageable to not obstruct vision.	D
	Scrapes and cuts	• Wear safety glasses, gloves and long sleeves.	D
	Contact with poisonous plants (e.g. poison ivy)	• Inspect area before starting • Wear long sleeve shirts, tuck sleeves and pant legs. Wear gaiters on ankles. • If there is heavy growth, wear disposable coveralls and use barrier cream, e.g. Ivy Block. • Have Tecnu or other poison ivy cleanser on hand, and wash immediately after contact.	E
	Stung by bees/hornets, bit by ticks or snakes	• Inspect areas for hives. • Ensure allergic individuals have emergency medical kit and are committed to using it. • Use insect repellant containing DEET on exposed skin, and Permethrin on clothing. • Do not approach snakes. If bitten, seek medical attention.	E
	Struck by moving equipment	• Personnel will stay out of equipment swing areas and pinch-points. When filling sand bags, ground personnel will stay out of swing area of bucket until operator grounds bucket and signals safe to approach bag to close.	D
	Truck Rollovers	• Trucks will be situated on level and stable surface before being loaded or when dumping. • When dumping a load from a bed equipped with a tailgate, a spotter must be positioned a safe distance from the vehicle, such	

Environmental Chemical Corporation
Activity Hazard Analysis (AHA)

		that they can observe the bed to notify the operator if an obstruction occurs. The spotter and driver must be in agreement on the proper positioning. • Spotter must have suitable means of communication with driver. • If the load fails to exit the bed properly or becomes stuck, the bed will be immediately lowered and the problem rectified. • Personnel will stay outside of a buffer zone on the sides of the truck equal to the length of the bed times 1.5 during dumping.	
	Dust emissions, contamination and sediment spread	• Dust controls will be implemented on haul roads • If needed, trucks will be decontaminated and mud will be removed prior to entry onto a public road.	**E**
	Fire/explosion of gasoline	• Allow heavy equipment to cool before refueling, and eliminate other sources of ignition. • Use only approved safety cans for gasoline/bar oil. • Cleanup spills immediately.	**E**
	Heat or Cold Stress	• Rest/work cycles, fluids, and temperature monitoring. • Evaluate weather conditions as to heat or cold stress while wearing protective clothing while decontaminating equipment.	**D**
	Cuts and Lacerations with hand tool and equipment use	• Steel-toe safety boots, leather work gloves, and hard hats shall be used when installing the DURA-BASE Matting System, sandbag filling and setup and installation of geo-textile liners over graded road.	**D**
	Eye injuries	• Safety glasses with sideshields (impact resistant)	**E**
Stop work and notify your supervisor if you are not sure how to perform your task safely!	***Stop work and notify your supervisor if you are not sure how to perform your task safely!***	***Stop work and notify your supervisor if you are not sure how to perform your task safely!***	

Environmental Chemical Corporation
Activity Hazard Analysis (AHA)

Equipment to be Used	Training Requirements/Competent or Qualified Personnel name(s)	Inspection Requirements
1. Rough-terrain forklift 2. Hand tools <u>Support Zone</u> • Cell phone or Radio communication • Eyewash station • Fire extinguishers • First aid kit, • drinking water • 911 Air horn • Spill containment supplies • Air Monitoring equipment, if needed • Emergency decontamination supplies **PPE: Level D (hardhat, steel toe boots, work gloves, orange safety vest, safety glasses, and hearing protection as needed)**	• Only qualified operators permitted to operate mobile equipment. • Operators of forklifts will have recent certification / training in safe forklift operation (20 CFR 1910, Subpart N – Powered Industrial Trucks) • First Aid/Cardiopulmonary Resuscitation training (at least two individuals onsite) • Initial Safety Orientation • Daily Safety Tailgate Meetings • Emergency Response Plan	• Equipment - Receipt and inspected by supervisor. • Daily equipment inspection by operator • Weekly inspection of Fire Extinguishers and First Aid Kits. • Daily inspection of hand and power tools with replacement of damaged items.

Environmental Chemical Corporation
Activity Hazard Analysis (AHA)

Activity/Work Task: **Loading of Waste Containers**	Overall Risk Assessment Code (RAC) (Use highest code)	**D**
Project Location: **NFSS – Lewiston, NY**	**Risk Assessment Code (RAC) Matrix**	
Contract Number: **W91ZLK-05-D-009, 0004**	**Severity** / **Probability**	
Date Prepared: **07/31/10**		
Prepared by (Name/Title): [redacted] **CHMM, PHSM**		
Reviewed by (Name/Title): [redacted] **Project Health and Safety and Quality Control Manager**		

Severity	Frequent	Likely	Occasional	Seldom	Unlikely
Catastrophic	**A**	**B**	**C**	**D**	**E**
Critical	**A**	**B**	**C**	**D**	**E**
Marginal	**A**	**B**	**C**	**D**	**E**
Negligible	**A**	**B**	**C**	**D**	**E**

Notes: (Field Notes, Review Comments, etc.)

Step 1: Review each **"Hazard"** with identified safety **"Controls"** and determine RAC (See above)

"Probability" is the likelihood to cause an incident, near miss, or accident and identified as: Frequent, Likely, Occasional, Seldom or Unlikely.

"Severity" is the outcome/degree if an incident, near miss, or accident did occur and identified as: Catastrophic, Critical, Marginal, or Negligible

Step 2: Identify the RAC (Probability/Severity) as E, H, M, or L for each "Hazard" on AHA. Annotate the overall highest RAC at the top of AHA.

RAC Chart

E = Extremely High Risk
H = High Risk
M = Moderate Risk
L = Low Risk

JOB STEPS	POTENTIAL SAFETY / HEALTH HAZARDS	RECOMMENDED CONTROLS Consider People, Equipment, Materials and Environment *(Note: Standard PPE required for this activity includes Hard Hat, Safety glasses with side protection, and safety-toe footwear. Additional PPE requirements are listed in this column depending on the hazard. This constitutes the Workplace Hazard Assessment per 29 CFR 1910.132. Additional assessments and PPE selection when needed will be documented on a daily briefing sign-in form and signed by the SSHS in accordance with ECC SOP ESQ 6.1. Hazard assessment and respirator selection for inhalation hazards are documented in the site Respiratory Protection Plan if respirators are part of PPE.)*	RAC
Inspection of Banded Waste Containers	Slips & Trips	• Observe waste container storage area for potential slip / trip conditions • Avoid areas where material / debris has accumulated on ground (arrange to removal) • Always keep eye on walking path for potential tripping hazards (i.e., wire, bands, wood)	**D**
	Cuts and Lacerations with hand tool	• Leather palm work gloves shall be used when inspecting and testing condition of metal bands	**D**

Environmental Chemical Corporation
Activity Hazard Analysis (AHA)

Lifting of palletized waste containers (extended boom forklift)	Struck-by load	• Ground personnel will maintain as safe distance from drum. At no point shall any personnel permit themselves under a suspended load • Use of a drum grappler or similar device shall be used to control the load	**D**
	Struck-by equipment	• Only essential personnel shall be in the area of the forklift during this activity. • The operator & ground personnel shall remain in communication / eye site during movement of equipment • Personnel shall remain out the equipment travel path • Use of Hi-Vis traffic vests shall be worn by all personnel (component of Level "D")	
	Pinch Points	• Personnel shall observe and recognize possible pinch point locations • Hand tools shall be employed to reduce the need for placement of hands or other appendages within pinch point areas • Leather palm work gloves shall be used to protect hands and fingers	**D**
	Loss of load (spill)	• All drums on pallets must be banded prior to lifting and movement, No drum shall be lifted unless on a pallet and secured (maybe secured to forklift mast w/ tie-down straps)	**D**
Placement of palletized waste containers onto transportation vehicle (trailer / box truck)	Struck-by load	• Ground personnel will maintain as safe distance from drum. At no point shall any personnel permit themselves under a suspended load • A designated spotter shall be used to guide the forklift & load onto / into the transport vehicle. • The truck driver shall remain away from suspended load until pallet/containers are placed on floor of truck	**D**
	Caught In Between	• No personnel shall place themselves between the forklift, boom, suspended, and vehicle • Only a designated spotter may guide the forklift operator into position. • Spotter must be in communication / eye sight at all times while forklift is active	
	Pinch Points	• Personnel shall observe and recognize possible pinch point locations • Hand tools shall be employed to reduce the need for placement of hands or other appendages within pinch point areas • Leather palm work gloves shall be used to protect hands and fingers • Watch placement of feet when using a pallet jack to move loads. Do not place them underneath pallet or in travel path of jack	**D**
	Sprains / Strains	• When using a pallet jack make sure to push load instead of pulling. Use more then one person to help move the load.	**D**
Stop work and notify your supervisor if you are not sure how to perform your task safely!	***Stop work and notify your supervisor if you are not sure how to perform your task safely!***	***Stop work and notify your supervisor if you are not sure how to perform your task safely!***	

Environmental Chemical Corporation
Activity Hazard Analysis (AHA)

Equipment to be Used	Training Requirements/Competent or Qualified Personnel name(s)	Inspection Requirements
1. Rough-terrain forklift 2. Pallet Jack 3. Hand tools <u>Support Zone</u> • Cell phone or Radio communication • Eyewash station • Fire extinguishers • First aid kit, • drinking water • 911 Air horn • Spill containment supplies • Air Monitoring equipment, if needed • Emergency decontamination supplies **PPE: Level D (hardhat, steel toe boots, work gloves, orange safety vest, safety glasses, and hearing protection as needed)**	• Only qualified operators permitted to operate mobile equipment. • Operators of forklifts will have recent certification / training in safe forklift operation (20 CFR 1910, Subpart N – Powered Industrial Trucks) • First Aid/Cardiopulmonary Resuscitation training (at least two individuals onsite) • Initial Safety Orientation • Daily Safety Tailgate Meetings • Emergency Response Plan	• Equipment - Receipt and inspected by supervisor. • Daily equipment inspection by operator • Weekly inspection of Fire Extinguishers and First Aid Kits. • Daily inspection of hand and power tools with replacement of damaged items.

APPENDIX B
Resumes of Key Safety and Health Personnel

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APPENDIX C
Hospital Route Map

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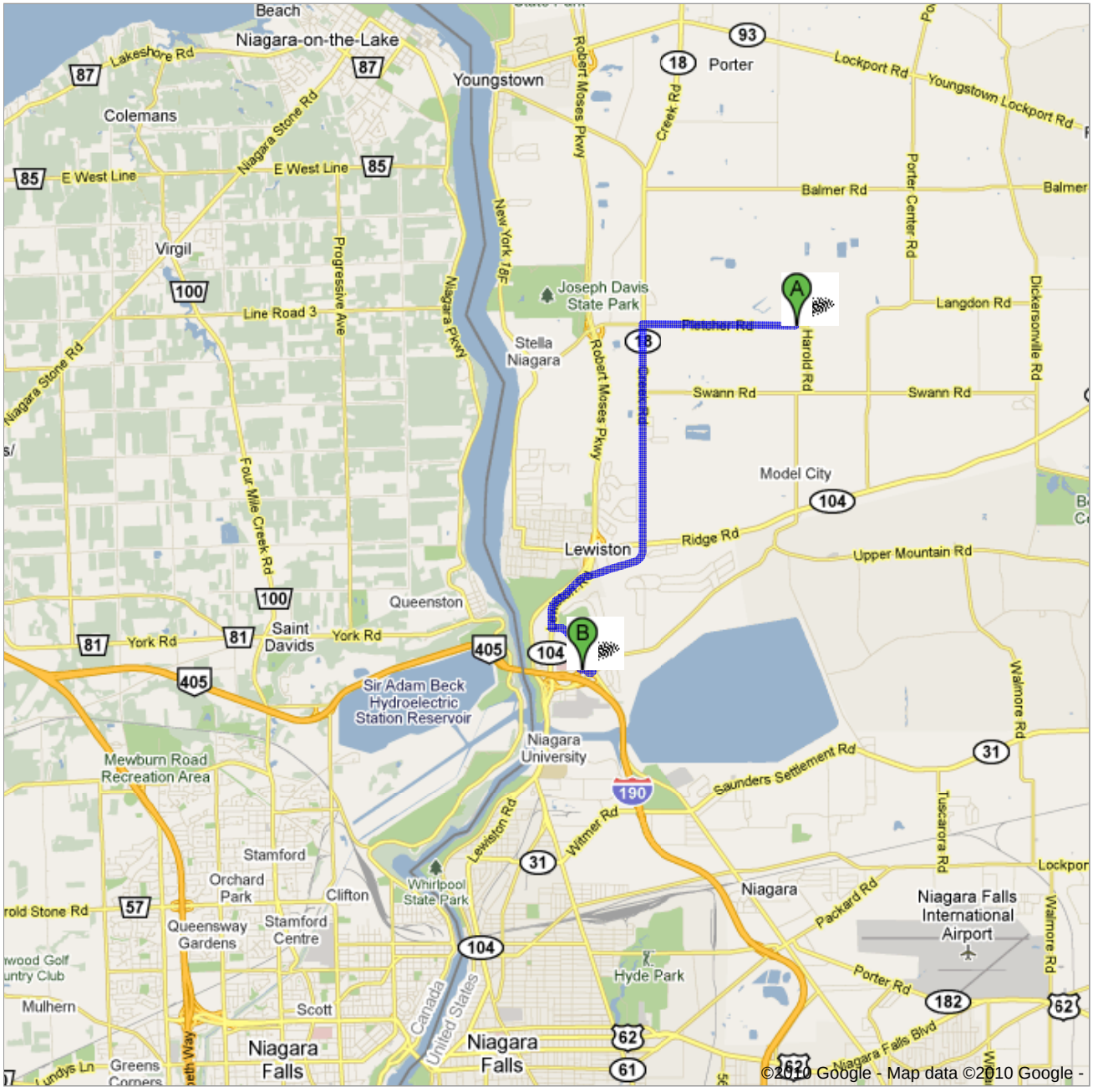
1397 Pletcher Rd, Youngstown, NY 14174

	1. Head **west** on **Pletcher Rd** toward **NY-18 W/Creek Rd** About 3 mins	go 1.7 mi total 1.7 mi
18	2. Turn **left** at **NY-18 W/Creek Rd** Continue to follow NY-18 W About 5 mins	go 3.2 mi total 4.9 mi
104	3. Take the ramp onto **NY-104 W/Lewiston Rd** About 1 min	go 0.9 mi total 5.7 mi
265	4. Turn **left** at **NY-265 S/Military Rd** About 2 mins	go 0.7 mi total 6.5 mi
	5. Take the 2nd **right** onto **Upper Mountain Rd**	go 151 ft total 6.5 mi
	6. Slight **right** onto the ramp to **Canada** Toll road	go 0.1 mi total 6.6 mi

Mount Saint Marys Hospital
5300 Military Road, Lewiston, NY 14092 - (716) 297-4800

Google maps

Directions to Mount Saint Marys Hospital
5300 Military Road, Lewiston, NY 14092 - (716) 297-4800
6.6 mi – about **11 mins**



APPENDIX D
ECC Corporate Environment, Safety, and Quality Standard Operating Procedures (Table of Contents)

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ECC CORPORATE ENVIRONMENT, SAFETY, AND QUALITY PROGRAM STANDARD OPERATING PROCEDURES

1.0 General Administration

- 1.1 ESQ Program Overview – Reserved
- 1.2 ESQ Organization and Responsibilities – Reserved
- 1.3 Project ESQ Plans – Reserved
- 1.4 Subcontractor Management
- 1.5 Office Injury and Illness Prevention Plans
- 1.6 Employee ESQ Training – Reserved
- 1.7 Employee Recognition Program – Reserved
- 1.8 Drug Free Workplace
- 1.9 Change Management – Reserved
- 1.10 Document Control – Reserved
- 1.11 Logbooks

2.0 Continuous Improvement

- 2.1 ESQ Audits and Surveillances
- 2.2 Incident Reporting and Investigation
- 2.3 Lessons Learned Reporting – Reserved
- 2.4 Corrective Action Tracking – Reserved

3.0 Quality Control

- 3.1 Quality Control
- 3.2 Four-Phase Control Process
- 3.3 QC Inspections
- 3.4 Testing
- 3.5 Sampling - Reserved

4.0 Construction Quality Control Requirements

- 4.1 General Requirements (See ESQ-2.1 and ESQ-3.2)
- 4.2 Site-work
- 4.2.7 Fencing
- 4.3 Concrete
    - 4.3.1 Formwork
    - 4.3.2 Reinforcing Steel
- 4.4 Masonry
- 4.5 Metals - Roofing
- 4.6 Wood and Plastics - Reserved
- 4.7 Thermal and Moisture Protection
- 4.8 Openings - Reserved
- 4.9 Finishes - Reserved
- 4.10 Specialties - Reserved
- 4.11 Equipment - Reserved
- 4.12 Furnishings - Reserved
- 4.13 Special Construction - Reserved for Special Purpose Rooms
    - 4.13.1 K-Span

- 8.5 Heat Stress Prevention
- 8.6 Hearing Conservation
- 8.7 Air Monitoring
- 8.8 Biological Hazards
- 8.9 Asbestos Abatement
- 8.10 Lead Remediation

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APPENDIX E
Supplemental Plans

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SP 1

SITE SAFETY AND HEALTH PLAN

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FINAL

SITE SAFETY AND HEALTH PLAN

Transportation and Disposal of Remedial Investigation Derived and Legacy Waste

Niagara Falls Storage Site, Lewiston, NY

August, 2010

Prepared for:

U.S. Army Corps of Engineers – Buffalo District

US Army Corps of Engineers ®
Buffalo District

Prepared by:

Environmental Chemical Corporation (ECC)
1125 Route 22 West, Suite 310
Bridgewater, NJ 08807

Prepared Under:
Contract No.: W91ZLK-05-D-0009
Delivery Order 0004

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TABLE OF CONTENTS

Section **Page**

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LIST OF ACRONYMS AND ABBREVIATIONS

AEA	Atomic Energy Act
AHA	Activity Hazard Analysis
ANSI	American National Standard Institute
APP	Accident Prevention Plan
CCQC	Contractor Chemical Quality Control
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CGI	Combustible gas indicator
cm	Centimeter
COC	Chain of custody
CRZ	Contamination Reduction Zone
CWA	Clean Water Act
DFW	Definable feature of work
DOD	Department of Defense
DOT	Department of Transportation
dpm	Disintegrations Per Minute
DQCR	Daily Quality Control Report
EM	Engineer Manual
EP	Engineer Pamphlet
ESQ	Environment, Safety, and Quality
EZ	Exclusion Zone
FTP	Field Technical Procedure
FUSRAP	Formerly Utilized Sites Remedial Action Program
GEL	GEL Laboratories, LLC
HAZWOPER	Hazardous Waste Operations and Emergency Response
HTRW	Hazardous, Toxic, and Radioactive Waste
IATA	International Air Transport Association
IDW	Investigation-derived waste
LLRW	Low-level radioactive waste
MDA	Minimum Detectable Activity
MDL	Method Detection Limit
mrem	Millirem
MSDS	Material Safety Data Sheet
NELAC	National Environmental Laboratory Accreditation Conference
NELAP	National Environmental Laboratory Accreditation Program
NFSS	Niagara Falls Storage Site
NRC	Nuclear Regulatory Commission
NYCRR	New York Codes Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
OSHA	Occupational Safety and Health Administration
PID	Photo-ionization detector
PM	Project Manager
POTW	Publicly-owned treatment works
PPE	Personal Protective Equipment
PT	Performance Testing
QA	Quality Assurance
QAP	Quality Assurance Plan
QC	Quality Control
QSM	Quality Systems Manual

LIST OF ACRONYMS AND ABBREVIATIONS (Continued)

RCRA	Resource Conservation and Recovery Act
REMG	Resident Engineer Management Guide
RI	Remedial Investigation
RL	Reporting Limit
RMA	Radioactive Materials Area
RPP	Radiation Protection Plan
RPM	Radiation Protection Manager
SDWA	Safe Drinking Water Act
SNM	Special nuclear material
SOP	Standard Operating Procedure
SSHP	Site Safety and Health Plan
SSHS	Site Safety and Health Supervisor
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency

1.0 PROJECT/ TASK ORDER DESCRIPTION

This Site Safety and Health Plan (SSHP) supplements the Accident Prevention Plan (APP) for the NFSS T&D project and contains project/task order–specific information. Additional safety and health requirements are found in the Active Hazard Analyses (AHAs), other supplemental plans and ECC Safety and Health standard operating procedures (SOP) as identified in the APP.

The Definable Features of Work (DFW) identified for the Niagara Falls Storage Site project is include in the Table below:

Table 1-1: DFW

Mobilization and Site Preparation*
Sampling and Analysis*
Repackaging / Overpacking Containers*
Preparation of Containers for Loading*
Release Surveys for Shipping Containers*
Loading of Containers*
Pump Out of Storage Tanks (liquid waste)*
Sizing of Storage Tanks*
Site Restoration and Demobilization*

Notes:
* Indicates those AHAs included in Appendix A with this submission. Not all DFWs will have job-specific AHAs generated for them..

If hazards or conditions are identified that are not covered by this Appendix, the ECC staff must contact the Senior/Project Manager or the Site Safety and Health Supervisor (SSHS).

1.1 *Site History and Description:*

In 1942, the War Department obtained 7,500 acres in northwestern Niagara County, New York for the construction of a trinitrotoluene (TNT) production facility designated the LOOW. TNT production, production support, and storage areas were constructed on 2,500 acres in the eastern portion of LOOW. The remaining 5,000 acres surrounding the production area were left as an undeveloped buffer zone and allowed for possible expansion of the plant from 6 to 12 production lines. The plant expansion never occurred, and this acreage in the western portion of LOOW remained undeveloped. In 1943 after approximately 9 months of operation, LOOW was decommissioned due to excess production at other TNT plants. The 2,500 acre production area of LOOW was used by various Department of Defense (DoD) agencies including the Air Force and Navy. Two manufacturing plants were subsequently built on the property: Air Force Plant 68, and the Navy IPPP. The Army constructed NMB NF-03/05.

In the mid 1940s approximately 1,500 acres in the southern portion of the LOOW were transferred to the USACE - Manhattan Engineer District (MED). The MED subsequently became the U.S. Atomic Energy Commission (AEC), then the Energy Research and Development Administration (ERDA), and finally the U.S. Department of Energy (DOE). Portions of the 1,500 acres were used for storage of radioactive materials during the development of the atomic bomb. However, from the 1950s to 1980s, radioactive materials formerly located throughout the 1,500 acre property were consolidated into the current 191 acre NFSS area.

From November 1999 to October 2003, Tetra Tech, formerly Maxim Technologies (Maxim), sampled surface water, sediment, soil, groundwater, and other media to support a three-phased RI at NFSS. Solid investigation-derived waste (IDW) from RI Phases I and II were sampled for radiological and chemical constituents, along with other waste disposal criteria, and disposed of at Waste Control Specialists (WCS) in Andrews, Texas in 2002.

Solid IDW generated from RI Phase III and trenching activities on NFSS and NFSS Vicinity Property G (VPG) was sampled for required waste disposal parameters to assure compliance with waste disposal criteria at WCS. Tetra Tech submitted a disposal application for the solid IDW generated from RI Phase III to WCS for approval under a separate delivery order. Since WCS cannot accept special nuclear material (SNM), a WCS representative requested additional analysis to confirm that SNM is not present in the NFSS/VPG solid waste. According to Title I of the Atomic Energy Act of 1954 (AEA 1954), SNM is defined as "(1) plutonium, uranium enriched in the isotope 233 or in the isotope 235, and any other material which the Commission, pursuant to the provisions of Section 51, determines to be special nuclear material, but does not include source material; or (2) any material artificially enriched by any of the foregoing, but does not include source material."

Since 142 of the 162 solid IDW drums were not sampled to determine if SNM existed and sampling results for 3 of the 20 drums sampled (or 15%) indicated that either SNM existed (2 drums) or uranium exceeded the maximum waste acceptance criteria (WAC) (1 drum), additional work was deemed necessary for approval of bulk disposal of the entire Phase III RI solid IDW waste stream. Additionally, wastewater, generated during the RI, was sampled and disposed of under another contract. Due to the need to filter wastewater prior to disposal, additional solid IDW (expended filters, sediment, protective clothing, etc.) was generated. It is assumed that 8 additional drums of solid IDW were generated from this task, bringing the total number of drums to 170. When the Contractor submitted a disposal application for the solid IDW generated from RI Phase III to WCS for approval, WCS indicated that although they cannot accept SNM, they can broker such solid IDW to Energy Solutions (ES) in Clive, Utah.

Since WCS cannot accept SNM and Energy Solutions will be a higher cost, Tetra Tech conducted an assessment to determine if it were more cost-effective for the government to assume the 142 drums were SNM (without sufficient radiological analysis) and dispose at ES without further sampling or to conduct additional sampling and attempt to reduce the number of SNM drums requiring disposal at ES and increase the number being sent to WCS for bulk disposal. The results of the cost evaluation identified the most cost-effective path for the government was to conduct additional sampling in an attempt to reduce the number of drums brokered to ES and send the non-SNM drums to WCS.

Table 1-2: Contaminants of Concern (Containerized IDW Waste)

Contaminant of Concern (COC)
Cadmium
Lead
Mercury
PCB (Aroclor 1254/1260)
Radium (226 / 228)
Thorium (230 / 232)
Uranium

Contaminant of Concern (COC)
Asbestos

1.2 *Scope of Work*

The scope of services will include the preparation, packaging for shipment, loading and providing safe transportation of FUSRAP IDW and Legacy waste from the current storage location on the NFSS Site to a designated off-site disposal facility accepted by USACE. A full inventory of the wastes and containers present was included in the USACE SOW. The work will be performed in accordance with all applicable, relevant and appropriate Federal, State and Local laws and regulations, as well as USACE guidance and disposal facility requirements.

2.0 HAZARD ASSESSMENT

Section 2.2 of the APP lists the definable features (phases) of work for this project. AHAs for each phase are included in Appendix A of the APP or will be submitted and approved before commencement of the operation. The AHAs should be revised for site-specific activities and reviewed with work crew before commencing any work.

Table 2-1: Referenced SOPs and AHAs Assessment

Referenced SOPs and AHAs Assessment:	
SOPs applicable to this project or task order (refer to APP Appendix D for table of contents of SOPs) :	
SOP ESQ-1.6 Employee ESQ Training	SOP ESQ-8.3 Blood Borne Pathogen
SOP ESQ-1.8 Drug Free Workplace	SOP ESQ-8.5 Heat Stress Prevention
SOP ESQ-2.2 Incident Reporting and Investigation	SOP ESQ-8.6 Hearing Conservation
SOP ESQ-5.1 Site Control	SOP ESQ-8.7 Air Monitoring
SOP ESQ-5.3 Mobile Construction Equipment	SOP ESQ-8.8 Biological Hazards
SOP ESQ-5.4 Motor Vehicle Operations	SOP ESQ-9.3 Waste Management Documentation
SOP ESQ-5.7 Electrical Safety	SOP HS-025 Emergency Response
SOP ESQ-5.8 Hand and Power Tools	SOP ES-606 Safe Drum Handling and Sampling
SOP ESQ-5.9 Fire Protection	
SOP ESQ-5.10 Hazard Communication	
SOP ESQ-5.13 Back Injury Prevention	
SOP ESQ-6.1 Personal Protective Equipment	
SOP ESQ-8.1 Contamination Control	
SOP ESQ-8.2 Medical Surveillance	
AHAs	
Mobilization and Site Preparation*	
Sampling and Analysis*	
Repackaging / Overpacking Containers*	
Preparation of Containers for Loading*	
Release Surveys for Shipping Containers*	
Loading of Containers*	
Pump Out of Storage Tanks (liquid waste)*	
Sizing of Storage Tanks*	

Notes:
ESQ – Environment, Safety, Quality
ENV - Environment

Table 2-2: Referenced SOPs and AHAs Assessment

UXO known or suspected to be present? Yes □ No X	**UXO** support and plans provided: Yes □ No X
Lifts Yes □ No X	
Critical □ **Ordinary** □	

Excavations	Yes □	No X

Biological Hazards: Yes

Notes:
UXO – unexploded ordnance

2.1 Chemical Hazards

Table 2-2 identifies the hazards of the chemical contaminants and commonly used products on this site.

Table 2-3: Site Contaminants and Site Materials

Site Contaminants						
Chemical	**Media (e.g. Solid / Liquid)**	**PEL**	**TLV**	**Route of Entry**	**Symptoms / Target Organs**	**Fire/ reactivity Hazards**
Cadmium	Solid / Liquid	0.005 mg/m^3 (TWA)		inhalation, ingestion	pulmonary edema, dyspnea (breathing difficulty), cough, chest tightness, substernal (occurring beneath the sternum) pain; headache; chills, muscle aches; nausea, vomiting, diarrhea; anosmia (loss of the sense of smell), emphysema, proteinuria, mild anemia; [potential occupational carcinogen] / respiratory system, kidneys, prostate, blood	Strong oxidizers; elemental sulfur, selenium & tellurium
Lead	Solid / Liquid	0.05 mg/m^3 / 0.03 mg/ m^3 (Action Level)	0.05 mg/m^3	inhalation, ingestion, skin and/or eye contact	lassitude (weakness, exhaustion), insomnia; facial pallor; anorexia, weight loss, malnutrition; constipation, abdominal pain, colic; anemia; gingival lead line; tremor; paralysis wrist, ankles; encephalopathy; kidney disease; irritation eyes; hypertension / Eyes, gastrointestinal tract, central nervous system, kidneys, blood, gingival tissue	Strong oxidizers, hydrogen peroxide, acids

Site Contaminants

Chemical	Media (e.g. Solid / Liquid)	PEL	TLV	Route of Entry	Symptoms / Target Organs	Fire/ reactivity Hazards
Mercury	Solid / Liquid	0.1 mg/m^3 (TWA)	0.05 mg/m^3 [skin] - TWA C 0.1 mg/m^3 [skin]	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation eyes, skin; cough, chest pain, dyspnea (breathing difficulty), bronchitis, pneumonitis; tremor, insomnia, irritability, indecision, headache, lassitude (weakness, exhaustion); stomatitis, salivation; gastrointestinal disturbance, anorexia, weight loss; proteinuria / Eyes, skin, respiratory system, central nervous system, kidneys	Acetylene, ammonia, chlorine dioxide, azides, calcium (amalgam formation), sodium carbide, lithium, rubidium, copper
Polychlorinated Biphenyl	Solid	0.5 mg/m^3 (TWA)	0.001 mg/m^3 (Ca TWA) – NIOSH REL	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation eyes, liver damage; reproductive effects; [potential occupational carcinogen] / Skin, eyes, liver, reproductive system	Strong oxidizers
Asbestos	Solid	0.1 fiber/cm^3 (TWA)	0.1 fiber/cm^3 (REL)	inhalation, ingestion, skin and/or eye contact	Asbestosis (chronic exposure): dyspnea (breathing difficulty), interstitial fibrosis, restricted pulmonary function, finger clubbing; irritation eyes; [potential occupational carcinogen] / respiratory system, eyes	None reported

Notes
L -liter
mg/m^2 – milligrams per cubic meter
REL – recommended exposure limit
NIOSH - National Institute for Occupational Safety and Health
TLV – Threshold Limit Value
TWA – time weighted average

Site Materials						
Chemical	**Concentration and Media (e.g. ppm Soil)**	**PEL**	**TLV**	**Route of Entry**	**Symptoms / Target Organs**	**Fire/reactivity Hazards**
Gasoline	Liquid	1.0 ppm / ST 5 ppm (Benzene)	0.1 ppm / ST 1 ppm (Benzene)	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation eyes, skin, mucous membrane; dermatitis; headache, lassitude (weakness, exhaustion), blurred vision, dizziness, slurred speech, confusion, convulsions; chemical pneumonitis (aspiration liquid); possible liver, kidney damage; [potential occupational carcinogen] / Eyes, skin, respiratory system, central nervous system, liver, kidneys	Class IB Flammable Liquid: Fl.P. below 73°F and BP at or above 100°F. / Strong oxidizers such as peroxides, nitric acid & perchlorates
Diesel Fuel	Liquid	100 mg/m^3 (Ethylbenzene)	100 mg/m^3 (Ethylbenzene)	inhalation, skin absorption, ingestion, skin +/or eye contact	Eye irritation, pulmonary function changes; [potential occupational carcinogen] / Eyes, respiratory system	

Notes:
ppm – parts per million

2.2 Radiological Hazards

The COCs associated with the containerized waste include Ra-226, Th-230, Th-232 and Total U. Site radiological hazards and the radiation control program are discussed in detail in the site-specific RPP in Appendix E (Supplemental Plan 4 of this APP).

3.0 PERSONAL PROTECTIVE EQUIPMENT

3.1 *Selection*

Unless otherwise approved by Project SSHS, all activities will include at minimum American National Standards Institute (ANSI) approved hard hats, safety-toe footwear, safety glasses with side impact protection and high visibility vests (See Section 11 of the APP). Table 3-1 summarizes the personal protective equipment (PPE) anticipated during the planned field activities.

Table 3-1: PPE Selection

Activity	Respiratory Protection	Body Protection / Type	Hand Protection (nitrile, leather gloves)	Eye/Face Protection (safety glasses, splash goggles, splash shield)	Hearing Protection
Mobilization/ Site Preparation	NA	Level D	Leather palm work gloves	Safety glasses	Plugs or muffs if necessary, based on equipment use
Dose Rate Survey of LSA Containers	NA	Level D	Nitrile or chemical resistant gloves	Safety glasses	Plugs or muffs if necessary, based on equipment use
Repackaging / Overpacking of Waste Containers	NA	Level D	Leather palm work gloves	Safety glasses	Plugs or muffs if necessary, based on equipment use
Loading of Containers	NA	Level D	Leather palm work gloves	Safety glasses	Plugs or muffs if necessary, based on equipment use
Release Surveying	NA	Level D	Nitrile or chemical resistant glover	Safety glasses	None
Pumping of Liquids from AST's	NA	Level D / Modified D (splash protection)	Nitrile or chemical resistant glover	Safety glasses / face shield (splash hazards present)	Plugs or muffs if necessary, based on equipment use
Demo / Sizing of AST's	NA	Level D	Leather palm work gloves	Safety glasses	Plugs or muffs if necessary, based on equipment use
Site Restoration/ Demobilization	NA	Level D	Leather palm work gloves as needed	Safety glasses	Plugs or muffs if necessary, based on equipment use

Note:
NA – not applicable

3.2 *Use and Limitations*

Read and follow all manufacturer instructions regarding product use and limitations!!!

Hand protection – Use gloves described in Table 3-1. Nitrile or chemical protective gloves are meant for incidental contact. Change gloves in the event of immersion unless specifically selected for that purpose. Inspect frequently and change gloves on signs of contamination, and when protection is compromised by wear and tear. Gloves will also be changed at each sample collection location.

Eye/face protection – Wear protection prescribed in Table 3-1. Discard when protection is scratched or worn impacting visibility. Lens shade will be selected based on hazard, following SOP ESQ-6.1 (Task Instruction 6.1.02).

Hearing Protection – Wear hearing protective devices in accordance with manufacturers' instructions, including fitting and insertion. Use of specific devices will be limited to exposures within the noise reduction ratings.

3.3 *Work Mission Duration*

Work mission durations will be limited to accommodate acceptable service life of the PPE.

Where PPE may cause a hazard, such as heat stress, work mission duration will be determined in the AHA by the SSHS with the assistance of the ESQ Manager. Employees must exit the exclusion zone for rest and/or monitoring in accordance with the established schedule.

3.4 *PPE Maintenance and Storage*

It is important that all PPE be kept clean and properly maintained. Cleaning is particularly important for eye and face protection where dirty or fogged lenses could impair vision. Employees must inspect, clean, and maintain their PPE according to the manufacturers' instructions before and after each use. Supervisors are responsible for ensuring that users properly maintain their PPE in good condition.

Personal protective equipment must not be shared between employees until it has been properly cleaned and sanitized. PPE will be distributed for individual use whenever possible. Where employees provide their own protective equipment, ECC will be responsible to assure its adequacy, including proper maintenance, and sanitation of such equipment.

3.5 *PPE Decontamination and Disposal*

It is anticipated that most of the PPE utilized on the project, beyond the basic PPE elements (hard hat, safety glasses, steel-toed boots, leather gloves), will be of a disposable nature (nitrile or other chemical gloves gloves, ear plugs). Contaminated PPE will be collected and placed in an existing LSA waste container for disposal at the designated facility. Based on the contaminants present and their concentrations it is not anticipated that disposable PPE will require special handling separate from the present waste stored at NFSS.

Ear muffs, safety glasses, and other non-disposable forms of PPE will be routinely wiped clean of any visible contamination after each use.

Refer to Section 11.4.4 of the APP for detailed information pertaining to personal decontamination procedures.

3.6 *PPE Training and Proper Fitting*

Users will be trained on the selection and use and limitations of PPE. Each affected employee will demonstrate an understanding of the training specified in this section, and the ability to use PPE properly, before being allowed to perform work requiring the use of PPE.

Should ECC have reason to believe that any affected employee, who has already been trained, does not have the understanding and skill required of this section, the employer will re-train that employee.

Gloves, head gear, and footwear must fit properly to avoid tripping and snagging hazards or constriction and tearing. Hearing protection will be checked by the user and SSHS for proper fit and must be inserted/worn in accordance with manufacturer instructions.

3.7 *PPE Donning and Doffing Procedures*

The SSHS will train employees and demonstrate proper donning and doffing procedures for PPE ensembles worn in exclusion zones during site orientation.

3.8 *PPE Inspection Procedures*

Each person who is required to wear PPE will inspect their equipment prior to, during and after each use. Defective or damaged equipment will not be used. Heavily contaminated PPE that cannot be adequately cleaned will be discarded. Stored PPE will be inspected every month to ensure that it has not been damaged and is suitable for use. Workers who wear PPE in the field will take note of the condition of the PPE worn by their co-workers and inform them of any apparent problems, such as, missing equipment, tears in protective clothing, excessive contamination, improper use of PPE, inadequate PPE, etc.

3.9 *Evaluation of Effectiveness of PPE Program*

The SSHS will inspect the jobsite each day and as frequently as necessary to ensure that PPE has been properly selected and is being used as designed. The SSHS will also inspect PPE stored for emergency use every month. Similar PPE inspections will be conducted by ECC's Project Health and Safety Manager (PHSM) during scheduled, quarterly visits of the project site.

4.0 MEDICAL SURVEILLANCE

Employees on this project whose work involves potential exposure to site contaminants will be included in the medical surveillance program. Details of the Medical Surveillance Program are included below in Sections 4.1 and 4.2, and in Section 10.0 of the APP for this project.

4.1 *General*

All field personnel will have a current medical exam clearance (physician's written opinion) in accordance with OSHA standards prior to entering regulated work areas in accordance with 29 CFR 1910.120. ECC uses the services of WorkCare, whose Principal is Dr. Peter Greaney, a Board Certified Occupational Physician to review all exams and provide the clearances, which include an assessment of employee ability to wear respiratory protection and PPE safely.

Complete results of each individual's medical examination results are maintained by the medical provider and will not to be kept on-site. The SSHS will ensure appropriate subcontractor's medical screenings are completed, documented, and these records are available at the work site.

Additional medical monitoring may be required for workers under other regulations (e.g., Department of Transportation drivers).

4.2 *Special Medical Exams and Biological Monitoring*

Physiological monitoring for heat stress will be performed in accordance with ECC SOP ESQ-8.5 (Heat Stress Prevention) for environmental temperatures that exceed the action level for monitoring.

4.2.1 Radiological Medical Monitoring

Each employee involved in field activities will also be required to provide the following radiological and medical surveillance information for recordkeeping:

- Medical clearance for site work
- Radiation dosimetry records for the current year

5.0 HEALTH AND HAZARD MONITORING

Table 5-1 below lists the monitoring requirements and response actions for this project. All direct and integrated air monitoring equipment will be properly calibrated before and after each period of use in accordance with the manufactures' instructions and standard industrial hygiene practice.

At the discretion of the SSHS/ESQM direct reading and indirect monitoring equipment will be utilized during repackaging and load out activities to evaluate potential radioactive and chemical hazards to determine the effectiveness of control measures and to evaluate the PPE requirements. Monitoring for radioactivity is discussed in the RPP (SP-4) Appendix E.

ECC's monitoring program will be performed by trained personnel who are knowledgeable in calibration of the equipment and interpretation of results. Personnel performing testing and monitoring will be trained in testing and monitoring procedures and hazards. Monitoring equipment will be used, inspected, maintained, and properly calibrated in accordance with the manufactures' instructions and standard industrial hygiene practice.

Table 5-1: Health and Hazard Monitoring

Real Time (Air, noise, heat, radiation, light)			
Instrument / Contaminant	**Frequency**	**Action Levels**	**Actions/Upgrade and Rationale**
Multi-gas Meter / 02/LEL/H2S/CO with VOC	During repackaging activities – initial Spill / release of container contents (liquids / soil)	0_2-<19% & >22% LEL>5% Total VOCs - >background levels, will investigate source, > 5 ppm stop work CO - 5 ppm H_2S - 1 ppm	Stop work if action levels are exceeded, and notify PHSM
Noise Monitoring	Prior to the start of noise generating activities	85 dBA	Implement hearing conservation program & deploy appropriate hearing protection PPE
Heat Stress Body Tem / Heart Rate Monitoring	Beginning of shift & in accordance with Table 2 of the ECC SOP		
Integrated Personal			
Contaminant	**Estimated Frequency (# of samples)**		**Duration / Actions & Uprgade**
NA	Not Required		NA

Notes:
LEL – Lower explosive limit
CO - Carbon Monoxide
VOC - Volatile Organic Compound
dBA - Decibels
H_2S –Hydrogen sulfide
WBGT - Wet Bulb Globe Temperature
NA – Not applicable

6.0 CONTAMINATION CONTROL, SANITATION AND WASTE MANAGEMENT

The following sections describe the contamination control during the field activities.

6.1 *Work Zones*

Access to each site is limited to authorized project personnel, approved subcontractors and their employees, and local/State/Federal agency staff escorted by site personnel. Access to the site will be done through the main security gate where all personnel will sign in.

The actual site associated with the containerized wastes and load out activities, will be considered the Work Zone Delineation. If multiple locations are used during these activities then each area will be set up as a separate and distinct WZ. The perimeter of each site will be properly delineated (i.e., caution tape or high visibility fencing or equivalent) and within the site perimeter the following work zones will be established:

6.2.1 Support Zone

The Support Zone (SZ) is located outside the Contamination Reduction Zone (CRZ) and within the Site Perimeter. The support zone is an uncontaminated (clean) area where personnel will not be exposed to hazardous materials or contaminants.

6.2.2 Contamination Reduction Zone

The CRZ is located in between and serves as a buffer between the SZ and the Exclusion Zone (EZ). The CRZ is intended to prevent the spread of contamination and is utilized for both personnel and equipment decontamination. The CRZ will be the access control point at which full body frisking will be preformed. The RPP provides further detail on this.

6.2.3 Exclusion Zone

The EZ is the work area where, based on planned activities, there is potential for worker exposure to site contaminants or airborne radiological contamination. The EZ is bounded by the CRZ and accessed only through the Contamination Reduction Corridor (CRC). The exclusion zone perimeter will be delineated with caution tape or high visibility fencing.

6.3 Decontamination Procedures

Heavy machinery and vehicles

Dry decontamination with shovels, mallets, etc. to remove gross contamination and then broom or brush swept to a clean surface condition. Wet decontamination procedures are not planned for this project. If conditions change and wet decontamination becomes necessary, it will be conducted at the central staging area and within the appropriate work zone (i.e. EZ, CRZ or CRC). No wet decontamination will be performed at individual sites.

Hand Tools, Power Tools, and other Tools/Supplies:
Remove gross contamination by appropriate means and then broom or brush swept to a clean surface condition.

Personnel:
The importance of good hygiene practices will be emphasized with all site workers. Upon exiting the EZ and CRZ, workers and/or site visitors will enter the CRZ and carefully remove all designated PPE, wash their hands, face, and forearms prior to eating, drinking or smoking. Smoking, eating and drinking will only be allowed in clean work areas (i.e. SZ). Decontamination of personnel associated with any chemical contaminants is further described in Section 11.4.4 of the APP. For decontamination procedures associated with radiological contamination refer to the applicable section of the RPP (Appendix E of the APP, SP-5).

6.4 Engineering and Special Work Practices

If needed, dust control will be conducted during the preparation, packaging for shipment, loading and providing safe transportation of FUSRAP IDW and Legacy waste from the current storage location on the NFSS Site to a designated off-site disposal facility accepted by USACE. Because of the indoor nature of the operations, excessive dust generation which would require specific dust control measures is not expected during preparation, staging, and loading of drums for shipment. ECC will utilize good housekeeping practices to ensure that dust and dirt in the operations area is kept to a minimum and regularly cleaned. As appropriate, ECC will ensure and verify that dirt in the operations area does not contain chemical or radiological contamination.

6.5 Buddy System

The use of the buddy system will be practiced during all site activities. Under no circumstances will a worker be allowed to perform field work activities without a partner.

6.6 Waste Materials Management

Disposable PPE used during the scheduled field activities will be managed separately from general soil waste (refuse). PPE waste will be collected and placed inside the existing LSA waste containers and disposed of at a licensed facility.

It is not anticipated that decon water will be generated during equipment decontamination procedures, as it is not anticipated that equipment will come in contact with the waste. However, in the event it is necessary to perform wet decontamination, all water generated will be collected and will be disposed of along with the existing liquid waste stream..

6.7 Sanitation

See Sanitation Plan, Supplemental Plan 5 of the APP.

7.0 EMERGENCY PLANNING

See the Emergency Action Plan, Supplemental Plan 2 to the APP.

8.0 PRE-ENTRY BRIEFING

As discussed in Section 6 of the APP, all personnel entering the site will be provided with site-orientation training, and must be present at the daily tailgate meeting.

9.0 EFFECTIVENESS OF PLAN

The effectiveness of this SSHP will be determined by the inspections listed in Section 7 of the APP, as well as from incident investigations and input by site personnel including reports of hazards, safety observations, and suggestions for improvement.

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SP 2

EMERGENCY ACTION PLAN

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Supplemental Plan 2
Emergency Action Plan

1.0 Purpose

(EM 385-1-1, Sept 15, 2008 Section 01.E)
The purpose of this program is to establish the ECC Emergency Action Plan and provide guidance for implementation at the NFSS T&D project sites.

2.0 Scope

The ECC Emergency Action Plan applies to all ECC employees, their subcontractors, and lower tier subcontractors as well as client and visitors that may be at the NFSS T&D project site during an Emergency situation. This program was designed to establish ER and contingency guidelines for possible emergency conditions that might occur at the NFSS T&D project site. This program would also cover those emergencies that may take place at the site areas within the installation. Although we may not be directly associated with an installation-related emergency we might need to react due to the impact that the emergency may have on NFSS / LOOW operations including ECC's project sites due to our location within the installation.

This plan covers the procedures that project personnel shall follow while working on-site. Based on the SOW it is anticipated that routine field activities at each work site will be performed with two or more workers on-site as part of the buddy system being implemented.

In the event of an emergency during field activities, ECC's Senior/Project Manager, or their designee, will have the responsibility as the response manager and will determine the appropriate level of response required to manage the emergency.

This program will cover the topics listed below at a minimum. The minimal topics are:

- Pre-Emergency Planning
- Personnel Roles and lines of Authority
- Notification & Rescue
- Emergency Recognition and Prevention
- Safe Distances and Safe Zones
- Site Security and Controls
- Evacuation Routes and Procedures
- Emergency Medical Treatment, First Aid/CPR
- Spill or Release Contingency Plan
- Emergency Alerting and Response Procedures
- Personnel Protective Equipment & Emergency Equipment
- Site Topography, Layout, & Prevailing Weather conditions
- Reporting Procedures
- Training

3.0 Pre-Emergency Planning

(EM 385-1-1, Sept 15, 2008 Section 01.E)
This section includes information needed for pre-planning for emergencies.

3.1 Emergency Contact List

EMERGENCY CALL LIST AND PROJECT ORGANIZATION		
	Name **Organization**	**Phone number(s)**
Fire/Police/Medical/Emergency	Youngstown Town of Lewiston	911 Non Emergency from 8 AM to 4 PM 716.754.8477
Hospital	Mount Saint Mary's Hospital & Health Center 5300 Military Road Lewiston, NY 14092	(716) 297-4800 – Main Phone
National Response Center	USCG	800-424-8802
Chemtrec (24-Hr.)		800-262-8200
EPA (RCRA – Superfund Hotline)	USEPA	800-424-9346
Poison Control	National Capital Poison Center	800-222-1222
Client Representative (COR)	[redacted]	[redacted] (FUSRAP office)
ECC Program Manager	[redacted]	[redacted] (office) (mobile)
ECC Project Manager	[redacted]	(office) (mobile)
Site Superintendent	[redacted]	[redacted] (mobile)
ECC Project Health & Safety Manager	[redacted]	(office) (mobile)
ECC Project Health Physicist	[redacted]	(office) (mobile)
ECC Site Safety & Health Supervisor	[redacted]	(mobile)
ECC HOTLINE		[redacted]

POST THIS LIST NEAR TELEPHONES. KEY PROJECT PERSONNEL ARE TO HAVE A COPY OF THIS LIST READILY AVAILABLE AT ALL TIMES

3.2 Planning Meeting

ECC's field project management team, along with NFSS (if requested), and Subcontractors' designated H&S representatives will hold a pre-emergency response meeting during mobilization and prior to fieldwork to discuss and define the following:

- Personnel roles and line of authority;
- Safe distances from emergency location;
- Evacuation/Hospital route, procedures, and pre-determined meeting place;
- Medical emergency and communication procedures;
- Emergency alert and response procedures; and
- Emergency equipment and its location on-site.

Annually or as needed, the SSHS and the PM will review the plan and make any changes necessary to keep the plan current with new or changing site conditions and information.

4.0 Personnel Roles and Lines of Authority

During all emergencies, the ECC Senior/Project Manager or Site Superintendent will serve as the Emergency Coordinator and the SSHS will support the Emergency Coordinator in the safety officer role. Together they will assess, abate and/or contain the emergency.

Upon discovering an emergency, the following series of events will occur:

1. Call 911 and/or designated on-base emergency notification number (##)
2. Notify onsite personnel;
3. Establish communication (internal / external);
4. Notify Lewiston / Youngstown Emergency Response through internal notification phone numbers
5. Check the scene;
6. Assess existing and potential hazards to site personnel and off-site populations;
7. Stop work activities, if necessary;
8. Lower background noises (shut down equipment);
9. Begin emergency procedures (order is dependent on the situation);
10. Survey injuries & casualties;
11. Access "Airway, Breathing, Circulation" of each injured individual;
12. Request aid, if necessary;
13. Allocate resources required to abate or control the emergency;
14. If a certified EMT is in attendance, help extricate and stabilize victims; and
15. Evacuate all non-essential personnel.

5.0 Emergency Recognition and Prevention

Conditions that may lead to an emergency situation during field activities will be addressed in specific AHAs as tasks are identified. These conditions include:

- Incident involving a serious injury;
- Fire;
- Vehicle or heavy equipment collisions or rollovers;
- Environmental release;
- Severe weather; and,
- Medical emergency due to heat/cold stress, physical/physiological incident, allergic reactions.

On a day to day basis individuals should be constantly alert for indicators of potentially hazardous conditions and exposures. Proper signage should be placed throughout work areas at each site to warn/caution employees of hazard areas and what PPE is required. Rapid recognition of dangerous situations can avert an emergency. Before daily work assignments, regular "tailgate/toolbox" safety meetings shall be held. Discussions at this meeting should include, but not limited to:

- Specific Tasks to be performed (Plan of the Day)
- Time Constraints (e.g. rest breaks, work day duration/hours)
- Hazards that may be encountered, including their effects, how to recognize symptoms and monitor them, concentration limits, or other danger signals
- Forecasted hazardous weather conditions and monitoring throughout the work day
- Near misses or other safety-related issues observed from the previous days work
- Emergency Procedures

After daily work assignments, or the following toolbox/tailgate meeting, a debriefing session should be held to review all tasks accomplished, and any problems observed or encountered can be discussed at this time. It is from the daily sessions that modifications to the work and safety plans can be made if needed. It also gives the workers a chance to let the supervisors know about areas of concern that management has not noticed.

6.0 Safe Distances and Safe Zones

The safe places of refuge are the areas in which accounting of all employees will be performed. This can be critically important for identifying individuals that did not get out and for estimating where they may be. Since there will be many different work areas (sites) where work will be conducted, safe areas will be defined prior to the start of work at each site.

Areas surrounding the danger area need to be controlled during emergencies by prohibiting unauthorized personnel from entering the designated Exclusion Zone. Trained emergency response employees will control entry and exit in the area. Site security and control is the responsibility of the Senior/Project Manager or their designee.

All employees that are not trained in emergency response and who will not be needed during the response operation will be considered non-essential and evacuated from the danger zone.

The Emergency Coordinator (ECC Senior/Project Manager), in consultation with the SSHS, will determine safe distances and places of refuge when necessary. Safe entry and egress into each of the work sites will have been developed in the pre-planning phase of the Emergency Action Plan (3.0).

Safe Distances depend upon several factors including type of emergency (i.e., medical, chemical, and weather), chemical involved, volatility of chemical, location of spill and availability of monitoring equipment.

For all emergencies the pre-designated entry/exit route will be from the Exclusion Zone to the Support Zone and will be opened by emergency response teams. Safe zones will be established according to these Work Zones and current weather conditions.

The SSHS will monitor the surrounding areas with appropriate air monitoring equipment to ensure hazardous materials or contaminants do not migrate outside the Exclusion Zone.

7.0 Site Security and Control

Site control procedures for NFSS project site include the main access point in the facility which is manned 24/7 by a security detail. Once inside the facility the NFSS T&D project site will establish work zones in order to prevent unauthorized access and to secure the work area. These work zones will be established and delineated with, at a minimum, caution/danger/hazard/ construction line tape or otherwise with temporary construction fencing of the complete perimeter with secured access and egress locations and with appropriate work area signage.

The SSHS, as well as site workers, will stay alert for any unauthorized entry and take necessary actions to control the work area.

Authorized site visitors may visit the site upon meeting the following conditions:

- Receiving site hazard and safety instructions from the SSHS; to include Emergency Response procedures briefing;
- Reviewing and complying with the essential elements of the APP;
- Presenting their 40/8-Hr Hazwoper training certification and medical clearance documentation, if required by the APP;
- Using their own, or provided PPE, to enter regulated work areas per the APP; and,
- Reporting any observed unsafe act and/or condition at, or affecting, the work site.

8.0 Evacuation Routes and Procedures

Evacuation Routes and rally points will be developed by the SSHS. The SSHS will obtain from the NFSS site, the designated facility rally points and incorporate this information into the EAP. The information will be reviewed as part of the Site Orientation Training and will be posted on the safety bulletin board or other designated locations as indicated above.

The Senior/Project Manager and SSHS will be responsible for training the site personnel in the proper evacuation procedures and for arranging for accountability of all personnel in the event of an evacuation.

Generally, this will consist of designating a person to take the daily sign-in sheet(s) to the rally point and taking a roll call.

9.0 Decontamination Procedures (HAZ Waste Operation)

In case of an emergency involving personnel the following will be implemented:

1. If decontamination cannot be done at the site, the victim will be wrapped in blankets, plastic, or rubber to reduce the possibility of contamination to other personnel.
2. The medical facility will be informed of the potential contamination and the SSHS will accompany the victim with scissors, nitrile gloves, spray bottle, paper towels and a plastic bag. The SSHS will distribute the gloves and assist medical personnel in removing PPE from the victim.
3. The SSHS will collect all PPE, clothing from the injured, the blanket, paper towels used to clean surfaces, and any personal items worn by medical personnel that may have been significantly contaminated. These items will be contained in the plastic bag, which will be sealed and returned to the site for proper disposal.

10.0 Emergency Medical Treatment (First Aid/ CPR/ AED)

(EM 385-1-1, Sept 15, 2008 Section 03.A)

The Site Supervisor and SSHS will be certified in both First Aid and CPR. At a minimum, at least two personnel working on the project during field activities will be certified in both First Aid and CPR and available on the project for the project duration. A first aid kit must be maintained on site and checked weekly (EM 385-1-1 section 03.B.02). First aid emblem should also be attached to field trailer containing first aid kits, next to all doors. A log of first aid treatment and materials used will be kept on or adjacent to the first aid kit.

If an injury or illness requires more than first aid, but is not an emergency, the employee will be taken to a pre-determined clinic for examination or observation, after contacting the PHSM and ECC Corporate Medical Provider, Dr. Greaney, or his alternate at WorkCare (1-800-455-6155).

If the injury or illness is considered an emergency, Lewiston / Youngstown emergency services will be contacted to arrange for transporting the victim to the local hospital or emergency care facility.

11.0 Rescue Operations

Where employees are engaged in one of the following activities or environments, a rescue plan will be incorporated into the Activity Hazard Analysis or appropriate site-specific plan:

- Working at elevations
- Working alone
- Working in remote environments
- Work conducted on or over water

Based on the scope of work there are no planned field activities that will require the preparation of an activity-specific Rescue Plan.

12.0 Spill or Release Contingency Plan

Spill and discharge control measures include:

- Provide for secondary containment where required by regulation or contract and where a spill could result in significant hazard or economic loss;
- Provide other appropriate engineering controls to prevent environmental releases to the ground, water or air. These will be identified in AHAs or environmental permits (or equivalent).
- Provide equipment and personnel to perform emergency measures to mitigate spills and control their spread;
- Dispose of contaminated materials; and,
- Provide a decontamination program to clean previously uncontaminated areas.

In the event of a spill or release, ECC will:

- Notify the client representative immediately;
- Take immediate measures to control and contain the release, including contacting local emergency service providers;
- Isolate and contain hazardous release areas;
- Deny entry to the spill area to unauthorized personnel;
- Do not allow anyone to touch spilled material;
- Stay upwind, keep out of low areas;
- Keep combustible materials away from the spilled material;
- Use water spray to reduce dust, as needed;
- Collect samples for analysis to determine that cleanup is adequate; and,
- If the release is from tanks, prevent the discharge from traveling beyond site boundaries.

13.0 Emergency Alerting and Response Notification

An employee alarm system will consist of the use of air horns or verbal instructions, either directly or via radio.

Telephones will be used to contact on-site emergency responders. Contact lists, included in the APP, will be posted in the site offices, and a copy will be kept in site vehicles, see attachment - Emergency Numbers list. The following information will be communicated:

- Name of the person reporting the emergency;
- Telephone number at the location of the person making the call;
- Name of the injured person, if known;
- Description of the emergency;
- Exact location of the emergency;
- Actions already taken; and,
- What assistance is needed.

14.0 PPE and Emergency Equipment

(EM 385-1-1, Sept 15, 2008 Section 05.A-K)

14.1 Personal Protective Equipment (PPE)

PPE required for any work on the site includes ANSI approved safety to footwear, eye protection and head protection. Sleeved shirts and long pants will be worn at a minimum. Employees exposed to heavy equipment or vehicular traffic will wear ANSI/ISEA Class 2 high visibility garments. Personnel are to refer to the applicable AHA to verify the designated PPE for a specific task.

14.2 Emergency Supplies

At a minimum, the following emergency supplies will be immediately available for on-site use:

- Air horns;
- First aid equipment and supplies;
- Emergency eyewash station as per ANSI Z-358.1 if exposure to corrosive materials is present;
- Bloodborne Pathogen kit including PPE;
- Spill control material and equipment (i.e., absorbent, overpacks, booms, hand tools);
- Radio and Cell phone;
- Type ABC fire extinguisher, 10 lb. capacity, minimum of two; and
- A vehicle parked at an exit point.

Each field team will have quick access to a first aid kit, fire extinguisher, air horn and communications equipment.

15.0 Site Layout and Prevailing Weather Conditions

The NFSS work site is located within the NFSS/LOOW installation. The surrounding area is a combination of wooded, undeveloped and other uses. The sites are varied in nature, most are landfills and others are storage areas, etc.

Weather for this facility is typical for Northern New York. Severe weather for this geographic area includes thunderstorms and winter storms.

16.0 Reporting Procedures

(EM 385-1-1, Sept 15, 2008 Section 01.D)

All emergencies will be immediately communicated to the ECC Senior/Project Manager and SSHS who will initiate emergency response procedures mentioned above and open up communications with the designated Emergency Response teams, to include site specific teams (ECC and subcontractor designated Emergency Staff), and local emergency response teams.

After the response, ECC will prepare an Incident Report. It will include such things as a chronological history of the emergency, facts, action, personnel present, sample results (if taken), summary of injuries, and possible exposures. For spills and releases it will also include:

- Description of material spilled, including identity, quantity, and a copy of the MSDS or waste disposal manifest;
- Exact time and location of the spill, and the description of the area involved;
- Containment procedures utilized;
- Description of the cleanup procedure employed at the site, including disposal of spill residue; and,
- Summary of the communications ECC had with other agencies.

This report will be given to the client representative within 24 hours of the incident along with immediate verbal notification.

The report will also contain a critique of the response, and modifications to this plan will be made if necessary to adequately address any subsequent emergencies.

17.0 Training

ECC will communicate this Emergency Action Plan to project employees, subcontractors, and visitors, and provide information about where all employees are to proceed to (safe zones designated prior to the start of work at each site), and who and what roles employees will play during such emergencies. ECC will communicate employee information and training programs as detailed in this written emergency action plan.

Emergency action plan will be kept in a conspicuous location at all times. Additional postings will include the Emergency Numbers list and directions to the nearest medical facility.

The NFSS T&D project SSHS and Senior/Project Manager are responsible for the initial communication of this program and its requirements prior to the start of any project work, and again as new employees and or team members are brought on to the site prior to the start of their duties.

The Emergency Action Plan will be discussed during initial site training and discussed regularly during the Daily Tailgate Safety Meetings. The SSHS will conduct drills bi-annually or more frequently if conditions change and evaluate the response testing the effectiveness of the plan. The local responders may be asked to participate or observe the response. A critique of the drill will be documented.

Any modifications to this plan as a result of a critique of a drill or actual emergency, will be communicated to all site personnel during a tailgate safety meeting, and will be incorporated into the site orientation for new workers.

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DIRECTIONS TO MOUNT SAINT MARY'S HOSPITAL

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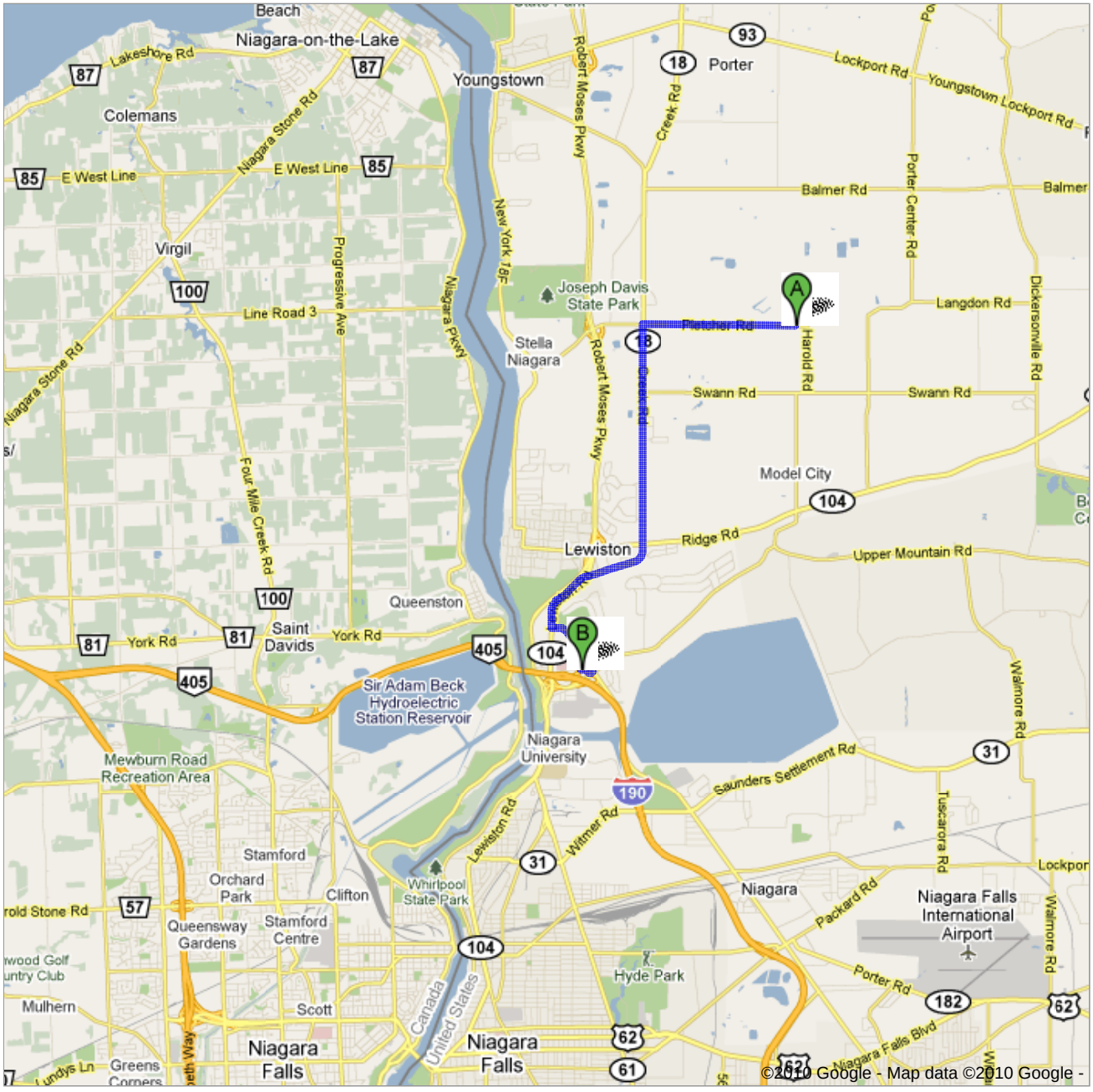
1397 Pletcher Rd, Youngstown, NY 14174

	1. Head **west** on **Pletcher Rd** toward **NY-18 W/Creek Rd** About 3 mins	go 1.7 mi total 1.7 mi
18	2. Turn **left** at **NY-18 W/Creek Rd** Continue to follow NY-18 W About 5 mins	go 3.2 mi total 4.9 mi
104	3. Take the ramp onto **NY-104 W/Lewiston Rd** About 1 min	go 0.9 mi total 5.7 mi
265	4. Turn **left** at **NY-265 S/Military Rd** About 2 mins	go 0.7 mi total 6.5 mi
	5. Take the 2nd **right** onto **Upper Mountain Rd**	go 151 ft total 6.5 mi
	6. Slight **right** onto the ramp to **Canada** Toll road	go 0.1 mi total 6.6 mi

Mount Saint Marys Hospital
5300 Military Road, Lewiston, NY 14092 - (716) 297-4800

Google maps

Directions to Mount Saint Marys Hospital
5300 Military Road, Lewiston, NY 14092 - (716) 297-4800
6.6 mi – about **11 mins**



SP 3

HAZARD COMMUNICATION PLAN

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Supplemental Plan 3
Hazard Communication Program

1.0 Purpose

(EM 385-1-1, Sept 15, 2008 Section 06.B.01)
The purpose of this program is to establish the ECC Hazard Communication Program and provide guidance for implementation at the NFSS T&D project site.

2.0 Scope

The ECC Hazard Communication program applies to all known hazardous substances in the workplace that ECC employees and their subcontractors may be exposed to under normal conditions of use or in a foreseeable emergency, such as equipment failure or rupture of containers, resulting from workplace operations.

Each hazardous material will be documented before being brought onto the job site. The Material Safety Data Sheets (MSDS) and proposed use and storage locations will be reviewed by the ECC Site Safety and Health Supervisor (SSHS) for approval. Site personnel will have access to the hazardous material inventory and MSDS file upon request.

ECC will communicate this hazard communication program to project employees and subcontractors, and provide information about chemical hazards and controls through MSDS, chemical inventory, chemical labeling, and chemical storage. ECC will communicate employee information and training programs as detailed in this written hazard communication program.

3.0 Material Safety Data Sheets

(EM 385-1-1, Sept 15, 2008 Section 06.B.01.c)
An MSDS will be available for each chemical in the Chemical Inventory List. A copy of the MSDS supplied by the manufacturer or distributor of the chemical will be kept with the SSHS. The SSHS will be responsible for obtaining MSDS for all hazardous chemicals or materials present at the NFSS T&D project site.

The SSHS will review incoming MSDS for new and important health and safety information. The SSHS is responsible for disseminating the MSDS information to the appropriate workers at the appropriate preliminary, initial and follow-up inspections of the DFW where the hazardous chemical or material is to be utilized for which the MSDS was written. Supervisors and employees will be informed of all new MSDS as soon as possible. If an MSDS is missing, a new MSDS will be requested from the manufacturer within 7 days.

Employees and/or subcontractors are responsible for reading the MSDS for substances they use.

4.0 Chemical Inventory

(EM 385-1-1, Sept 15, 2008 Section 06.B.01.a)
The NFSS T&D project site containing hazardous chemicals or materials must have a Chemical Inventory List. The inventory will be placed with the MSDS binder in a conspicuous location at all times. The SSHS is responsible for updating the Chemical Inventory List and adding the appropriate MSDS whenever a new chemical is brought on-site.

5.0 Chemical Labeling

(EM 385-1-1, Sept 15, 2008 Section 06.B.01.b)

ECC will not accept or release hazardous chemicals or materials for use unless the original container is clearly labeled with at least the following information: identity of the hazardous chemical(s); appropriate hazard warning statement; and the name and address of the manufacturer. If the hazardous chemical (s) or material (s) is transferred to a secondary container, the secondary container must be clearly labeled with at least the following information: identity of the hazardous chemical (s) or material (s) and the appropriate hazard warning statement. The preferred labeling system is the Hazardous Material Identical System (HMIS) system.

All labels must be legible, in English, and prominently displayed on the container. Labels will not be defaced or removed unless the container is immediately marked with the required information. Unlabeled containers should be immediately reported to the Site Supervisor or the SSHS. The name of the material that appears on the manufacturer's label will be the same as the name that appears in the chemical area or Chemical Inventory List as well as the MSDS.

6.0 Chemical Storage

(EM 385-1-1, Sept 15, 2008 Section 06.B.03)
Hazardous chemicals or materials will be properly stored in approved flammable storage lockers, corrosive storage lockers, shelves or cabinets.

All incompatible chemicals or materials will be properly separated and stored by hazard classes.

No open flames, heat sources or smoking will be allowed in the vicinity of flammable liquids or materials.

7.0 Employee Information and Training

(EM 385-1-1, Sept 15, 2008 Section 06.B.01.d)
Project employees and subcontractors will be trained on the hazards and proper uses of all hazardous chemical(s) or materials in their work area:

- At the time of their initial assignment;
- Whenever a new hazardous chemical(s) or material(s) is introduced into their area; and
- Whenever ECC or the subcontractor receives updated MSDS containing new information indicating significant increased risk or changes in the use of personal protective equipment.

Project employees and subcontractors will be trained in the following:

- Overview of the Hazard Communication Regulation (29 CFR 1910.1200) and the elements of ECC's Hazard Communication Program;
- Operations involving hazardous chemicals or materials in their work area and methods of detecting and identifying them;
- Location and availability of the MSDS and a written hazard communication program;
- How to read an MSDS and container labels;
- Physical properties and health effects of hazardous chemicals and materials and measures to be taken by the employee to protect themselves;
- Use of engineering controls, personal protective equipment and work practices to prevent or lessen exposure to hazardous chemicals or materials;
- Emergency and first aid procedures to follow in case of exposure to hazardous chemicals or materials.

For non-routine activities on the site, an Activity Hazard Analysis (AHA) will be developed, and employees and/or subcontractor will be trained in the hazardous chemicals or materials to be used or encountered when the AHA is discussed.

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SP 4

RADIATION PROTECTION PLAN

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FINAL
RADIATION PROTECTION PLAN

NIAGARA FALLS STORAGE SITE TRANSPORTATION AND DISPOSAL OF REMEDIAL INVESTIGATION DERIVED AND LEGACY WASTE
LEWISTON, NEW YORK

AUGUST, 2010

US Army Corps of Engineers ®
Buffalo District

Prepared for:
U.S. ARMY CORPS OF ENGINEERS
BUFFALO DISTRICT
Buffalo, New York
Formerly Utilized Sites Remedial Action Program

Contract Number W912P4-07-D-0005 DO 0004

Prepared by:
Environmental Chemical Corporation
1125 Route 22 West, Suite 310
Bridgewater, NJ 08807

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TABLE OF CONTENTS

LIST OF TABLES

ATTACHMENTS

NOTE: ECC's Agreement State Radioactive Materials License Implementing Radiological Standard Operating Procedures relevant to this plan are provided as an attachment. Applicable SOPs will be implemented in the field as appropriate and ensure compliance to this Radiation Protection Plan.

LIST OF ACRONYMS

ALARA	As Low As Reasonably Achievable
CEDE	Committed Effective Dose Equivalent
CFR	Code of Federal Regulations
CHP	Certified Health Physicist
cm^2	square centimeter
CRZ	Contamination Reduction Zone
DAC	Derived Air Concentration
DOE	Department of Energy
dpm	disintegrations per minute
dpm/100 cm^2	disintegrations per minute per 100 square centimeters
ECC	Environmental Chemical Corporation
ESQM	Environmental, Safety and Quality Manager
EZ	Exclusion Zone
FUSRAP	Formerly Utilized Sites Remedial Action Plan
GM	Geiger-Mueller
HAZWOPER	Hazardous Waste Operations and Emergency Response
HPT	Health Physics Technician
IDW	Investigation Derived Waste
MDA	Minimum Detectable Activity
MDC	Minimum Detectable Concentration
NFSS	Niagara Falls Storage Site
NRC	Nuclear Regulatory Commission
OSHA	Occupation Safety and Health Administration
PPE	Personal Protective Equipment
QCM	Quality Control Manager
RCA	Radiologically Controlled Area
RCOC	Radiological Contaminant of Concern
RI	Remedial Investigation
RML	Radioactive Materials License
RPP	Radiation Protection Plan
RWP	Radiation Work Permit
SOP	Standard Operating Procedure
SRSO	
SSHO	Site Safety and Health Officer
SSHP	Site Safety and Health Plan
SZ	Support Zone
TEDE	Total Effective Dose Equivalent
USACE	U.S. Army Corps of Engineers

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1.0 INTRODUCTION

This Radiation Protection Plan (RPP) was prepared by Environmental Chemical Corporation (ECC) under contract to the U.S. Army Corps of Engineers (USACE), Buffalo District. The RPP addresses preparation, loading, and transportation activities associated with the Remedial Investigation (RI) investigative derived waste (IDW) and Legacy waste at the Niagara Falls Storage Site (NFSS) located in Lewiston, New York (hereafter referred to as the 'Site'). This RPP is Appendix B of the Accident Prevention Plan (APP/Site Safety and Health Plans (SSHP) and is part of a set of plans including the Sampling and Analysis Plan (SAP), Contractor Quality Control Plan (CQCP), and the Waste Management, Transportation, and Disposal Plan (WMTDP). Section 1 of the SSHP provides information for the NFSS Formerly Utilized Sites Remedial Action Program (FUSRAP) site. This information includes location, physical description, history, previous investigations, and the radiological contaminants of concern (RCOC).

1.1 Purpose and Objectives

The Site possesses two waste streams; legacy waste left on-site by the United States Department of Energy (DOE) and IDW generated during multiphase RI activities and RI addendum activities. ECC has been selected by the USACE – Buffalo District under Contract Number W912P4-07-D-0005 Delivery Order 0004 (hereafter referred to as the "Contract"), to provide transportation and disposal services in support of the NFSS Site remediation. This facility has been identified as a FUSRAP site. This RPP is an appendix to the Site Safety and Health Plan (SSHP), and as such certain descriptive information is not repeated within this RPP document.

The purpose of this document is to establish radiation protection procedures for radiation protection from potential exposure to radiological hazards to ECC personnel, subcontractors, and government personnel involved with handling, loading and transportation of radioactively contaminated materials at the Site. This RPP is a working document and is subject to change based on review and the implementation of additional tasks. This RPP establishes the work practices necessary to help ensure the radiological protection of all personnel assigned to perform tasks on the Site, the local community, and the environment during Site activities. All project activities shall be performed in accordance with this RPP.

This document meets the requirements of the USACE, including ER 385-1-80, *Radiological Safety* (USACE, 1997a), ER 385-1-92*, Health and Safety for HTRW Activities* (USACE, 2003a), EM 385-1-80*, Radiation Protection Manual* (USACE, 1997b), and EM 385-1-1, Section 6E*, Safety and Health Requirements Manual, Ionizing Radiation* (USACE, 2003b). Site activities will be performed in accordance with this RPP, the SSHP, U.S. Nuclear Regulatory Commission (NRC) standards (NRC, 2004), Occupation Safety and Health Administration (OSHA) standards (OSHA, 2004), and other applicable local and federal statutes. ECC Standard Operating Procedures (SOPs) that are referenced within this RPP are radiological procedures from ECC's Agreement State Approved *Radiation Protection Plan (RPP) Revision 2* (ECC, 2007).

The levels of personal protection and procedures specified in this plan are based on the best information available from reference documents and current site data. Therefore, these recommendations represent the minimum health and safety requirements to be observed by personnel engaged in this project. Unforeseeable site conditions may warrant a reassessment of the recommended protection levels and controls. Revision to the RPP must have prior approval by the ECC Certified Health Physicist (CHP).

1.2 Site Information

The source of contamination is derived from legacy waste from the DOE and IDW from RI activities. The RCOCs identified for the NFSS site are radium-226 (Ra-226), thorium-230 (Th-230), thorium-232 (Th-232) and total uranium (Total U).

2.0 ORGANIZATIONAL STRUCTURE

Key project personnel are described in Section 2 of the SSHP for the NFSS project. This description includes the organizational structure of the project team, personnel responsibilities and authority, lines of reporting, phone numbers of key project personnel, and an organizational chart. The detailed description from the SSHP is summarized in Table B 2-1.

Table B 2– 1: KEY PROJECT PERSONNEL
Niagara Falls Storage Site
Lewiston, New York

Name	Title	Organization	Phone Number(s)
[redacted]	NFSS Project Manager	USACE Buffalo District	
[redacted]	Program Manager	ECC	[redacted]
[redacted]	Project Manager	ECC	[redacted]
[redacted] CIH, CSP	Corporate Health & Safety/ Environment, Safety, and Quality (ESQ) Program Manager	ECC	[redacted] (office) (fax) (mobile)
[redacted] CHMM	PHSM and Quality Control Manager (QCM)	ECC	[redacted] (office) (mobile)
[redacted] CHP	CHP	ECC	[redacted] (mobile)
[redacted] NRRPT	Site Health and Safety Supervisor (SSHO) and Health Physics Technician (HPT)	ECC	[redacted] (mobile)
[redacted]	Site Superintendent	ECC	[redacted] (mobile)

Notes:
CHMM = Certified Hazardous Material Manager
CHP = Certified Health Physicist
CIH = Certified Industrial Hygienist
CSP = Certified Safety Professional
ESQ = Environments, Safety and Quality
HPT = Health Physics Technician
PHSM =
QCM = Quality Control Manager
SSHO = Site Safety and Health Officer

3.0 HAZARD ASSESSMENT

Potential exposure to radiological contaminants is expected to be minimal for the NFSS project. All hazards will need to be evaluated prior to making a final determination of required levels of personal protective equipment (PPE). The hazards review will consider the level of contamination (hazardous and radiological), the environment in the work area, and the type of work being performed. The SSHO/HPT, in concurrence with the Environment Safety Quality Manager (ESQM) and CHP, will make final determination of radiological controls and levels of PPE prior to the start of site preparation and waste handling activities. Since higher levels of PPE can create or increase the stress of site workers, the extent of protective clothing required should be limited to the minimum required to protect against potential hazards.

3.1 Tasks To Be Performed

Task 1: Mobilization and Site Preparation.

Task 2: Sampling and Analysis.

Task 3: Repackaging / Overpacking Containers.

Task 4: Preparation of Containers for Loading.

Task 5: Release Surveys for Shipping Containers.

Task 6: Loading of Containers.

Task 7: Pump Out of Storage Tanks (liquid waste).

Task 8: Sizing of Storage Tanks

Task 9: Site Restoration and Demobilization

3.2 Hazard Communication

The SSHP discusses the methods used to comply with the OSHA Hazard Communication Standard 29 Code of Federal Regulations (CFR) 1910.1200.

Radiological Hazards

Table B 3-1 presents information on the RCOCs for the site. While monitoring will be performed to verify radiation levels and radionuclide concentrations present, it is not anticipated that these constituents pose a significant hazard to field teams.

Table B 3-1
Radiological Contaminants of Concern
Niagara Falls Storage Site
Lewiston, New York

Radionuclide	Symbol	Half Life	Principal Mode of Decay and Approximate Energies
Radium-226	Ra-226	1.6E3 yr	α (4.78, 4.60 MeV) γ (0.186 MeV)
Thorium-230	Th-230	7.7E4 yr	α (4.69, 4.62 MeV) γ (0.068, 0.142 MeV)
Thorium-232	Th-232	1.4E10 yr	α (4.01, 3.95 MeV) γ (0.059 MeV)
Uranium-234	U-234	2.4E5 yr	α (4.72, 4.78 MeV) γ (0.053, 0.121 MeV)
Uranium-235	U-235	7.04E8 yr	α (4.36, 4.39 MeV) γ (0.144, 0.186 MeV)
Uranium-238	U-238	4.47E9 yr	α (4.20, 4.15 MeV) γ (0.0496 MeV)

Notes:

MeV = million elctronvolts
Yr = year

4.0 PERSONNEL REQUIREMENTS

This section of the NFSS project RPP describes the training program and medical surveillance to be performed.

4.1 Training

The training requirements section of the SSHP addresses the required General Access, Respiratory Protection, and PPE training requirements for this project. This section also addresses the use of daily tailgate safety meetings and required information for recordkeeping. Radiological safety will be included as part of the daily safety meetings. In addition to the required information in the SSHP, each employee involved in field activities is required to attend a Site-Specific Radiation Briefing. Topics of the Site-Specific Radiation Briefing include:

- Site-specific procedures for handling and storing radioactive materials;
- Health and safety hazards associated with exposure to site-specific radioactive material;
- Familiarity with this SSHP and other project-specific procedures regarding protection from radiation exposure;
- Worker responsibility to report unsafe acts or procedures which might result in worker exposure to radiation;
- Worker response to on-site events and occurrences with radioactive material; and
- Worker's rights and responsibilities with respect to working with radioactive material.

4.2 Medical

Each employee involved in field activities will also be required to provide the following radiological and medical surveillance information for recordkeeping:

- Medical clearance for site work;
- Respirator clearance and evidence of qualitative respirator fit determination for the respirator type being used (if potential for respirator use exists); and
- Radiation dosimetry records including the Total Effective Dose Equivalent (TEDE)/ Committed Effective Dose Equivalent (CEDE) for the current year.

5.0 ACTIVITY HAZARD ANALYSIS

The radiological activity hazard analysis is an ongoing process from the initiation of the RPP preparation through the implementation and completion of the NFSS project. The minimum site-specific radiological hazards associated with the activities associated with each task and the proposed control measures are provided in Table B 5-1. If surveys indicate actual radiological conditions are significantly different than expected, and exceed the limits placed in the Radiation Work Permit (RWP), then additional controls will be implemented.

Equipment, inspection, and training requirements for each radiological activity are identified in Table B 5-2. Inspection and training requirements are hereby included by reference from the *ECC Radiological Protection Plan* (ECC 2007). Health and safety equipment, such as monitoring instruments and PPE, is specified in sections of the SSHP. Additional field equipment will be specified in the Waste Management, Transportation and Disposal Plan (WMTDP) for this project. The ECC Radiological Operations Procedures referenced in this RPP will be maintained in a notebook in the project field office.

TABLE B 5-1
Radiological Activity Hazard Analysis
Niagara Falls Storage Site
Lewiston, New York

Task	Hazards	Radiological Hazard Control
All Tasks	Housekeeping.	Materials will be stored to prevent intrusion into the work areas.
All Tasks	Hand tools, manual and power.	Tools shall be surveyed for radioactivity after use on any potentially radioactive soils or materials. Release limits are specified in Table B 7-1. Prior to initial use, all power tools will be evaluated to ensure that there is a low (or zero) probability of contamination spread during use.
Tasks 3, 4, 7, 8: Repacking, Preparation of Containers, Pumping and Sizing Storage Tanks	***Radiological Hazards***—Passive activities; therefore, the risk level of exposure to radiological hazards during these activities is low. All soils expected to be contained and sealed in waste containers during all activities. No removable contamination is expected above the levels in Table B 7-1.	Personnel will be briefed on actual and potential radiological conditions. Routine contamination control activities will take place to ensure that no spread of contamination takes place (personnel and equipment). Radiation dosimetry and respiratory protection for radiological purposes will not be required. Smear samples shall be counted for removable alpha and beta gross radioactivity. Equipment and personnel shall be surveyed for removable alpha and beta radioactivity periodically.

TABLE B 5-2
Equipment and Training Requirements
Niagara Falls Storage Site
Lewiston, New York

Activity	Equipment	Inspection	Training
Container inspections and incoming/outgoing radiological surveys	Radiation survey instruments	Daily source and background checks shall be performed and documented. Radiation sources used for calibration shall have appropriate documentation and surveillance.	All survey technicians shall have successfully completed ECC's Radiation Worker training. Workers shall have a Radiation Awareness Briefing given to them by the SSHO/HPT before starting work. Qualified operators knowledgeable and trained in the operation of the radiation survey equipment and interpretation of results will operate equipment.
Handling and Loading of Waste Containers	Radiation survey instruments	Daily source and background checks shall be performed and documented. Radiation sources used for calibration shall have appropriate documentation and surveillance.	All survey technicians shall have successfully completed ECC's Radiation Worker training. Workers shall have a Radiation Awareness Briefing given to them by the SSHO/HPT before starting work. Qualified operators knowledgeable and trained in the operation of the radiation survey equipment and interpretation of results will operate equipment. Also required: 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) training, including training in radiological hazards, and spill response in the event of an accident scenario.
Decontamination of equipment.	Radiation detection equipment.	Daily source and background checks shall be performed and documented. Radiation sources used for calibration shall have appropriate documentation and surveillance.	All technicians performing decontamination shall have successfully completed ECC's Radiation Worker training. Qualified operators knowledgeable and trained in the operation of the radiation survey equipment and interpretation of results will operate equipment. Also required: 40-hour HAZWOPER training, including training in radiological hazards.

6.0 SITE CONTROL

Survey and sample collection activities performed in radiological posted areas will be performed using RWPs as per *ECC R-SOP, 700 Radiation Work Permits, per ECC R-SOP, 701 Access Control* (ECC, 2007). Posted radiologically controlled areas (RCAs) will be controlled for the NFSS project through the use of Contamination Zones (CZs), Contamination Reduction Zones (CRZs), and Support Zones (SZs), as described below.

6.1 General Site Access

General site access is discussed in contract W912P4-07-D-0005 0004 and in the NFSS project SSHP, and will be administered by ECC.

6.2 Radiologically Controlled Areas

A RCA is designed to prevent employees, contractors, visitors, and the surrounding environment from exposure to radiation and radiological contamination during site activities. RCAs may consist of EZs and or CRZs. RCAs will be established by the SSHO/HPT and will encompass any area where intrusive tasks are being performed. Movement of personnel and equipment between work areas and on and the remainder of the site will be controlled by means of designated access points. Minimum PPE for work in each RCA will be based upon radiological monitoring results and will be documented on the RWP for that work activity. Established work areas may be left over night with the concurrence of all project participants. Contaminated equipment will only be stored in an established RCA.

6.2.1 Exclusion Zone

An EZ will be designated and delineated for areas that have the possibility of exposing contaminated material to personnel or the surrounding environment. As such, they may be considered potentially contaminated areas. No established EZ's are planned for the execution of the handling, loading, and transportation tasks. However, if an EZ is required as a result of an accidental spillage of contaminated soil, the boundaries and demarcation will be determined via radiological surveys.

6.2.2 Contamination Reduction Zone

CRZs will be established between EZs and any non-contaminated areas incorporating SZs. Personnel and equipment that exit an EZ will do so through a CRZ. Equipment and initial vehicle decontamination may be performed in an EZ. However, personnel and final equipment decontamination shall be located in the CRZ. The CRZ will contain the equipment necessary for personnel decontamination and decontamination verification, and may be equipped with designated "step-off areas" for personnel following doffing of potentially contaminated PPE.

6.2.3 Radiologically Controlled Area Entry And Exit

When exiting an EZ, personnel and equipment must pass through the CRZ to the SZ. Potentially contaminated PPE will be removed in the CRZ. Decontamination and resurvey shall be performed prior to exiting the CRZ if contamination is detected above the limits in Table B 7-1.

6.3 Support Zones

Support Zones (SZ) are uncontrolled 'clean' areas throughout the site. SZs encompass both the overall support infrastructure (i.e., site trailers, vehicles, personal hygiene and sanitary facilities) as well as smaller, task-specific SZs that may be established adjacent to CRZs. These SZs may consist of break areas, equipment and PPE staging areas, and engineering control support centers such as misting trailers and air–conditioned break vans. PPE will not normally be required in exterior areas of a SZ. If personnel are performing work in PPE in an EZ, a minimum of one person will be in the SZ at all times. This person will have access to communications with the SSHO/SRSO (e.g., cellular phone or two-way radio).

7.0 RADIATION SAFETY PROGRAM

ECC's Agreement State Radioactive Materials License (RML) and this associated RPP and procedures will be implemented to protect workers health and safety during remedial support activities for the NFSS project. The ECC RPP is implemented through operational and administrative procedures and by the methods and processes described in this document. It is the HPT's responsibility to ensure that site contamination control activities are effective, areas are not cross-contaminated, radiological doses are maintained As Low As Reasonably Achievable (ALARA), workers and the environment are protected, and that activities comply with the radiological procedures in ECC's RML. This will require a method to identify and prevent the release of potentially contaminated items from radiologically controlled areas.

7.1 Radiation Work Permits

The RWP serves as a tool in protecting workers from the radiation hazards. In this permit the levels of PPE will be detailed, as well as the levels of radioactive materials expected and other pertinent information such as radiological monitoring requirements. Handling and loading of the waste containers will be administered under a General Site Access RWP

7.2 Radiation Surveys

This subsection describes the radiation survey methods and radiation survey documentation for the NFSS project.

7.2.1 Survey Methods

Contamination surveys, which include removable contamination (i.e., smears, or "swipes") and total radioactivity (i.e., direct measurement) surveys on equipment and other potentially contaminated items originating from radiological control areas, will be performed in accordance with, ECC's *Agreement State Approved Radiological Survey Procedures* (ECC, 2007).

7.2.2 Survey Documentation

Original copies of field data, field records, analytical data, training records, and other project-specific documentation will be retained in accordance with ECC procedure *R-SOP 900 Handling of Confidential Documents, ECC-R SOP-701, Controlled Documents* (ECC, 2007).

7.3 Acceptable Surface Contamination Levels

USACE *Radiation Protection Manual*, EM-385-1-80, Table 6-4 provides limits for acceptable levels of surface contamination. These levels are presented in Table B 7-1. The most conservative values Ra-226 and Th-230) of the site RCOCs from Table B 7-1 will be applied as the release criteria for this project. For Ra-226 and Th-230, the alpha removable contamination limit is 20 disintegrations per minute (dpm) per 100 square centimeters (dpm/100cm^2), while the maximum and average contamination limits are 300 and 100 dpm/100cm^2, respectively. The beta-gamma removable contamination limit is 1,000 dpm/100cm^2, with the maximum and average contamination limits being 15,000 and 5,000 dpm/100cm^2, respectively.

7.4 Contamination Surveys

Contamination surveys will be conducted on all incoming and outgoing vehicles, on all filled waste containers prior to loading, and on all site equipment/personnel that enter and leave a CZ. Contamination surveys will be accomplished using direct measurements for total radioactivity and swipe surveys for removable contamination. The direct measurement "frisking" method is performed using a calibrated and daily source checked radiation detection instrument capable of detecting alpha, beta and gamma radiations.

Swipe samples will be collected over a finite surface area, ideally 100 square centimeters (cm^2) (or the entire surface of the object if less than 100 cm^2), and analyzed using on-site laboratory counting equipment for alpha and beta radioactive contamination as per *ECC R-SOP,-209 Unconditional Release of Survey Procedures* (ECC, 2007).

Contamination surveys will be used to ascertain that materials, working surfaces, and equipment are not contaminated with radioactive material above the action level. The SRSO is responsible for assessing the results of these surveys and instituting any corrective actions that may be warranted, (i.e., re-survey and/or decontamination).

The following examples of instruments (or their equivalent) will be used to perform personnel and equipment frisking and/or swipe counting:

- Ludlum Model 2224-1 scaler/ratemeter coupled to a Ludlum Model 43-89 alpha/beta scintillation detector or equivalent.
- Ludlum Model 177 Ratemeter coupled to a Ludlum Model 44-9 pancake Geiger-Mueller (GM) detector.
- Ludlum Model 2929 Alpha/Beta Scaler coupled to the Ludlum 43-10-1 scintillation detector will act as the primary on-site swipe sample counter.

The minimum detectable concentration (MDC) of these instruments will be field verified, prior to use, to be less than the applicable limits listed in Table B 7-1. Survey and counting instruments are source checked on a daily basis and the performance of instruments used to count swipe samples is tracked on a control chart. *ECC R-SOP 200 Determination of Removable Activity, ECC R-SOP 202 General Survey Approaches and Strategies, ECC R-SOP 203 Personnel Contamination Monitoring, ECC R-SOP 204 Surface Scanning, ECC R-SOP 206 Alpha Radiation Measurement ECC R-SOP 207 Beta Radiation Measurement,* and *ECC R-SOP 208 Gamma Radiation (exposure rate) Measurement* will be utilized to perform and document radiation surveys.

TABLE B 7-1.
Acceptable Surface Contamination Levels
Niagara Falls Storage Site
Lewiston, New York

RCC [a]	Average [b,c] (dpm/100 cm^2)	Maximum [b,d] (dpm/100 cm^2)	Removable [b,e] (dpm/100 cm^2)
U-nat, U-235, U-238 and associated decay products	5,000 α	15,000 α	1,000 α
Transuranic elements, Ra-226, Ra-228, Th-230, Th-228, Pa-231, Ac-227, I-125, I-129	100	300	20
, Th-232, Sr-90, Ra-223, Ra-224, U-232, I-126, I-131, I-133	1000	3,000	200
Beta-gamma emitters (nuclides with decay modes other than alpha emission or spontaneous fission) except Sr-90 and others noted.	5,000 β-γ	15,000 β-γ	1,000 β-γ

a Where surface contamination by both alpha and beta-gamma emitting nuclides exists, the limits established for alpha and beta-gamma emitting nuclides should apply independently.

b As used in this table, dpm (disintegrations per minute) means the rate of emission by radioactive material as determined by correcting the counts per minute observed by an appropriate detector for background, efficiency, and geometric factors associated with the instrumentation.

c Measurements of average contaminant should mot be averaged over mote than 1 square meter. For objects of less surface area, the average should be derived for each object.

d The maximum contamination level applies to an area of not more than 100 cm^2.

e The amount of removable radioactive material per 100 cm^2 of surface area should be determined by wiping that area with dry filter or soft absorbent paper (swipe), applying moderate pressure, and assessing the amount of radioactive material on the swipe with an appropriate instrument of known efficiency. When removable contamination on objects of less surface area is determined, the pertinent levels should be reduced proportionately and the entire surface should be swiped.

Notes:

U-nat = natural uranium
Sr = Strontium
Th-nat = natural thorium
Pa = Protactinium
I = Iodine
Ac = Actinium
U = uranium

7.5 Personal Radiological Monitoring

Personal radiological monitoring typically consists of two primary elements; external radiation dosimetry and internal dosimetry.

7.5.1 External Radiation Dosimetry

Dose rates at the Site are generally very low. Waste handling and loading activities do not pose a risk of doses to personnel that will approach Tier 2 Dose Limits as described in USACE Regulation *ER 385-1-80, Radiological Safety [USACE, 1997].* Therefore, no radiation dosimetry is required for the planned waste handling, loading, and transportation activities at the Site. Exposure rate surveys will be performed periodically to validate this assumption.

7.5.2 Internal Dose Monitoring

The radioactivity levels present in Site impacted soils should not trigger elevated airborne contamination levels at levels that would approach Tier 2 Dose Limits as described in ER 385-1 80. Therefore, initial internal dose monitoring (i.e., bioassay) is not required.

7.6 Air Monitoring

Radiological airborne hazards are not anticipated during the waste handling and loading activities at the Site. The activities are primarily handling and transporting sealed containers, which will not pose an airborne hazard. Solid and liquid sample results indicate radiological concentrations near background, and the routine handling of these materials will not result in internal exposures greater than 10% of the Derived Air Concentration (DAC). Therefore, air monitoring is not required.

However, personnel air sampling will be performed by ECC during known or potential intrusive activities (e.g. grinding, cutting) with contaminated materials in excess of 100 times the values presented in Table B 7-1 to ensure that any unforeseen airborne hazards are detected and evaluated promptly. If performed, air monitoring will be performed in accordance with the requirements of ECC R-SOP 407, *Air Sampling*, (ECC, 2007).

8.0 8.0 LEVELS OF PROTECTION

All personnel performing waste handling and loading operations on-site shall be required to use the appropriate level of protection using PPE. The minimum levels of protection to begin each activity of this project are shown in Table B 5-1 and Table B 8-1 and are described in the following subsections. If conditions are identified requiring a change in the level of protection, then PPE will be upgraded or downgraded according to guidelines in this RPP prior to continuing work activities.

8.1 Level D PPE

Level D PPE will be worn during non-intrusive activities where no known contamination is present. Level D PPE consists of the following:

- Work clothes, e.g., coveralls (cotton), or full-length pants and short-sleeve shirt. (long-sleeved shirts are optional).
- Work gloves, leather or cotton as necessary for physical hazards.
- Boots, certified according to the American National Standards Institute.
- Safety glasses with side shields, as necessary for physical hazards.
- Hard Hats, as necessary for physical hazards.
- Hearing protection (during noise-generating activities).

8.2 Modified Level D PPE

Modified Level D PPE will be employed when conducting activities with known or potential contact with radioactively contaminated materials. In addition to the Level D components listed above, the following items may be added as warranted by the situation:

- Shoe covers or booties.
- Water resistant gloves (may replace leather gloves).
- Latex gloves (or equivalent) for handling/packaging of soils samples or used air filters.
- Tyvek™ suits or lab coats.

If, during the course of this project conditions change that require an upgrade to more protective PPE, the decision will be made by the SSHO/HPT with the concurrence of the ESQM and the CHP. Conditions that may warrant changes in PPE may include, but not limited to, rupture or leakage of the waste containers.

TABLE B 8-1:
Minimum Level of Protection Requirements
Niagara Falls Storage Site
Lewiston, New York

Activity	Level of Protection
Mobilization and Site Preparation	Level D
Sampling and Analysis	Level D
Repackaging / Overpacking Containers	Level D
Preparation of Containers for Loading	Level D
Release Surveys for Shipping Containers	Level D
Loading of Containers	Level D
Pump Out of Storage Tanks (liquid waste)	Level D
Sizing of Storage Tanks	Level D
Site Restoration and Demobilization	Level D
Demobilization	Level D

8.3 Decontamination Procedures

The types of radiological decontamination to be addressed for this project are:

Equipment and Materials. To remove contamination from equipment to ensure compliance with release criteria.

Vehicles. To remove contamination from vehicles to prevent spread of contamination and ensure compliance with release criteria.

Radiological decontamination shall be performed using industry standard guidance.

9.0 EMERGENCY RESPONSE

ECC will follow the guidance of *ECC R-SOP 600 Possible Inhalation Exposure, ECC R-SOP 601 Wounds and Skin Contamination, ECC R-SOP 602 Radiological Accidents and Emergencies*. Further, Emergency telephone numbers are listed in the SSHP. A map showing the route to the hospital will be posted near the site telephone. A copy of the hospital route map is provided in Appendix C of the SSHP.

10.0 MEDICAL SURVEILLANCE AND TRAINING REQUIREMENTS

ECC's requirements for medical surveillance and worker training are presented in the SSHP. This includes the requirements for radiation worker training as described in Section 4 of this RPP.

11.0 REFERENCES

(ECC, 2007) Environmental Chemical Corporation's *Radiological Protection Plan* and *Radiological Operation Procedures*

Environmental Chemical Corporation (ECC) 2007. *Agreement State Radioactive Materials License Implementing Radiological Standard Operating Procedures*

- ECC-R-SOP-100 Instrument Calibration and Operational Check-Out Rev 1
- ECC-R-SOP-101 Electronic Calibration of Ratemeters Rev 1
- ECC-R-SOP-102 Gamma Scintillation Detector Check-Out and Cross Calibration,Rev 1
- ECC-R-SOP-103 Operation of Ludlum Model 2929 With 43-10-1 Alpha/Beta Detector, Rev 1
- ECC-R-SOP-104 GM Detector Calibration and Check-Out, Rev 1
- ECC-R-SOP-200 Determination of Removable Activity, Rev 1
- ECC-R-SOP-201 Background Measurements and Sampling, Rev 1
- ECC-R-SOP-202 General Survey Approaches and Strategies Rev 1
- ECC-R-SOP-203 Personnel Contamination Monitoring Rev 1
- ECC-R-SOP-204 Surface Scanning, Rev 1
- ECC-R-SOP-206 Alpha Radiation Measurement, Rev 1
- ECC-R-SOP-207 Beta Radiation Measurement Rev 1
- ECC-R-SOP-208 Gamma Radiation (exposure rate) Measurement, Rev 1
- ECC-R-SOP-209 Unrestricted Release Survey Procedure, Rev 1
- ECC-R-SOP-300 Radiation Dosimetry, Rev 1
- ECC-R-SOP-400 Miscellaneous Sampling, Rev 1
- ECC-R-SOP-401 Sample Handling and Custody Requirements, Rev 1
- ECC-R-SOP-407 Air Sampling, Rev 2
- ECC-R-SOP-500 Packaging, Receiving, labeling and Transport of Radioactive Material, Rev 2
- ECC-R-SOP-600 Possible Inhalation Exposure, Rev 1
- ECC-R-SOP-601 Wounds and Skin Contamination, Rev 1
- ECC-R-SOP-602 Radiological Accidents and Emergencies, Rev 1
- ECC-R-SOP-700 Radiological/Health and Safety Work Permits, Rev 1
- ECC-R-SOP-701 Access Control, Rev 1

1

Nuclear Regulatory Commission, (NRC), 2004. U.S. Nuclear Regulatory Commission (NRC); *Energy*, Title 10 Code of Federal Regulations; January 2004

Occupational Safety and Health Administration (OSHA) 2004. U.S. Occupational Safety and Health Administration (OSHA); *Labor*, Title 29 Code of Federal Regulations; July 2004

U.S. Army Corps Engineers (USACE) 1997a . *Radiological Safety*, ER 385-1-80; May 1997

USACE, 2003a. *Health and Safety for HTRW Activities*; ER 385-1-92; July 2003

USACE, 2003b. *Safety and Health Requirements*, EM 385-1-1; November 2003

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SP 5

HAZARDOUS MATEIAL MANAGEMENT PLAN

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FINAL

HAZARDOUS MATERIAL MANAGEMENT PLAN

Transportation and Disposal of Remedial Investigation Derived and Legacy Waste

Niagara Falls Storage Site, Lewiston, NY

August 2010

Prepared for:

US Army Corps of Engineers ®
Buffalo District

U.S. Army Corps of Engineers
Buffalo District

Prepared by:

Environmental Chemical Corporation (ECC)
1125 Route 22 West
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Prepared under:
Contract No.: W91ZLK-05-D-0009
Delivery Order 0004

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TABLE OF CONTENTS

ATTACHMENTS

ACRONYMS

AHA	Activity Hazard Analysis
APP	Accident Prevention Plan
AST	above ground storage tank
CFR	Code of Federal Regulations
DOE	Department of Energy
DOT	Department of Transportation
ECC	Environmental Chemical Corporation
ESQM	Environment, Safety and Quality Manager
FUSRAP	Formerly Utilized Sites Remedial Action Program
HMTA	Hazardous Materials Transportation Act
IDW	Investigation Derived Waste
LSA	Low Specific Activity
NFSS	Niagara Falls Storage Site
NRC	Nuclear Regulatory Commission
OSTC	On-Site Transportation Coordinator
PCB	polychlorinated biphenyl
RI	Remedial Investigation
SOW	Statement of Work
SPCCP	Spill Prevention Control and Countermeasure Plan
SS	Site Superintendent
SSHO	Site Safety and Health Officer
T&D	transportation and disposal
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency

1.0 INTRODUCTION

The United States Army Corps of Engineers (USACE) is completing the Remedial Investigation (RI) of the Formerly Utilized Sites Remedial Action Program (FUSRAP) Niagara Falls Storage Site (NFSS). The USACE has prepared a Statement of Work (SOW) to prepare, package, load, transport, and properly dispose of two waste streams. The two waste streams are legacy waste left on-site by the United States Department of Energy (DOE) and investigation derived wastes (IDW) generated during multiphase RI activities and RI addendum activities.

Environmental Chemical Corporation (ECC) has been selected by the USACE – Buffalo District under Contract Number W912P4-07-D-0005 Delivery Order 0004 (hereafter referred to as the "Contract"), to provide transportation and disposal services in support of the NFSS FUSRAP Site (hereafter referred to as the "Site") located in Lewiston, New York. This remediation is being completed under the USACE's FUSRAP which was established to identify, investigate, and clean up or control sites previously used by the Atomic Energy Commission and its predecessor, the Manhattan Engineer District. This Site has been identified as containing various concentrations of residual radioactive material in soil and debris from previous operations, including Thorium-232, Thorium-230, Radium-226 and Uranium-238.

The primary objective of this plan is detail the manner in which wastes, presented stored at NFSS, will be managed by ECC from initial inventory of waste containers, packaging of containers for transport, to loading and transportation of waste containers to the designated disposal facility(s).

Waste management and transportation activities will be conducted in such a manner to provide a level of protection to the public and remediation workers that is consistent with applicable chemical and radiation exposure guidelines and with the objective of achieving as low as reasonably achievable exposure levels.

The following sections will outline the methodology and procedures that ECC will utilize to safely manage, prepare and load containers and perform off-site transportation of the NFSS FUSRAP chemically and radiologically impacted waste materials.

2.0 MANAGEMENT OF WASTE MATERIALS

This section describes ECC's plans for managing waste materials for the NFSS project.

2.1 Waste Types and Quality

The wastes that have been generated and presently stored at NFSS include both solid and liquid materials. All wastes are a combination of IDW and Legacy waste. Contaminants associated with the waste stream include heavy metals, asbestos, PCB's, and radiological debris. Based on the waste inventory provided by the USACE there are approximately sixteen (16) low specific activity (LSA) boxes, 286 drums, and 4,000 gallons of water (located in two above ground storage tanks [AST]). Attachment 1 contains a copy of the waste inventory list. One of the initial tasks that ECC will perform is confirmation of the waste container inventory.

2.2 Management of Waste and Waste Containers

This section describes the security, waste minimization, packaging, labeling, placarding, and loading, as well as the safety precautions that will be completed for the NFSS project.

2.2.1 Security

Once the NFSS team has access inside the facility the NFSS T&D project site, they will establish work zones in order to prevent unauthorized access and to secure the work area. These work zones will be established and delineated with, at a minimum, caution/danger/hazard/ construction line tape or otherwise with temporary construction fencing of the complete perimeter with secured access and egress locations and with appropriate work area signage.

The Site Safety and Health Officer (SSHO), as well as site workers, will stay alert for any unauthorized entry and take necessary actions to control the work area.

Authorized site visitors may visit the site upon meeting the following conditions:

- Receiving site hazard and safety instructions from the SSHO; to include Emergency Response procedures briefing;
- Reviewing and complying with the essential elements of the APP;
- Presenting their 40/8-hour Hazwoper training certification and medical clearance documentation, if required by the Accident Prevention Plan (APP);
- Using their own, or provided PPE, to enter regulated work areas per the APP; and,
- Reporting any observed unsafe act and/or condition at, or affecting, the work site.

2.2.2 Minimization

ECC does not anticipate performing any minimization activities while the waste is onsite. There will be a consolidation of liquid waste from the two AST's into a tanker truck. Once the liquid is transferred, the tanker will transport the liquid to the designated disposal facility.

2.2.3 Packaging of Waste Containers

Over packing of damaged waste containers will be performed in a designated area which will be lined with polyethylene sheeting to reduce the potential for contamination of the NFSS site in case a release occurs during over packing. Any minor release of waste from the damaged drums will be picked up and

placed inside the over pack in which the drum was placed. In addition, some of the LSA boxes may require banding.

The liquids, presently stored in the two AST's will be pumped out into a tanker truck for transportation off site. Pumping of the liquid waste from the AST's will be performed in a controlled manner. Prior to pumping liquid into the tanker ECC will confirm that the tanker is empty and has been decontaminated. All hoses that will be used to transfer the liquids into the tanker will have Cam-Loc fittings. The tanker operator will identify any location (i.e., valves, hose sections) that has the potential for leaks to occur. Any defective valves or connections will be repaired or replaced. The field team and the tanker operator will have readily available containers to collect any quantities of liquid that may be released during the uncoupling of hoses. Drainage of all hose sections will be accomplished so liquids are captured in a container. Any liquid that accumulates in the container will then be deposited into the tanker.

2.2.4 Container Labeling and Placarding

Labels will be applied to containers according to the container contents and hazard classification. It is anticipated most, if not all, of the bulk materials will be shipped as DOT non-hazardous. At a minimum, all containers will have a secondary non-DOT communication "marking sticker" on all bulk containers of radioactive materials regardless of whether the material is a DOT hazardous material or not. The sticker indicates the destination of the shipment and a telephone number of a USACE Point of Contact with knowledge of the shipment. This additional marking sticker duplicates existing information that is required on shipping documents when the shipment is a DOT hazardous material. Marking stickers shall be placed in visible locations on the exterior sides of transport vehicles, and the top of the container liner (e.g., burrito bag for bulk shipment) as applicable to ensure that workers observe the information prior to emptying the container or vehicle. A bulk container shall have the marking sticker on all four sides and if the transport vehicle is an open truck, there should be at least two stickers on top of the closed liner. An example of the marking sticker may be found on page A-64 and A-65 of USACE Engineering Pamphlet 200-1-2.

ECC will provide primary and secondary placards consistent with the requirements of 49 Code of Federal Regulations (CFR) 172, Subpart F as required. Placards shall be provided for each side and each end of bulk packaging, freight containers, and transport vehicles requiring such placarding. Placards may be plastic, metal or other material capable of withstanding, without deterioration, a 30-day exposure to open weather conditions and shall meet design requirements specified in 49 CFR 172, Subpart F.

2.2.5 Loading Waste Containers

Except for the liquid waste stream, all waste containers will be loaded onto permitted transportation vehicles in their current container type, unless they require repackaging to ensure they will arrive intact at their destination per section 2.2.3 of this HMMP. Drums will be banded together on pallets and loaded directly onto enclosed trailers. LSA boxes will also be loaded onto enclosed trailers.

A rough terrain forklift will be utilized to lift and place the palletized drums and LSA boxes onto the designated transport vehicles. Precaution will be taken to ensure that a spotter is used when loading the waste containers so none of the containers are punctured by the forks of the lift. Any container that is not secured on a pallet will be secured to the forklift mast using cargo straps.

Upon placing the containers onto the transport vehicle, pallet jacks may be used to locate the palletized containers to a specific area within the transport vehicle.

2.2.6 Safety Precautions during Handling and Loading of Waste Containers

The APP, Supplemental Plans, and applicable Activity Hazard Analyses (AHA) identify the physical, chemical, and radiological hazards that may be present during the handling and loading of the waste and waste containers.

Only qualified operators will be permitted to operate the rough terrain forklift. Training of this individual(s) will be in accordance with the APP, Section 6.0 and the applicable AHA's. All personnel will attend a Preparatory Inspection Meeting at which all safety precautions will be reviewed as well as the applicable AHA's. A designated spotter will be used during forklift operations so there is no additional damage sustained to the containerized wastes during handling and loading.

The APP, the associated Supplemental Plans, and applicable AHA's provide additional detail on safe work practices and procedures to be implemented during this task activity. All project personnel are required to receive orientation training on these plans and AHA's prior to implementing field work.

3.0 TRANPORTATION

The following sections summarize the companies and facilities performing the transportation and disposal functions of the project.

3.1 Transportation Subcontractor

ECC has selected I.C.E. Services Group, Inc. as the transportation subcontractor for this effort. I.C.E. Services Group will coordinate transport vehicles, including tanker trucks and tractor trailers, drivers, and the On-site Transportation Coordinator (OSTC) for the project.

Tucking of Box vans/Flats to Waste Control Specialists LLC (WCS) and
US Ecology – Idaho (USEI):
Landstar Systems, Inc.
PO Box 19137
Jacksonville, FL 32245
EPA ID# FLR000067157
Phone # 800-872-9625

Trucking of vac tanker to WCS:
HazMat Environmental Group, Inc.
New Village Industrial Park
60 Commerce Drive
Lackawanna, NY 14218-1040
EPA ID# NYD980769947
Phone # 716-827-7200

Trucking of Lab Pack to Cyclechem trucking:
OP-TECH Environmental Services, Inc.
6392 Deere Road
Syracuse, NY 13206
EPA ID# NYD986980753
Phone # 607-565-8891

3.2 Disposal Facilities

Waste disposal options have been identified for the disposal of the RI and legacy waste materials. the following potential waste disposal facilities have been identified based on available data for the waste streams:

Waste Control Specialists LLC (WCS)
Three Lincoln Centre
5430 LBJ Freeway, Ste. 1700
Dallas, Texas 75240
EPA ID# FLR000067157

US Ecology – Idaho (USEI)

300 E Mallard Drive, Suite 300
Boise, Idaho 83706
EPA ID# IDD073114654

3.3 Waste Tracking

All waste shipments will have either Bill-of-Lading or Manifests accompanying the shipment from point of origin to disposal facility. Copies of the typical shipping papers that will be used on the project are in Attachment 2. Manifests and Bill-of-Lading documentation will be prepared by ECC and submitted to the USACE for review and authorization. Once the waste shipment is received at the designated disposal facility, a signed copy of the manifest and Certificate of Disposal will be forwarded from the facility to the USACE.

ECC has requested the disposal facilities to contact our OSTC the day the waste shipment arrives at the disposal facility. A waste tracking spreadsheet will be generated to document the status of the waste shipments.

For further detail on transportation documentations and tracking refer to Section 4.1.2 of the Waste Management, Transportation and Disposal Plan.

3.4 Transportation Routes

The trucks will be equipped with either satellite tracking systems or drivers will have cell phones and check in periodically with the 24 hour per day manned dispatch center. There are no set stopping points on the routes to WCS or to US Ecology. The drivers will be going directly to these disposal facilities and will only stop in order to rest per standard trucking log book guidelines as appropriate based off of their driving hours and location at a given time. There are set stopping points for the items going to Cyclechem, the first is Temporary storage at:

- OP-TECH Environmental Services, Inc., 500 Commerce Drive, Amherst, NY 14228 and the second is Temporary storage at:
- OP-TECH Environmental Services, Inc., 370 Route 34, Waverly, NY 14892

Refer to Attachment 3 for the planned transportation route maps, and a description of the route from the NFSS to Cycle Chem of Lewisberry , Pennsylvania (PA).

All truck routes will be coordinated so that they do not go past the LewPort School.

4.0 TRANSPORTATION SPILL PREVENTION AND CONTROL

Procedures and responsibilities for spill prevention, response activities and cleanup associated with the handling and loading of containerized wastes is presented in the ECC APP/SSHP. Section 4 of the Waste Management, Transportation, and Disposal Plan provides additional detail on this.

During transportation of waste shipments from the site to the designated disposal facility I.C.E. will have the lead responsibility to manage any releases that may occur while in transport. Attachment 4 provides a copy of the I.C.E. Transportation Spill Prevention Control and Countermeasures Plan (SPCCP).

5.0 REPAIR AND DECONTAMINATION OF TRANSPORTATION EQUIPMENT

As the primary objective of the NFSS project is the transfer and disposal of HTRW, repair would primarily be a concern for the transportation of the material. ECC and the I.C.E. OTSC will prepare for and provide backup (replacement) semi tractor, trailer, and vacuum truck units for the transportation of the NFSS waste drums, LSA boxes, other dry good containers and the liquid wastes. Similarly, loading equipment and project instrumentation will have back up units available for replacement of project-utilized items.

Decontamination procedure will be identified in the field for transportation equipment. When warranted, transportation semi trucks, trailers, and vacuum trucks will be radiologically surveyed before they are brought onto the NFSS site, and before they leave the NFSS site. At the end of the project, before being released to the transportation companies, ECC and the I.C.E OTSC will ensure each transport unit utilized will be dry decontaminated by using dry sweeping and wipe down house keeping practices. Any material present will be swept onto a pad, tarp, plastic sheeting, or similarly collected and added to the shipments to the proper disposal facility. Any spill of the HTRW being transported, will be managed in accordance with the I.C.E SPCC plan (Attachment 4).

Personnel decontamination is described in Section 11.4 of the APP.

Attachment 1

Waste Inventory

Qualitative Description of the Contents of Waste Containers

NIAGARA FALLS STORAGE SITE - WASTE CHARACTERIZATION PROJECT
WASTE INVENTORY

		WC Container									
WC Container	**Matrix**	**Type**	**Volume**	**Units**	**% Full**	**Contents_1**	**Contents_2**	**Contents_3**	**Contents_4**	**Original Container ID**	**Notes**
WC-001	SOLID	Steel Drum	55	GALLON	100	PPE	PVC/Plastic			6N,6P	
WC-002	SOLID	Steel Drum	55	GALLON	100	PPE				177743	
WC-003	SOLID	Steel Drum	55	GALLON	100	PVC/Plastic	PPE			6B	
WC-004	SOLID	Steel Drum	55	GALLON	100	PVC/Plastic	Soil/Soil-Like			6A	
WC-005	SOLID	Steel Drum	55	GALLON	100	PPE	PVC/Plastic			177712	
WC-006	SOLID	Steel Drum	55	GALLON	100	PPE				177711	
WC-007	SOLID	Steel Drum	55	GALLON	100	PPE	PVC/Plastic			177747	
WC-008	SOLID	Steel Drum	55	GALLON	100	PPE	PVC/Plastic			177746	
WC-009	SOLID	Steel Drum	55	GALLON	100	PPE	PVC/Plastic			6G	
WC-010	SOLID	Steel Drum	55	GALLON	100	PPE				177748	
WC-011	SOLID	Steel Drum	55	GALLON	100	PPE				6I	
WC-012	SOLID	Steel Drum	55	GALLON	100	PPE	PVC/Plastic			SAIC #150	
WC-013	SOLID	Steel Drum	55	GALLON	100	PPE				6J	
WC-014	SOLID	Steel Drum	55	GALLON	100	PVC/Plastic	PPE			6C	
WC-015	SOLID	Steel Drum	55	GALLON	100	PPE				6K	
WC-016	SOLID	Steel Drum	55	GALLON	100	PVC/Plastic	PPE			148	
WC-017	SOLID	Steel Drum	55	GALLON	100	PPE				151	
WC-018	SOLID	Steel Drum	55	GALLON	100	PPE				177679	
WC-019	SOLID	Steel Drum	55	GALLON	75	PPE	Trash			177652	
WC-020	SOLID	Steel Drum	55	GALLON	99	PPE	Trash	PVC/Plastic		177680	
WC-021	SOLID	Steel Drum	55	GALLON	100	PPE	Trash			177677	
WC-022	SOLID	Steel Drum	55	GALLON	100	PPE	Trash			177651	
WC-023	SOLID	Steel Drum	55	GALLON	100	PPE	Trash	Tubing		177678	
WC-024	SOLID	Steel Drum	55	GALLON	100	PPE	Trash			149	
WC-025	SOLID	Steel Drum	55	GALLON	100	PPE	PVC/Plastic	Grass/Twigs		217	
WC-026	SOLID	Steel Drum	55	GALLON	100	Plastic Tubing	Pump Material	Trash		206; 0177732	
WC-027	SOLID	Steel Drum	55	GALLON	100	Plastic Tubing	Pump Material	Trash		215; Tag #0177731	
WC-028	SOLID	Steel Drum	55	GALLON	100	Soil/Soil-Like				6E, 6D	
WC-029	SOLID	Steel Drum	55	GALLON	100	PVC/Plastic	PPE	Soil/Soil-Like		6M or 169	
WC-030	SOLID	Steel Drum	55	GALLON	100	PPE	Soil/Soil-Like	PVC/Plastic		6F	
WC-031	SOLID	Steel Drum	55	GALLON	60	Soil/Soil-Like				177739	
WC-032	SOLID	Steel Drum	55	GALLON	30	Soil/Soil-Like				177632	
WC-033	SOLID	Steel Drum	55	GALLON	100	Soil/Soil-Like				177638	
WC-034	SOLID	Steel Drum	55	GALLON	70	Soil/Soil-Like				177634	
WC-035	SOLID	Steel Drum	55	GALLON	35	Soil/Soil-Like				177635	
WC-036	SOLID	Steel Drum	55	GALLON	70	Soil/Soil-Like				177621	
WC-037	SOLID	Steel Drum	55	GALLON	40	Soil/Soil-Like				177681	
WC-038	SOLID	Steel Drum	55	GALLON	50	Soil/Soil-Like				177682	Drum headspace oxygen deficient upon opening per H&S monitoring
WC-039	SOLID	Steel Drum	55	GALLON	65	Soil/Soil-Like	Metal	PVC/Plastic		177683	
WC-040	SOLID	Steel Drum	55	GALLON	80	Soil/Soil-Like				177700	Moss-like material in top 1 inch of contents
WC-041	SOLID	Steel Drum	55	GALLON	75	Soil/Soil-Like				177695	
WC-042	SOLID	Steel Drum	55	GALLON	70	Soil/Soil-Like				177663	
WC-043	SOLID	Steel Drum	55	GALLON	65	Soil/Soil-Like				177662	
WC-044	SOLID	Steel Drum	55	GALLON	80	Soil/Soil-Like				177668	
WC-045	SOLID	Steel Drum	55	GALLON	75	Soil/Soil-Like				177713	
WC-046	SOLID	Steel Drum	55	GALLON	75	Soil/Soil-Like				Tag #177719; Writing #177694	Tag # does not match writing on side of drum
WC-047	SOLID	Steel Drum	55	GALLON	20	Soil/Soil-Like				177622/177631	
WC-048	SOLID	Steel Drum	55	GALLON	60	Soil/Soil-Like				177624	
WC-049	SOLID	Steel Drum	55	GALLON	10	Soil/Soil-Like				Tag #177602; Sheet #177699	Tag # does not match writing on side of drum
WC-050	SOLID	Steel Drum	55	GALLON	40	Soil/Soil-Like				Tag #177615; Writing #177685	Tag # does not match writing on side of drum
WC-051	SOLID	Steel Drum	55	GALLON	90	Soil/Soil-Like				177694	
WC-052	SOLID	Steel Drum	55	GALLON	100	Soil/Soil-Like				177716	
WC-053	SOLID	Steel Drum	55	GALLON	65	Soil/Soil-Like				177613	
WC-054	SOLID	Steel Drum	55	GALLON	80	Soil/Soil-Like				Tag #177614; Writing #177673/#177674	Tag # does not match writing on side of drum
WC-055	SOLID	Steel Drum	55	GALLON	90	Soil/Soil-Like				Tag #177612; Writing #177673/#177674	Tag # does not match writing on side of drum
WC-056	SOLID	Steel Drum	55	GALLON	90	Soil/Soil-Like				177714	
WC-057	SOLID	Steel Drum	55	GALLON	70	Soil/Soil-Like				177717	
WC-058	SOLID	Steel Drum	55	GALLON	40	Soil/Soil-Like				177718	
WC-059	SOLID	Steel Drum	55	GALLON	90	Soil/Soil-Like				177610; 177719	
WC-060	SOLID	Steel Drum	55	GALLON	50	Soil/Soil-Like				177673; 177674	
WC-061	SOLID	Steel Drum	55	GALLON	20	Soil/Soil-Like				177676	
WC-062	SOLID	Steel Drum	55	GALLON	30	Soil/Soil-Like				177675	
WC-063	SOLID	Steel Drum	55	GALLON	30	Soil/Soil-Like				177671	

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		WC Container									
WC Container	**Matrix**	**Type**	**Volume**	**Units**	**% Full**	**Contents_1**	**Contents_2**	**Contents_3**	**Contents_4**	**Original Container ID**	**Notes**
WC-064	SOLID	Steel Drum	55	GALLON	50	Soil/Soil-Like				177661; 177670	
WC-065	SOLID	Steel Drum	55	GALLON	60	Soil/Soil-Like				177684	
WC-066	SOLID	Steel Drum	55	GALLON	30	Soil/Soil-Like				MH-45	
WC-067	SOLID	Steel Drum	55	GALLON	70	Soil/Soil-Like				177687	
WC-068	SOLID	Steel Drum	55	GALLON	40	Soil/Soil-Like				177692	Hole in drum lid from corrosion
WC-069	SOLID	Steel Drum	55	GALLON	65	Soil/Soil-Like				177674	
WC-070	SOLID	Steel Drum	55	GALLON	70	Soil/Soil-Like				177657	
WC-071	SOLID	Steel Drum	55	GALLON	60	Soil/Soil-Like				177658	
WC-072	SOLID	Steel Drum	55	GALLON	75	Soil/Soil-Like				177698	
WC-073	SOLID	Steel Drum	55	GALLON	20	Soil/Soil-Like				177659	
WC-074	SOLID	Steel Drum	55	GALLON	60	Soil/Soil-Like				177715	
WC-075	SOLID	Steel Drum	55	GALLON	60	Soil/Soil-Like				177672	
WC-076	SOLID	Steel Drum	55	GALLON	75	Soil/Soil-Like				177631	
WC-077	SOLID	Steel Drum	55	GALLON	90	Soil/Soil-Like				177645; 177693	
WC-078	SOLID	Steel Drum	55	GALLON	50	Soil/Soil-Like				177690	
WC-079	SOLID	Steel Drum	55	GALLON	80	Soil/Soil-Like				177686	
WC-080	SOLID	Steel Drum	55	GALLON	15	Soil/Soil-Like				177656	
WC-081	SOLID	Steel Drum	55	GALLON	50	Soil/Soil-Like				177669	
WC-082	SOLID	Steel Drum	55	GALLON	80	Soil/Soil-Like				177643; 177969	Added top layer of soil from existing drum #177969
WC-083	SOLID	Steel Drum	55	GALLON	65	Soil/Soil-Like				177697	
WC-084	SOLID	Steel Drum	55	GALLON	75	Soil/Soil-Like				177660	
WC-085	SOLID	Steel Drum	55	GALLON	50	Soil/Soil-Like				177642	
WC-086	SOLID	Steel Drum	55	GALLON	85	Soil/Soil-Like				177630	
WC-087	SOLID	Steel Drum	55	GALLON	75	Soil/Soil-Like				177623	
WC-088	SOLID	Steel Drum	55	GALLON	50	Soil/Soil-Like				177689	
WC-089	SOLID	Steel Drum	55	GALLON	70	Soil/Soil-Like				177619	
WC-090	SOLID	Steel Drum	55	GALLON	80	Soil/Soil-Like				177601	
WC-091	SOLID	Steel Drum	55	GALLON	30	Soil/Soil-Like				177620	
WC-092	SOLID	Steel Drum	55	GALLON	40	Soil/Soil-Like				177670	Small hole in side of drum
WC-093	SOLID	Steel Drum	55	GALLON	60	Soil/Soil-Like				177617	
WC-094	SOLID	Steel Drum	55	GALLON	75	Soil/Soil-Like				177673	
WC-095	SOLID	Steel Drum	55	GALLON	60	Soil/Soil-Like				177618	
WC-096	SOLID	Steel Drum	55	GALLON	20	Soil/Soil-Like				177716	
WC-097	SOLID	Steel Drum	55	GALLON	70	Soil/Soil-Like				177633	
WC-098	SOLID	Steel Drum	55	GALLON	30	Soil/Soil-Like				TWP-841	
WC-099	SOLID	Steel Drum	55	GALLON	40	Soil/Soil-Like				177666	
WC-100	SOLID	Steel Drum	55	GALLON	50	Soil/Soil-Like				177637	
WC-101	SOLID	Steel Drum	55	GALLON	40	Soil/Soil-Like				177699	
WC-102	SOLID	Steel Drum	55	GALLON	90	Soil/Soil-Like				177688	
WC-103	SOLID	Steel Drum	55	GALLON	50	Soil/Soil-Like				177685	
WC-104	SOLID	Poly Drum	80	GALLON	90	Soil/Soil-Like				OPD-5; 177735	
WC-105	SOLID	Steel Drum	55	GALLON	80	Soil/Soil-Like				177667	
WC-106	SOLID	Steel Drum	55	GALLON	40	Soil/Soil-Like				177611	
WC-107	SOLID	Steel Drum	55	GALLON	90	Soil/Soil-Like				177692	
WC-108	SOLID	Steel Drum	55	GALLON	95	PPE	PVC/Plastic			177637	
WC-109	SOLID	Steel Drum	55	GALLON	30	Soil/Soil-Like	Metal			177705	
WC-110	SOLID	Steel Drum	55	GALLON	45	Soil/Soil-Like				Drum #1-5	
WC-111	SOLID	Steel Drum	55	GALLON	95	PPE	Soil/Soil-Like	Bag Filters		Drum # 2-BF	
WC-112	SOLID	Steel Drum	55	GALLON	95	PVC/Plastic				09/02 PPE	
WC-113	SOLID	Steel Drum	55	GALLON	80	PVC/Plastic				177710	
WC-114	SOLID	Steel Drum	55	GALLON	80	PVC/Plastic				177709	
WC-115	SOLID	Steel Drum	55	GALLON	70	PVC/Plastic				177744	
WC-116	SOLID	Steel Drum	55	GALLON	80	PVC/Plastic				177724	
WC-117	SOLID	Steel Drum	55	GALLON	90	PVC/Plastic				177725	
WC-118	SOLID	Steel Drum	55	GALLON	75	PVC/Plastic				177722	
WC-119	SOLID	Steel Drum	55	GALLON	80	PVC/Plastic				177723	
WC-120	SOLID	Steel Drum	55	GALLON	75	PVC/Plastic				177745	
WC-121	SOLID	Steel Drum	55	GALLON	70	PVC/Plastic				177720	
WC-122	SOLID	Steel Drum	55	GALLON	65	PVC/Plastic				177706	
WC-123	SOLID	Steel Drum	55	GALLON	80	PVC/Plastic				177645	
WC-124	SOLID	Steel Drum	55	GALLON	90	PVC/Plastic				177646	
WC-125	SOLID	Steel Drum	55	GALLON	90	PVC/Plastic				177704	
WC-126	SOLID	Steel Drum	55	GALLON	90	PVC/Plastic				177647	

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		WC Container									
WC Container	**Matrix**	**Type**	**Volume**	**Units**	**% Full**	**Contents_1**	**Contents_2**	**Contents_3**	**Contents_4**	**Original Container ID**	**Notes**
WC-127	SOLID	Steel Drum	55	GALLON	90	PVC/Plastic				177707	
WC-128	SOLID	Steel Drum	55	GALLON	75	PVC/Plastic	Metal			177708	
WC-129	SOLID	Steel Drum	55	GALLON	75	Metal	PVC/Plastic			177644	
WC-130	SOLID	Steel Drum	55	GALLON	90	Canvas Tarp				177709	
WC-131	SOLID	Steel Drum	55	GALLON	70	Soil/Soil-Like	Metal			177730	
WC-132	SOLID	Steel Drum	55	GALLON	50	Soil/Soil-Like	Metal			177540	
WC-133	SOLID	Steel Drum	55	GALLON	80	Soil/Soil-Like	Metal			177729	
WC-134	SOLID	Steel Drum	55	GALLON	90	Soil/Soil-Like	Metal			177749	
WC-135	SOLID	Steel Drum	55	GALLON	90	Soil/Soil-Like	Metal			177750	
WC-136	SOLID	Steel Drum	55	GALLON	90	Soil/Soil-Like	Metal			177740	
WC-137	SOLID	Poly Drum	80	GALLON	90	Soil/Soil-Like	Wood	Metal		OPD-9 (177727)	
WC-138	SOLID	Poly Drum	80	GALLON	95	Soil/Soil-Like	Wood	Metal		OPD-9 (177737)	
WC-139	SOLID	Poly Drum	80	GALLON	90	Soil/Soil-Like	Wood	Metal		OPD-2 (177728)	Elevated carbon monoxide level upon opening per H&S monitoring
WC-140	SOLID	Poly Drum	80	GALLON	90	Soil/Soil-Like	Wood	Metal		OPD-1 (177738)	
WC-141	SOLID	Poly Drum	80	GALLON	80	PVC/Plastic	PPE			OPD-7 (177726)	
WC-142	SOLID	Poly Drum	80	GALLON	80	Soil/Soil-Like	Wood	Metal		OPD-4 (177734)	
WC-143	SOLID	Poly Drum	80	GALLON	85	Soil/Soil-Like	Wood	Metal		OPD-3 (177733)	
WC-144	SOLID	Steel Drum	55	GALLON	80	PVC/Plastic	Soil/Soil-Like			170 (9/02)	
WC-145	SOLID	Steel Drum	55	GALLON	70	PVC/Plastic	Soil/Soil-Like			171 (9/02)	Removed small piece of apparent pitchblende ore (600k CPM gamma)
WC-146	SOLID	Steel Drum	55	GALLON	40	Soil/Soil-Like				162029	
WC-147	SOLID	Steel Drum	55	GALLON	60	Soil/Soil-Like				9905006-270	
WC-148	SOLID	Steel Drum	55	GALLON	50	Soil/Soil-Like				162029	
WC-149	SOLID	Steel Drum	55	GALLON	80	Soil/Soil-Like	PVC/Plastic	Concrete		177655	Drum lid severely corroded
WC-150	SOLID	Steel Drum	55	GALLON	75	Soil/Soil-Like				177696	
WC-151	SOLID	Steel Drum	55	GALLON	95	Concrete				Concrete Cores	Removed concrete cores, transferred to new drum
WC-152	SOLID	Steel Drum	55	GALLON	70	Soil/Soil-Like	PVC/Plastic			177654	
WC-153	SOLID	Steel Drum	55	GALLON	70	Concrete	Soil/Soil-Like	PVC/Plastic		177653	
WC-154	SOLID	Steel Drum	55	GALLON	90	PVC/Plastic	Metal			6P; VPG IDW Container	Contents include 5 carboys (1 from VPG)
WC-155	SOLID	Steel Drum	55	GALLON	60	PVC/Plastic				Carboys	
WC-156	SOLID	Steel Drum	55	GALLON	95	Soil/Soil-Like	PVC/Plastic			Vegetation drums; Tetra Tech samples	Contents include vegetation from 2 existing drums and box of samples from Tetra Tech
WC-157	SOLID	Steel Drum	55	GALLON	90	PVC/Plastic				Carboys	
WC-158	SOLID	Steel Drum	55	GALLON	95	PPE	PVC/Plastic	Soil/Soil-Like	Metal	N/A	
WC-159	SOLID	Steel Drum	55	GALLON	100	Soil/Soil-Like	PVC/Plastic	PPE	Metal	N/A	
WC-160	SOLID	Steel Drum	55	GALLON	95	PPE	Soil/Soil-Like			LSA Box #5	
WC-161	SOLID	Steel Drum	55	GALLON	100	Absorbent	PPE	Styrofoam		LSA Box #5 (3048)	
WC-162	SOLID	Steel Drum	55	GALLON	100	PPE				LSA Box #5 (3048)	
WC-163	SOLID	Steel Drum	55	GALLON	100	PPE				LSA Box #5 (3048)	
WC-164	SOLID	Steel Drum	55	GALLON	100	PPE	PVC/Plastic			LSA Box #5 (3048)	
WC-165	SOLID	Steel Drum	55	GALLON	100	PPE	PVC/Plastic	Soil/Soil-Like		LSA Box #5 (3048)	
WC-166	SOLID	Steel Drum	55	GALLON	95	PPE	Soil/Soil-Like	Glass		LSA Box 1 (3076); LSA Box 5 (3048)	Contents include soil from old sample containers, material from LSA Box 5 and LSA Box 1, pitchblende ore (all elevated activity)
WC-167	SOLID	LSA Box	3.6	CUBIC YARD	95	PPE	PVC/Plastic			LSA Box #5 (3048); LSA Box 10 (3075)	Contents from LSA Box 10 added to this container (LSA Box 5)
WC-168	SOLID	LSA Box	3.6	CUBIC YARD	100	PPE	PVC/Plastic			LSA Box 11 (2777)	Contents from LSA Box 11 added to this container (LSA Box 10)
WC-169	SOLID	LSA Box	3.6	CUBIC YARD	95	Metal				LSA Box 4; LSA Box 12	Contents from LSA Box 4 added to this container (LSA Box 12); no detectable activity on metal; survey report attached
WC-170	SOLID	LSA Box	3.6	CUBIC YARD	100	Metal				LSA Box 11 (2777); LSA Box 6; LSA Box 4; LSA Box	Metal from LSA Box 6, LSA Box 4, LSA Box 12, LSA Box 2 added to this container (LSA Box 11); elevated activity on metal; survey report attached
WC-171	SOLID	LSA Box	3.6	CUBIC YARD	95	Metal				LSA Box 4; LSA Box 6	Metal from LSA Box 6 added to this container (LSA Box 4); no detectable activity on metal; survey report attached
WC-172	SOLID	LSA Box	3.6	CUBIC YARD	100	Metal				LSA Box 7; LSA Box 2	Metal from LSA Box 2 and LSA Box 7 added to this container (LSA Box 6); no detectable activity on metal; survey report attached
WC-173	SOLID	LSA Box	3.6	CUBIC YARD	100	Metal	Wood	Concrete		LSA Box 6; LSA Box 7; LSA Box 2	Combined materials from LSA Box 6 and LSA Box 7 into this container (LSA Box 2); sampled concrete and wood; elevated activity; survey report attached.
WC-173	SOLID	LSA Box	3.6	CUBIC YARD	100	Metal	Wood	Concrete		LSA Box 6; LSA Box 7; LSA Box 2	Combined materials from LSA Box 6 and LSA Box 7 into this container (LSA Box 2); sampled paint chips; elevated activity; survey report attached.
WC-174	SOLID	LSA Box	3.6	CUBIC YARD	100	Metal				LSA Box 7; LSA Box 8; LSA Box 2	Combined metal from LSA Box 8 and LSA Box 2 into this container (LSA Box 7); no detectable activity on metal; survey report attached
WC-175	SOLID	LSA Box	3.6	CUBIC YARD	100	Metal				LSA Box 8; LSA Box 9	Material from LSA Box 9 added to this container (LSA Box 8); elevated activity; survey report attached
WC-176	SOLID	LSA Box	3.6	CUBIC YARD	100	Metal	Bentonite	Wood	PVC/Plastic	LSA Box 9; LSA Box 3	Material from LSA Box 3 added to this container (LSA Box 9); no detectable activity; survey report attached
WC-177	SOLID	LSA Box	3.6	CUBIC YARD	100	Metal				LSA Box 13	This container previously LSA Box 13; elevated activity; survey report attached
WC-179	SOLID	Steel Drum	55	GALLON	100	Soil/Soil-Like	Metal			LSA Box 1	
WC-180	SOLID	Steel Drum	55	GALLON	100	Soil/Soil-Like	Glass			LSA Box 1 (3076)	Contents include metal sample containers taken from LSA Box 1 (3076)
WC-181	SOLID	Steel Drum	55	GALLON	100	Soil/Soil-Like	Glass			LSA Box 1 (3076)	Contents include soil from old sample containers
WC-182	SOLID	Steel Drum	55	GALLON	90	Soil/Soil-Like	Metal	Cardboard	Styrofoam	LSA Box 1 (3076)	Contents include soil from old Shelby tubes
WC-183	SOLID	Steel Drum	55	GALLON	100	PPE	Soil/Soil-Like			N/A	
WC-184	SOLID	Steel Drum	55	GALLON	100	PPE	Cardboard	Soil/Soil-Like		N/A	
WC-185	SOLID	Steel Drum	55	GALLON	100	Soil/Soil-Like	Glass			LSA Box 1	Soil from old sample containers; possible mercury contamination
WC-186	SOLID	Steel Drum	55	GALLON	100	Soil/Soil-Like	Glass			LSA Box 1	Soil samples from LSA Box 1; possible mercury contamination
WC-187	SOLID	Steel Drum	55	GALLON	100	Soil/Soil-Like	Glass			LSA Box 1	Soil samples from LSA Box 1; possible mercury contamination
WC-188	SOLID	Steel Drum	55	GALLON	100	Soil/Soil-Like				N/A	Soil from hydraulic oil spill clean up box; possible asbestos contamination
WC-189	SOLID	Steel Drum	55	GALLON	100	Soil/Soil-Like	PPE			N/A	Contents include black powder containers and PPE used for sampling; possible PCB contamination per historical analytical data

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WC Container	Matrix	WC Container				Contents_1	Contents_2	Contents_3	Contents_4	Original Container ID	Notes
		Type	Volume	Units	% Full						
WC-190	SOLID	Steel Drum	55	GALLON	100	Soil/Soil-Like	PPE			N/A	Soil from hydraulic oil spill clean up box; possible asbestos contamination
WC-191	SOLID	Steel Drum	55	GALLON	100	Soil/Soil-Like	PPE			N/A	Soil from hydraulic oil spill clean up box; possible asbestos contamination
WC-192	SOLID	Steel Drum	55	GALLON	100	Soil/Soil-Like	PPE			N/A	Soil from hydraulic oil spill clean up box; possible asbestos contamination
WC-193	SOLID	Steel Drum	55	GALLON	95	Soil/Soil-Like	PPE			N/A	Soil from hydraulic oil spill clean up box; possible asbestos contamination
WC-194	SOLID	Steel Drum	55	GALLON	90	Soil/Soil-Like	Metal	Wood	PPE	N/A	Soil from hydraulic oil spill clean up box; possible asbestos contamination
WC-195	SOLID	Steel Drum	55	GALLON	95	Spongeblast				N/A	
WC-196	SOLID	Steel Drum	55	GALLON	30	Spongeblast	Soil/Soil-Like			N/A	
WC-197	SOLID	Steel Drum	55	GALLON	30	Spongeblast				N/A	
WC-198	SOLID	Steel Drum	55	GALLON	100	Soil/Soil-Like	PVC/Plastic	PPE		N/A	Contents include black powder; possible PCB contamination
WC-199	SOLID	Steel Drum	55	GALLON	90	PPE	Soil/Soil-Like	Wood		N/A	Contents include HEPA vacuum dust, wood (elevated activity), and PPE
WC-200	SOLID	Steel Drum	55	GALLON	90	PPE	Soil/Soil-Like	PVC/Plastic		N/A	Contents include HEPA vacuum dust and PPE
WC-201	SOLID	Steel Drum	55	GALLON	90	PPE	Soil/Soil-Like			N/A	Contents include HEPA vacuum dust and PPE
WC-202	SOLID	Steel Drum	55	GALLON	90	PPE	Soil/Soil-Like			N/A	Contents include HEPA vacuum dust, filter, and PPE
WC-203	SOLID	Steel Drum	55	GALLON	20	Soil/Soil-Like				N/A	Contents include HEPA vacuum dust and filter
WC-204	SOLID	Steel Drum	55	GALLON	95	Spongeblast				N/A	
WC-205	SOLID	Steel Drum	55	GALLON	90	PPE	Soil/Soil-Like			N/A	Contents include small bag of soil and drywall (elevated activity) and PPE
WC-206	SOLID	Steel Drum	55	GALLON	30	Soil/Soil-Like	PVC/Plastic			N/A	Contents include HEPA vacuum dust, hose, and filter
WC-207	SOLID	Steel Drum	55	GALLON	40	Absorbent	Soil/Soil-Like			N/A	
WC-208	SOLID	Steel Drum	55	GALLON	90	Styrofoam	Soil/Soil-Like			SUD 0206	
WC-209	SOLID	Steel Drum	55	GALLON	90	PVC/Plastic	Styrofoam	Soil/Soil-Like	Wood	SUD 0606	
WC-210	SOLID	Steel Drum	55	GALLON	95	Styrofoam	PVC/Plastic	Soil/Soil-Like	Wood	SUD 0506	
WC-211	SOLID	Steel Drum	55	GALLON	100	PVC/Plastic	Styrofoam	PPE	Wood	SUD 0406	
WC-212	SOLID	Steel Drum	55	GALLON	95	PVC/Plastic	Styrofoam	Soil/Soil-Like	Wood	SUD 0706	
WC-213	SOLID	Steel Drum	55	GALLON	100	PVC/Plastic	Styrofoam	Wood		SUD 0306	
WC-214	SOLID	Steel Drum	55	GALLON	90	PVC/Plastic	Soil/Soil-Like	Styrofoam	Wood	SUD 0106	
WC-215	SOLID	Steel Drum	55	GALLON	100	PPE	Soil/Soil-Like			N/A	
WC-216	SOLID	Steel Drum	55	GALLON	100	PVC/Plastic				N/A	
WC-217	SOLID	Steel Drum	55	GALLON	80	PVC/Plastic	Soil/Soil-Like	PPE		N/A	
WC-218	WATER	Steel Drum	55	GALLON	95	Water				N/A	Contents generated from RI IDW drums with free liquids; included in composite sample WC-219
WC-219	WATER	Steel Drum	55	GALLON	95	Water				N/A	Contents generated from RI IDW drums with free liquids; composite sample WC-219 includes liquid from WC-218
WC-220	OIL	Steel Drum	55	GALLON	80	Oil				N/A	Waste oil drum
WC-221	OIL	Steel Drum	55	GALLON	30	Oil				N/A	Waste oil sludge drum
WC-222	SOLID	Steel Drum	55	GALLON	80	Soil/Soil-Like	PPE	PVC/Plastic		N/A	Possible mercury contamination per H&S monitoring; WC-225 (liquid mercury) also stored inside this container for security
WC-223	OIL	Steel Drum	55	GALLON	10	Oil	Metal			N/A	Contents include 10 metal cans containing oil; absorbent added to drum after sampling
WC-224	SOLID	LSA Box	3.6	CUBIC YARD	90	Wood	PPE	PVC/Plastic	Soil/Soil-Like	N/A	Contents from RI Addendum field work include wood from driller decontamination pad, PVC from well abandonment, and various radiological trash/PPE; no detectable activity
WC-225	MERCURY	Plastic Jar	250	ML	30	Liquid Mercury				N/A	Liquid mercury (approximately 200 mL); stored inside WC-222 container for security
WC-226	SOLID	Steel Drum	55	GALLON	50	Soil/Soil-Like				N/A	RI Addendum driller decontamination pad solids
WC-227	SOLID	LSA Box	3.6	CUBIC YARD	100	PPE	Soil/Soil-Like	PVC/Plastic		N/A	RI Addendum driller decontamination IDW water drums (halved); sediment sampled
WC-600	SOLID	Steel Drum	55	GALLON	100	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP923
WC-601	SOLID	Steel Drum	55	GALLON	50	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP923
WC-602	SOLID	Steel Drum	55	GALLON	100	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP922
WC-603	SOLID	Steel Drum	55	GALLON	50	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP922
WC-604	SOLID	Steel Drum	55	GALLON	100	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP925
WC-605	SOLID	Steel Drum	55	GALLON	100	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP924
WC-606	SOLID	Steel Drum	55	GALLON	100	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP926
WC-607	SOLID	Steel Drum	55	GALLON	100	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP927
WC-608	SOLID	Steel Drum	55	GALLON	100	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP928
WC-609	SOLID	Steel Drum	55	GALLON	100	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP930
WC-610	SOLID	Steel Drum	55	GALLON	100	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP931
WC-611	SOLID	Steel Drum	55	GALLON	100	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP929
WC-612	SOLID	Steel Drum	55	GALLON	100	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP936
WC-613	SOLID	Steel Drum	55	GALLON	100	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP939
WC-614	SOLID	Steel Drum	55	GALLON	100	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP921
WC-615	SOLID	Steel Drum	55	GALLON	60	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP921
WC-616	SOLID	Steel Drum	55	GALLON	90	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP935
WC-617	SOLID	Steel Drum	55	GALLON	90	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP938
WC-618	SOLID	Steel Drum	55	GALLON	40	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP938
WC-619	SOLID	Steel Drum	55	GALLON	90	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP941
WC-620	SOLID	Steel Drum	55	GALLON	90	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP940
WC-621	SOLID	Steel Drum	55	GALLON	90	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP937
WC-622	SOLID	Steel Drum	55	GALLON	40	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP937
WC-623	SOLID	Steel Drum	55	GALLON	90	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP942
WC-624	SOLID	Steel Drum	55	GALLON	90	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP943

NIAGARA FALLS STORAGE SITE - WASTE CHARACTERIZATION PROJECT
WASTE INVENTORY

		WC Container									
WC Container	**Matrix**	**Type**	**Volume**	**Units**	**% Full**	**Contents_1**	**Contents_2**	**Contents_3**	**Contents_4**	**Original Container ID**	**Notes**
WC-625	SOLID	Steel Drum	55	GALLON	90	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP932
WC-626	SOLID	Steel Drum	55	GALLON	40	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP932
WC-627	SOLID	Steel Drum	55	GALLON	90	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP934
WC-628	SOLID	Steel Drum	55	GALLON	90	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP933
WC-629	SOLID	Steel Drum	55	GALLON	40	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP930
WC-630	SOLID	Steel Drum	55	GALLON	90	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP929
WC-631	SOLID	Steel Drum	55	GALLON	90	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP928
WC-632	SOLID	Steel Drum	55	GALLON	90	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP927
WC-633	SOLID	Steel Drum	55	GALLON	90	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP931
WC-634	SOLID	Steel Drum	55	GALLON	90	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP932
WC-635	SOLID	Steel Drum	55	GALLON	90	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP933
WC-636	SOLID	Steel Drum	55	GALLON	90	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP926
WC-637	SOLID	Steel Drum	55	GALLON	90	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP925
WC-638	SOLID	Steel Drum	55	GALLON	90	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP924
WC-639	SOLID	Steel Drum	55	GALLON	90	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP939
WC-640	SOLID	Steel Drum	55	GALLON	90	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP942
WC-641	SOLID	Steel Drum	55	GALLON	90	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP937
WC-642	SOLID	Steel Drum	55	GALLON	90	Soil/Soil-Like				N/A	RI Addendum soil cuttings from TWP940
WC-643	WATER	Steel Drum	55	GALLON	100	Water					RI Addendum DNAPL driller decontamination water
WC-644	WATER	Steel Drum	55	GALLON	100	Water					RI Addendum DNAPL driller decontamination water
WC-645	WATER	Steel Drum	55	GALLON	100	Water					RI Addendum DNAPL driller decontamination water
WC-646	WATER	Steel Drum	55	GALLON	100	Water					RI Addendum DNAPL driller decontamination water
TANK1	WATER	Poly Tank	1550	GALLON	85	Water					
TANK2	WATER	Poly Tank	1550	GALLON	85	Water					
TANK3	WATER	Poly Tank	550	GALLON	55	Water					

Summary of Chemical Containers From the NFSS On-Site Storage Trailer to be Released to USACE (Buffalo District) Representative

Container No.	Container Type	Container Chemical	Chemical Volume (mls)	Comments
1	BOX	HNO3	1360	Mainly 1:1 HNO3
1A	BOX	HNO3	20	1 gallon Plastic w/old preservative
2A	BOX	H2SO4	82	
2B	BOX	H2SO4	12	
3A	COOLER	HCL	75	2 Cases of VOA Vials
3B	BOX	HCL	20	
4	BOX	NaOH	150 grams	Also bottle w/1 ml NaOH preservative
5	BOX	Sodium Bisulfate	250	In 5 ml plastic tubes
6	BOX	Expired Detector Tubes	30 tubes	GasTech Tubes for Xylene, Toluene, TCE
7	COOLER	Methanol	900	In 10 ml plastic tubes
8	BOX	Acetone	700	
9	BOX	Sodium Azide (<0.01%)	40 grams	Powder in glass vials
10	5-gal Container	Kerosene	< 1 gallon	Kerosene storage container
11	5-gal Container	AW-32 Hydraulic Oil	1 gallon	Has H&S Information
12A	32-oz Metal Can	Charcoal Lighter Fluid	20 mls	
13	BOX	Unknown Liquids	Approximately 150 mls	No MSDS included
14	BOX	Aerosol Paint Cans	2,500 grams	Mostly Marking Paints
15	BOX	Explosives Detector Kits	2 aerosol tubes	Tubes marked 100 mls; Flammable
16	BOX	Respirator Fit Test Chemicals	12 applicators	Sodium saccharin;sodium chloride; denatonium benzoate
17	BOX	Hach Hardness Kit Chemicals	100 mls EDTA	Also includes 100 powder pillows of hardness reagent
18	BOX	Small sealed battery	6" X 2" X 1" size	Contains lead
19	BOX	Acid Spill Kit Chemicals	2.2 # Sodium Carbonate	Also includes 3.3 # Absorbent Material

Notes: (1) Containers packaged for segragation/storage purposes and not for transportation.

Attachment 2

Bill of Lading & Uniform Manifest

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Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
			003194244 JJK

GENERATOR

5. Generator's Name and Mailing Address

Generator's Site Address (if different than mailing address)

Generator's Phone:

6. Transporter 1 Company Name — U.S. EPA ID Number

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address — U.S. EPA ID Number

Facility's Phone:

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1.					
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name — Signature — Month Day Year

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: _____

Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name — Signature — Month Day Year

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

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Attachment 3

Transportation Routes

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Transportation Route from Niagara Falls Storage Site
to CycleChem
550IndustrialDrive
Lewisberry, PA 17339
Phone:(717) 938-4700
Fax:(717) 938-3301

South on NY-18
West on NY-104
South on I-190
East on I-290
North on I-990
Right on Sweet Home Road
Left on Commerce Drive

Temporary storage at:
OP-TECH Environmental Services, Inc.
500 Commerce Drive
Amherst, NY 14228

Right on Commerce Drive
Left on Sweet Home Road
South on I-990
East on I-290
East on I-90
South on I-390
East on I-86
North on NY-34

Temporary storage at:
OP-TECH Environmental Services, Inc.
370 Route 34
Waverly, NY 14892

South on NY-34
East on I-86
South on I-81
South on I-83
Right on Yorktown Road
Yorktown Road becomes Industrial Drive

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MAPQUEST.

Trip to [756-799] Pletcher Rd

Lewiston, NY 14092
2244.80 miles - about 1 day 9 hours 31 minutes

Notes

Trucking Routes from the NFSS to US Ecology disposal facility in Idaho

Note to Indiana I-80/94 Travelers in the Gary Area:

Due to widening of the Frank Borman Expressway (I-80/94), lane closures will be in place between Broadway (State Route 53) and Central Avenue this summer. Brief full closures are also be possible during overnight hours. For additional details we recommend visiting the Indiana DOT Web site at Borman Expressway. For your safety, always obey local construction and detour signs.

300e E Mallard Dr, Boise, ID 83706-6646

START	1. Start out going **NORTHEAST** on **E MALLARD DR** toward **E PARKCENTER BLVD**.	go 0.1 mi
	2. Turn **LEFT** onto **E PARKCENTER BLVD**.	go 0.6 mi
	3. Turn **LEFT** onto **W BEACON ST**.	go 0.3 mi
20	4. Turn **LEFT** onto **S BROADWAY AVE / US-20 / US-26**.	go 2.3 mi
EAST 84	5. Merge onto **I-84 E** via the ramp on the **LEFT** toward **MOUNTAIN HOME / TWIN FALLS** (Crossing into **UTAH**).	go 301.7 mi
340 EXIT, EAST 84	6. Merge onto **I-84 E** via **EXIT 340** toward **CHEYENNE**.	go 39.1 mi
EAST 80	7. Merge onto **I-80 E** via the exit on the **LEFT** toward **CHEYENNE** (Passing through **WYOMING** and **NEBRASKA**, then crossing into **IOWA**).	go 1175.8 mi
290 EXIT, EAST 280	8. Merge onto **I-280 E** via **EXIT 290** toward **US-6 E / ROCK ISLAND / MOLINE** (Crossing into **ILLINOIS**).	go 27.5 mi
EAST 80	9. Merge onto **I-80 E** via the exit on the **LEFT**.	go 144.7 mi
	10. Keep **RIGHT** at the fork to continue on **I-80 E** (Portions	go 19.8 mi

	toll) (Crossing into **INDIANA**).	
	11. Take the **I-65 N** exit, **EXIT 12**, toward **TOLL ROAD**.	go 0.6 mi
	12. Merge onto **I-80 E / I-94 E**.	go 3.3 mi
	13. Merge onto **I-80 E** via **EXIT 16** toward **OHIO** (Portions toll) (Crossing into **OHIO**).	go 287.8 mi
	14. Merge onto **I-480 E** via **EXIT 151** toward **CLEVELAND**.	go 9.6 mi
	15. Take the **I-71 N** exit, **EXIT 11**, toward **CLEVELAND**.	go 1.0 mi
	16. Merge onto **BEREA FWY**.	go 0.5 mi
	17. **BEREA FWY** becomes **I-71 N**.	go 8.6 mi
	18. **I-71 N** becomes **I-90 E** (Portions toll) (Passing through **PENNSYLVANIA**, then crossing into **NEW YORK**).	go 188.7 mi
	19. Merge onto **I-190 N** via **EXIT 53** toward **DOWNTOWN BUFFALO / NIAGARA FALLS** (Portions toll).	go 27.8 mi
	20. Take the **RT-265** exit, **EXIT 25A**, toward **LEWISTON**.	go 0.1 mi
	21. Turn **LEFT** onto **MILITARY RD / NY-265**.	go 0.9 mi
	22. Turn **RIGHT** onto **LEWISTON RD / NY-104**.	go 0.8 mi
	23. Take the **ROBERT MOSES PKY / RT-104 / RT-18F** ramp.	go 0.4 mi
	24. Take the **R. MOSES PKWY NORTH** ramp toward **FORT NIAGARA**.	go 0.2 mi

	25. Merge onto **ROBERT MOSES STATE PKWY N**.	go 2.0 mi
RAMP	26. Take the **PLETCHER RD** ramp toward **JOSEPH DAVIS STATE PARK**.	go 0.3 mi
	27. Turn **RIGHT** onto **PLETCHER RD**.	go 0.4 mi
END	28. **[756-799] PLETCHER RD**.	go 0.0 mi

B

[756-799] Pletcher Rd, Lewiston, NY 14092

Total Travel Estimate : 2244.80 miles - about 1 day 9 hours 31 minutes

Route Map Hide

MAPQUEST.

Trip to [756-799] Pletcher Rd

Lewiston, NY 14092
1400.07 miles - about 22 hours 6 minutes

Notes

Trucking Route from NFSS to WSC disposal facility in Dallas, Texas

5430 Lyndon B Johnson Fwy, Dallas, TX 75240-2601

1. Start out going **EAST** on **LYNDON B JOHNSON FWY / I-635 E / LBJ FWY** toward **NOEL RD**.	go 0.0 mi
2. Merge onto **I-635 E** via the ramp on the **LEFT**.	go 13.5 mi
3. Merge onto **I-30 E** via **EXIT 8B** toward **TEXARKANA** (Crossing into **ARKANSAS**).	go 304.9 mi
4. Merge onto **I-440 E** via **EXIT 138A** toward **L.R. NATL. AIRPORT / L.R. RIVER PORT / MEMPHIS**.	go 10.0 mi
5. Merge onto **I-40 E** via **EXIT 11** toward **MEMPHIS** (Crossing into **TENNESSEE**).	go 140.0 mi
6. Merge onto **I-40 E** via **EXIT 12C** on the **LEFT** toward **NASHVILLE**.	go 197.1 mi
7. Merge onto **I-65 N** via **EXIT 208B** on the **LEFT** toward **LOUISVILLE**.	go 2.1 mi
8. Merge onto **I-65 N** via **EXIT 86A** on the **LEFT** toward **CLARKSVILLE / LOUISVILLE** (Crossing into **KENTUCKY**).	go 165.6 mi
9. Take the **I-264 / WATTERSON EXPRESSWAY** exit, **EXIT 131-A**, toward **AIRPORT**.	go 0.5 mi
10. Merge onto **I-264 E** via **EXIT 131A**.	go 10.8 mi
11. Merge onto **I-71 N** via **EXIT 23A** toward **CINCINNATI** (Crossing into **OHIO**).	go 91.1 mi

	12. Keep **RIGHT** to take **I-71 N** via **EXIT 1B** toward **US-50 E / COLUMBUS**.	go 107.7 mi
	13. Merge onto **I-71 N** via **EXIT 101A** on the **LEFT** toward **CLEVELAND**.	go 112.7 mi
	14. Merge onto **I-271 N** via **EXIT 220** toward **ERIE PA**.	go 40.4 mi
	15. **I-271 N** becomes **I-90 E** (Portions toll) (Passing through **PENNSYLVANIA**, then crossing into **NEW YORK**).	go 170.9 mi
	16. Merge onto **I-190 N** via **EXIT 53** toward **DOWNTOWN BUFFALO / NIAGARA FALLS** (Portions toll).	go 27.8 mi
	17. Take the **RT-265** exit, **EXIT 25A**, toward **LEWISTON**.	go 0.1 mi
	18. Turn **LEFT** onto **MILITARY RD / NY-265**.	go 0.9 mi
	19. Turn **RIGHT** onto **LEWISTON RD / NY-104**.	go 0.8 mi
	20. Take the **ROBERT MOSES PKY / RT-104 / RT-18F** ramp.	go 0.4 mi
	21. Take the **R. MOSES PKWY NORTH** ramp toward **FORT NIAGARA**.	go 0.2 mi
	22. Merge onto **ROBERT MOSES STATE PKWY N**.	go 2.0 mi
	23. Take the **PLETCHER RD** ramp toward **JOSEPH DAVIS STATE PARK**.	go 0.3 mi
	24. Turn **RIGHT** onto **PLETCHER RD**.	go 0.4 mi
	25. **[756-799] PLETCHER RD**.	go 0.0 mi

[756-799] Pletcher Rd, Lewiston, NY 14092

Total Travel Estimate : 1400.07 miles - about 22 hours 6 minutes

Route Map Hide

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Attachment 4

Transportation SPCC Plan (I.C.E.)

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ICE Service Group, Inc.
192 Ohio River Blvd.
Suite 100
Ambridge, PA 15003

Emergency/Spill Containment Plan

Approved By: [redacted]

Date: 11/10/07

Revision #: 0

• 192 Ohio River Blvd • Suite 100 • Ambridge PA 15003 p 724.266.7580 f 724.266.7583 www.iceservicegroup.com

ICE Service Group, Inc.
• Industrial • Construction • Environmental

Emergency/Spill Containment Plan

NOTIFICATION PROCEDURE:

Immediate notification for spills and/or emergencies shall be made by the employee via telephone to the following:

1. National Response Center - (800) 424-8802;
2. State environmental protection agency, State Police or, other agency as required by the respective state
3. ICE Safety Department or Operations Department Personnel

The current Emergency Response Guidebook (ERG) is to be referenced for specific instructions on emergency procedures for the material in question in case of a spill or accidental release.

When making notification, the following information is required:

1. Name of person reporting the incident.
2. Name, address, and identification number of the transporter.
3. Phone number where the person reporting the spill can be reached.
4. Date, time and location of the incident.
5. Mode of transportation and type of transport vehicle.
6. A brief description of the incident, including type of incident.
7. For each waste involved in the spill:
    a. The name and identification number of the generator of the waste;
    b. Shipping name, hazard class and UN number of the waste;
    c. The estimated quantity of the material or waste spilled;
    d. The extent of the contamination of land, water or air, if known.
8. Shipping name, hazard class and UN number of any other material carried.

SPILL RESPONSE/EMERGENCY PROCEDURES:

In case of a spill, the employee or vendor will immediately attempt to prevent the escape of any liquid or solid into the ground, storm or sanitary sewer systems. A barrier will be erected immediately to prevent escape of spilled material/waste liquids. The use of spill equipment will be supplemented when necessary with materials on hand, including dirt to prevent spreading of the spill. Containment of solids will be
dependent on wind and weather conditions. The tarpaulin in the vehicle, or plastic liner will be used if conditions dictate.

Simultaneously, the source of the spill or leak will be located and controlled, e.g., plugging or taping a container, or repositioning the container to control the leakage.

The possibility of evacuation will be considered in the event of a major spill (e.g., a collision with another vehicle or a loaded trailer that has turned over, with subsequent container(s) rupturing). Ignitable wastes that may catch fire and possibly explode or generate toxic fumes will be a cause for major concern. If fire threatens or actually occurs, personnel will be evacuated to a distance of at least one half-mile, or as recommended by the Emergency Response Guidebook (ERG). If no fire threatens, and no container(s) has ruptured, a distance of 50- 100 feet should suffice if not otherwise stated in the ERG.

Refer to the shipping document for the proper shipping description. Using the blue pages of the ERG, locate the correct Guide Number. Then, using the orange pages of the ERG, locate the corresponding Guide Number for specific emergency response information.

If the shipping description is not known, the 4-digit ID number may be located on a placard, orange panel, or a package. Using the yellow pages of the ERG, locate the 4-digit ID number and the reference the corresponding Guide Number in the orange pages of the ERG.

If the name of the material or the 4-digit ID number cannot be determined and a placard can be seen, locate the placard on the appropriate pages of the ERG and turn to the corresponding Guide Number in the orange pages of the ERG.

In the event a reference to the guide cannot be found through any of the methods detailed above, Guide 111 is to be used until additional information can be obtained.

At all times, the employee or vendor will maintain close contact with company management personnel. The employee or vendor will keep Management apprised of the site conditions and steps taken to secure the scene. ICE Management will make the necessary notifications to Emergency Response contractors as outlined in the attached document entitled Emergency Response Aid Numbers.

REMEDIATION PROCEDURES

With containment effected and the spill source controlled, clean up and remediation of the site will begin. If the spill is contained on an impervious paved surface, material will be absorbed into a compatible material (e.g., sand, diatomaceous earth and/or commercial absorbent inert materials). If any spilled waste has reached the ground, all contaminated soil will be removed for proper disposal. The extent of the contamination will be determined by sampling the spill area. All samples will be analyzed by a qualified laboratory. Sampling techniques, chain-of-custody requirements and analytical methods will follow established, approved procedures for such analysis. Any soil exhibiting contamination above the local background level will be removed to an appropriate permitted disposal site.

In addition to contaminated absorbents, dirt of the like as noted above, damaged containers, and other materials generated by the clean up process will be properly disposed of. Special "recovery drums" (oversized metal drums) will be used for containing damaged 55-gallon drums. Disposal will be at an approved site.

The Company will submit a report of the incident in writing as required by 49 CFR 171.16 to the Director, Office of Hazardous Materials Registration, Materials and Transportation Bureau, Department of Transportation, Washington, DC, 20590. Additionally, copies of the report will be forwarded to the respective state environmental agencies and the generator.

ICE Service Group, Inc.
• Industrial • Construction • Environmental

EMPLOYEE TRAINING

All employees are fully trained and tested on all applicable DOT and OSHA safety regulations including the transportation and handling of hazardous materials and waste upon their hire. Periodic training and testing is conducted throughout their tenure with the company.

COMMUNICATIONS

Each employee is in possession of a cellular phone. ICE tracks all railcar shipments daily and is in contact with all hired vendors (truck/rail/marine) daily.

SAFETY AND SPILL RESPONSE EQUIPMENT

ICE requires that all subcontracted trucking vendors are equipped with the following safety equipment:

- hard hat with face shield
- flashlight
- respirator (full and/or half-face)
- safety glasses
- protective wet suit
- Tyvek and Saranex suit
- rubber boots and gloves
- first aid kit including eye wash
- fire extinguisher
- the latest DOT Emergency Response Guidebook
- shovel and pail
- absorbent pads (both all purpose and oil/solvent)
- plastic sheeting
  spill dry (or equivalent absorbent material)

ICE Service Group, Inc.
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DECONTAMINATION PROCEDURES

Any equipment exposed to a spill or leak will be decontaminated on site to prevent any further release. Once decontamination on site has been performed to the extent that it can be transported (moved under its own power) without further contamination to the environment, it will be relocated to an authorized facility capable of further decontamination if necessary.

Equipment will be decontaminated in the following manner:

- Each item used will be placed in an open head container and thoroughly rinsed with a compatible solvent or cleaning compound.
- The residue or wash water will then be drained into a tight head container, sealed, and disposed of in accordance with Federal and State Regulations at an authorized disposal site.
- Any clothing that is contaminated will be placed with the cleanup residue and disposed of in accordance with applicable federal and state regulations at an authorized disposal site.

If clothing is reusable, it will be decontaminated in accordance with the applicable regulations and the resulting residue added to the other waste.

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EMERGENCY PROCEDURE GUIDELINES

The following guidelines should be followed in the event of an accidental spill, leak or release of any quantity of hazardous waste into the environment. This guide should be carried by all drivers when transporting hazardous waste.

BASIC PRECAUTIONS:

1. Do not enter the cargo area or the tank. Avoid re-entering the vehicle, especially if hazardous vapors could be present, or if there is a danger of explosion.
2. Stay upwind from the release.
3. Do not leave the scene of the incident until emergency personnel arrive, If you are unable to call for assistance from your vehicle, flag down a motorist, and give him/her the names and phone numbers of your supervisor and appropriate emergency response agencies.

INITIAL STEPS:

1. If accidental discharge should occur while you are enroute, park the vehicle as far as possible from people, bodies of water (streams, ponds, lakes) or ignition sources (if carrying flammables).
2. If accidental discharge should occur while you are loading or unloading, immediately close all valves or other mechanisms that are releasing the waste.
3. Remove all pertinent papers necessary for identifying the released material and the proper procedures for containing the release. This would include the Manifest, your current copy of the DOT Emergency Response Guidebook, and your ICE Emergency Response Guidelines.
4. Retrieve your safety clothing and equipment.
5. Using the manifest to identify your cargo, look up the specific information on potential hazards, protection devises, clean-up and/or containment methods and first-aid procedures in your DOT Emergency Response Guidebook.

Put on your personal protective clothing appropriate for the handling the type of waste involved.

CONTAINING THE RELEASE

1. Establish a perimeter of isolation around the spill site. Keep all non-emergency personnel and vehicles away from the spill site.
2. Attempt to contain the release by constructing a barrier of earth or any other available materials, using absorbent materials from your spill kit or digging a dike. If flammable, combustible or explosive wastes are involved, do not use any tools or materials that may cause or produce a spark.

FIRST AID PROCEDURES

1. Move any victims away from the site to prevent inhalation of vapors or contact with the released substance.
2. Call emergency medical care immediately.
3. In most cases, the contaminated clothing of the victim should be removed and isolated at the site.
4. Consult the DOT Emergency Guidebook and call the National Response Center, (800)424-8802 for specific instructions.

CONTACTING THE AUTHORITIES

1. Immediately call the Corporate Headquarters (724)-266-7580, relaying the following information:

   a) phone number where you can be reached;

   b) time and location of the incident;

   c) the type of waste released;

   d) estimated quantity of the release;

   e) extent of the contamination, if known
2. If the release has occurred at a TSD, contact the site manager prior to contacting the Corporate Headquarters.
3. Dispatch personnel will contact the appropriate authorities. Refrain from communicating with the media. ICE Management will handle all press releases as required.
4. If unable to contact the Corporate Headquarters, call 911 and notify the local authorities. Also call the National Response Center (800)424-8802 and notify them of the incident, advising them that you are attempting to contact your office.

ARRIVAL OF EMERGENCY PERSONNEL

1. Cooperate fully with all law enforcement, fire department and other official personnel upon their arrival at the site.
2. Advise them of the type of waste released and its hazards.

Advise arriving parties of what steps you have taken to contain the

EMERGENCY RESPONSE CONTACTS

EMERGENCY RESPONSE CONTRACTORS

CLEAN HARBORS - Nationwide .....(800) 645-8265
ENVIROMENTAL MGMT, Inc. – Nationwide .....(800) 510-8510
RAPID RESPONSE, Inc. – Nationwide . .....(877) 460-1038
INITIAL RESPONSE, Inc. – PA, NJ, DE .....(877) 464-8425
MINUTEMAN SPILL RESPONSE, Inc. – PA .....(800) 905-7788
HMHTTC REPSONSE, Inc. – East Coast.....(888) 774-5571
OP-TECH – NY.....(800) 225-6750
A & A ENVIRONMENTAL SERVICES – Northeast .....(800) 404-8037

EMERGENCY REPORTING HOTLINES & INFORMATION

Center for Disease Control .....(404) 633-5313
Chemtrec..... .....(800) 424-9300
CMA Chemical Referral Ctr..... .....(800) 262-8200
DOT HazMat Information .. ..(202) 366-4488
Emergency Planning ....(800) 535-0202
Fed Emerg Mgmt Agency.. .....(817) 898-5280
National Response Ctr Hotline ....(800) 424-8802

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APPENDIX F

Niagara Falls Storage Site
EM 385-1-1 APP Checklist

Appendix F
Accident Prevention Plan/ Site Safety and Health Plan (APP/SSHP) Checklist
(EM 385-1-1, Appendix A & Section 28, 15 September 2008)

Contractor Accident Prevention Plan (APP) Checklist

CONTRACTOR ACCIDENT PREVENTION PLAN (APP) CHECKLIST (EM 385-1-1, Appendix - A, dated; 15 Sept. 08)

Minimum Basic Outline for Accident Prevention Plan

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Safety Office Review Status: ACCEPTED BY/DATE: _____ NOT ACCEPTED BY/DATE:_____

Contractor Name: Environmental Chemical Corp. (ECC) **Contract No:** W912ZLK-05-0009

Project Title & Location:	Included ?			Location:
	Yes	No	N/A	Page(s)
ALL CHECKLIST ITEMS WILL BE COMPLETED!				
1. SIGNATURE SHEET. Title, signature, and phone number of the following:	X			1-1
a. *Plan Preparer* (qualified person, Competent Person such as corporate safety staff person, QC).	X			1-1
b. *Plan Approval* by company/corporate officers authorized to obligate the company (e.g. owner company president, regional vice president etc.)	X			1-1
c. *Plan Concurrence* (e.g. Chief of Operations, Corporate Chief of Safety, Corporate Industrial Hygienist, project manager or superintendent, project safety professional, project QC). Provide concurrence of other applicable corporate and project personnel (Contractor).	X			1-1
2. BACKGROUND INFORMATION. List the following:				
a. Contractor;	X			2-1
b. Contract number;	X			2-1
c. Project name;	X			2-1
d. Brief project description, description of work to be performed, and location; phases of work anticipated (these will require an AHA).	X			2-1
3. STATEMENT OF SAFETY AND HEALTH POLICY. Provide a copy of your current corporate/company Safety & Health Policy Statement, detailing commitment to providing a safe and healthful workplace for all employees. The Contractor's written safety program goals, objectives, and accident experience goals for this contract should be provided.	X			Figure 2
4. RESPONSIBILITIES AND LINES OF AUTHORITIES. Provide the following:				
a. A statement of the employer's ultimate responsibility for the implementation of his SOH program;	X			4-1
b. Identification and accountability of personnel responsible for safety at both corporate and project level. Contracts specifically requiring safety or industrial hygiene personnel shall include a copy of their resumes. Qualifications shall include the OSHA 30-hour course or equivalent course areas as listed here:	X			4-1 to 4-5 App. B
(1) OSH Act/General Duty Clause;	X			4-3
(2) 29 CFR 1904, Recordkeeping;	X			4-3
(3) Subpart C: General Safety and Health Provisions, Competent Person	X			4-3,4-6
(4) Subpart D: Occupational Health and Environmental Controls, Citations and Safety Programs;	X			4-2

No vertical construction- confined spaces anticipated

CONTRACTOR ACCIDENT PREVENTION PLAN (APP) CHECKLIST (EM 385-1-1, Appendix - A, dated; 15 Sept. 08)

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Contractor Name: ECC **Contract No:** W912ZLK-05-0009

Project Title & Location:	Included ?			Location:
	Yes	No	N/A	Page(s)
(5) Subpart E: PPE, types and requirements for use;	X			4-4
(6) Subpart F: understanding fire protection in the workplace;	X			4-3
(7) Subpart K: Electrical;	X			4-3
(8)Subpart M: Fall Protection;	X			4-3
(9) Rigging, welding and cutting, scaffolding, excavations, concrete and masonry, demolition; health hazards in construction, materials handling, storage and disposal, hand and power tools, motor vehicles, mechanized equipment, marine operations, steel erection, stairways and ladders, confined spaces or any others that are applicable to the work being performed.			X or	No vertical Construction confined spaces anticipated
c. The names of Competent and/or Qualified Person(s) and proof of competency/qualification to meet specific OSHA Competent/Qualified Person(s) requirements must be attached. The District SOHO will review the qualifications for acceptance;	X			4-2,4-3 App. B
d. Requirements that no work shall be performed unless a designated competent person is present on the job site;	X			4-3
e. Requirements for pre-task safety and health analysis;	X			4-1
f. Lines of authority;	X			4-6
g. Policies and procedures regarding noncompliance with safety requirements (to include disciplinary actions for violation of safety requirements) should be identified;	X			4-6,4-7
h. Provide written company procedures for holding managers and supervisors accountable for safety.	X			4-7
5. SUBCONTRACTORS AND SUPPLIERS. If applicable, provide procedures for coordinating SOH activities with other employers on the job site:	X			5-1
a. Identification of subcontractors and suppliers (if known);	X			5-1
b. Safety responsibilities of subcontractors and suppliers.	X			4-5,4-6
6. TRAINING.				
a. Requirements for new hire SOH orientation training at the time of initial hire of each new employee.	X			6-2
b. Requirements for mandatory training and certifications that are applicable to this project (e.g., explosive actuated tools, confined space entry, crane operator, diver, vehicle operator, HAZWOPER training and certification, PPE) and any requirements for periodic retraining/recertification.	X			6-2
c. Procedures for periodic safety and health training for supervisors and employees.	X			6-2

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Safety Office Review Status: ACCEPTED BY/DATE: _____ NOT ACCEPTED BY/DATE:_____

Contractor Name: ECC **Contract No:** W912ZLK-05-0009

Project Title & Location:	Included ?			Location:
	Yes	No	N/A	Page(s)
d. Requirements for emergency response training. > See 9.b. below for a list of requirements that may require emergency response training.	x			6-2
7. SAFETY AND HEALTH INSPECTIONS.				
a. Specific assignment of responsibilities for a minimum daily job site safety and health inspection during periods of work activity: Who will conduct (e.g., SSHO, PM, safety professional, QC, supervisors, employees – depends on level of technical proficiency needed to perform said inspections), proof of inspector's training/qualifications, when inspections will be conducted, procedures for documentation, deficiency tracking system, and follow-up procedures;	x			7-1,7-2
b. Any external inspections/certifications that may be required (e.g., USCG).			X	
8. ACCIDENT REPORTING. The Contractor shall identify person(s) responsible to provide the following:				
a. Exposure data (man-hours worked) Monthly exposure data will be reported by the ECC NFSS PM or SSHO	x			4-4
b. Accident investigations, reports, and logs: Report all accidents as soon as possible but not more than 24 hours afterwards to the Contracting Officer/Representative (CO/COR). The contractor shall thoroughly investigate the accident and submit the findings of the investigation along with appropriate corrective actions to the CO/COR in the prescribed format as soon as possible but no later than five (5) working days following the accident. Implement corrective actions as soon as reasonably possible;	x			8-1
c. The following require immediate accident notification:	x			8-1
(1) A fatal injury;	x			8-1
(2) A permanent total disability;	x			8-1
(3) A permanent partial disability;	x			8-1
(4) The hospitalization of three or more people resulting from a single occurrence;	x			8-1
(5) Property damage of $200,000 or more.	x			8-1
9. PLANS (PROGRAMS, PROCEDURES) REQUIRED BY THE SAFETY MANUAL. Based on a risk assessment of contracted activities and on mandatory OSHA compliance programs, the Contractor shall address all applicable occupational risks and compliance plans. Using the EM 385-1-1 as a guide, plans may include but not be limited to:				
a. Layout plans (04.A.01);			X	
b. Emergency response plans:	x			SP-2 App.E

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Contractor Name: ECC **Contract No:** W912ZLK-05-0009

Project Title & Location:	Included ?			Location:
	Yes	No	N/A	Page(s)
(1) Procedures and tests (01.E.01);	X			SP-2
(2) Spill plans (01.E.01, 06.A.02);	X			SP-2 pg 7
(3) Firefighting plan (01.E.01, Section 19);			X	
(4) Posting of emergency telephone numbers (01.E.05);	X			SP-2 pg 2
(5) Man overboard/abandon ship (Section19.A.04);			X	
1st Aid & CPR certifications for M LaBlanc & T Mach will be provided. (6) Medical Support. Outline on-site medical support and offsite medical arrangements including rescue and medical duties for those employees who are to perform them, and the name(s) of on-site Contractor personnel trained in first aid and CPR. A minimum of two employees shall be certified in CPR and first aid per shift/site (Section 03.A.02; 03.D);	X			SP 2 pg 6 10-1
c. Plan for prevention of alcohol and drug abuse (01.C.02);	X			SOP ESQ 1-8
d. Site sanitation plan (Section 02);	X			11-4
e. Access and haul road plan (4.B);			X	
f. Respiratory protection plan (05.G);			X	
g. Health hazard control program (06.A);	X			App.E SP-1,pg 5-1
h. Hazard communication program (06.B.01);	X			App.E SP-4
i. Process Safety Management Plan (06.B.04);			X	
j. Lead abatement plan (06.B.05 & specifications);			X	
k. Asbestos abatement plan (06.B.05 & specifications);			X	
l. Radiation Safety Program (06.E.03.a);	X			App.E SP-4
m. Abrasive blasting (06.H.01);			X	
n. Heat/Cold Stress Monitoring Plan (06.I.02)	X		SOP ESQ	9-1 8.4,8.5
o. Crystalline Silica Monitoring Plan (Assessment) (06.M) ;			X	
p. Night operations lighting plan (07.A.08);			X	
q. Fire Prevention Plan (09.A);			X	
r. Wild Land Fire Management Plan (09.K);			X	
s. Hazardous energy control plan (12.A.01);			X	
t. Critical lift Plan (16.H);			X	
u. Contingency plan for Floating Plants for severe weather (19.A.03);			X	
v. Float Plan (19.F.04);			X	
w. Site-Specific Fall Protection & Prevention Plan (21.C);			X	

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Contractor Name: ECC **Contract No:** W912ZLK-05-0009

Project Title & Location:	Included ?			Location:
	Yes	No	N/A	Page(s)
x. Demolition plan (to include engineering survey) (23.A.01);			X	
y. Excavation/trenching plan (25.A.01);			X	
z. Emergency rescue (tunneling) (26.A.);			X	
aa. Underground construction fire prevention and protection plan (26.D.01);			X	
bb. Compressed air plan (26.I.01);			X	
cc. Formwork and shoring erection and removal plans (27.C);			X	
dd. PreCast Concrete Plan (27.D);			X	
ee. Lift slab plans (27.E);			X	
ff. Steel erection plan (27.F.01);			X	
gg. Site Safety and Health Plan for HTRW work (28.B);	X			App.E SP-1
hh. Blasting Safety Plan (29.A.01);			X	
ii. Diving plan (30.A.13);			X	
jj. Confined space Program (34.A).			X	
			X	
10. RISK MANAGEMENT PROCESSES. Detailed project-specific hazards and controls shall be provided by an **Activity Hazard Analysis** (01.A.13) for each major phase/activity of work.	X			App.A
11. ABBREVIATED APP for LIMITED-SCOPE SERVICE, SUPPLY AND R&D CONTRACTS. If service, supply and R&D contracts with limited scopes are awarded, the contractor may submit an abbreviated Accident Prevention Plan. This APP shall address the following areas at a minimum. If other areas of the EM 385-1-1 are pertinent to the contract, the contractor must assure these areas are addressed as well.			N/A	
a. Title, signature, and phone number of the plan preparer.				
b. Background Information to include: Contractor; Contract number; Project name; Brief project description, description of work to be performed, and location (map); The project description shall provide a means to evaluate the work being done (see AHA requirements in 01.A.13) and associated hazards involved. Contractor's APP shall address the identified hazards involved and the control measures to be taken.				
c. Statement of Safety and Health Policy detailing their commitment to providing a safe and healthful workplace for all employees.				
d. Responsibilities and Lines of Authorities – to include a statement of the employer's ultimate responsibility for the implementation of his SOH program; Identification and accountability of personnel responsible for safety at all levels to include designated site safety and health officer (SSHO) and associated qualifications. The District SOHO will review the qualifications for acceptance.				

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Contractor Name: ECC **Contract No:** W912ZLK-05-0009

Project Title & Location:	Included ?			Location:
	Yes	No	N/A	Page(s)
e. Training - new hire SOH orientation training at the time of initial hire of each new employee and any periodic retraining/recertification requirements.			N/A	
f. Procedures for job site inspections - assignment of responsibilities and frequency.				
g. Procedures for reporting man-hours worked and reporting and investigating any accidents as soon as possible but not more than 24 hours afterwards to the Contracting Officer/Representative (CO/COR). An accident that results in a fatal injury, permanent partial or permanent total disability shall be immediately reported to the Contracting Officer.				
h. Emergency Planning. Employees working alone shall be provided an effective means of emergency communication. This may be cellular phone, two-way radio or other acceptable means. The selected means of communication must be readily available and must be in working condition.				
i. Drinking Water provisions, toilet and washing facilities.				
j. First Aid and CPR training (at least two employees on each shift shall be qualified/certified to administer first aid and CPR) and provision of first aid kit (types/size).				
k. Personal Protective Equipment.				
(1) WORK CLOTHING - Minimum Requirements. Employees shall wear clothing suitable for the weather however minimum requirements for work shall be short-sleeve shirt, long pants (excessively long or baggy pants are prohibited) and leather work shoes. If analysis determines that safety-toed (or other protective) footwear is necessary (i.e., mowing, weed eating, chain saw use, etc), they shall be worn.				
(2) Eye and Face Protection. Eye and face protection shall be worn as determined by an analysis of the operations being performed HOWEVER, all involved in chain saw use, chipping, stump grinding, pruning operations, grass mowing, weed eating and blowing operations shall be provided safety eyewear (Z87.1) as a minimum.				
(3) Hearing Protection. Hearing protection must be worn by all those exposed to high noise activities (to include grass mowing and trimming, chainsaw operations, tree chipping, stump grinding and pruning).				
(4) Head Protection. Hard hats shall comply with ANSI Z89.1 and shall be worn by all workers when a head hazard exists. At a minimum, hard hats shall be worn when performing activities identified in (2) above.				
(5) High Visibility Apparel shall comply with ANSI/ISEA 107, Class 2 requirements at a minimum and shall be worn by all workers exposed to vehicular or equipment traffic.				
(6) Protective Leg chaps shall be worn by all chainsaw operators.				
(7) Gloves of the proper type shall be worn by persons involved in activities that expose the hands to cuts, abrasions, punctures, burns and chemical irritants.				

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Contractor Name: ECC **Contract No:** W912ZLK-05-0009

Project Title & Location:	Included ?			Location:
	Yes	No	N/A	Page(s)
(8) If work is being performed around water and drowning is a hazard, PFDs must be provided and worn as appropriate.			N/A	
l. Machine Guards and safety devices. Lawn maintenance equipment must have appropriate guards and safety devices in place and operational.				
m. Hazardous Substances. When any hazardous substances are procured, used, stored or disposed, a hazard communication program must be in effect and MSDSs shall be available at the worksite. Employees shall have received training in hazardous substances being used. When the eyes or body of any person may be exposed to corrosives, irritants or toxic chemicals, suitable facilities for quick drenching or flushing of the eyes and body shall be provided within 10 seconds of the worksite.				
n. Traffic control shall be accomplished in accordance with DOT's MUTCD.				
o. Control of Hazardous Energy (Lockout/Tagout). Before an employee performs any servicing or maintenance on any equipment where the unexpected energizing or startup of the equipment could occur, procedures must be in place to ensure adequate control of this energy.				
p. Driving, working on (i.e., working with equipment/mowers) while on slopes, working from/in boats/skiffs, etc shall also be considered and dealt with accordingly.				
HTRW Projects Additional Requirements (EM 385-1-1, Section 28 HAZWOPER): SSHP (Site Safety and Health Plan) shall be attached to the APP as an Appendix. The SSHP shall cover the following in project-specific detail. General information adequately covered in the APP need not be duplicated.			All references are to SP_1 (SHSP)of the NFSS APP	
a. Site description and contamination characterization	X		Sp-1	1-1
b. Hazard/Risk Analysis - AHA for each task	X		App A-APP	
c. Staff Organization; Qualifications; Responsibilities	X		APP 4-1 to 4-7	
d. Training - General, Supervisor and Project Specific	X		APP 6-1 to 6-3	
e. PPE Personal Protective Equipment	X		SP-1 3-1 to 3-3	
f. Medical Surveillance	X			SP-1 4-1
g. Exposure Monitoring/ Air Sampling Program	X			SP-5
h. Heat and Cold Stress - Procedures and Practices	X		SOP ESQ-8.4&8.5	
i. SOPs Standard Operating Procedures; Engineering Controls; Work Practices:	X			SP-1 6-1
(1) Site rules/prohibitions (buddy system, eating/drinking/smoking restrictions, etc.)	X	SP-1 6-5;APP-11.4.6		
(2) Work permit requirements (rad work, excavation, hot work, confined space etc.)	X		SP-1 as required	
(3) Material handling procedures (soil, liquid, rad materials, spill contingency)	X		SP-1 thru SP-5	
(4) Drum/container/tank handling (opening, sampling, draining, removal, etc.)	X		ECC SOP SE-606	
(5) Comprehensive AHA of treatment technologies employed at site			N/A	

CONTRACTOR ACCIDENT PREVENTION PLAN (APP) CHECKLIST (EM 385-1-1, Appendix - A, dated; 15 Sept. 08)

Minimum Basic Outline for Accident Prevention Plan

The APP is the Contractor Safety and Health Program Document. The following Site Specific Areas will be addressed:

NOTE: 1. Contractor will complete Checklist and Submit with their APP.
NOTE: 2. Contractor APP WILL be submitted in format below.
NOTE: 3. Safety Office will review Contractor APP and return to PM / COR.
NOTE: 4. Contractor APP's ARE NOT APPROVED by the USACE, only found as Acceptable or Non-Acceptable.

Safety Office Review Status: ACCEPTED BY/DATE: _____ NOT ACCEPTED BY/DATE:_____

Contractor Name: **Contract No:**

Project Title & Location:	Included ?			Location:
	Yes	No	N/A	Page(s)
j. Site Control Measures: Clearly Defined EZ, SZ, CRZ	X			SP-1 6-1
k. Personal Hygiene and Decontamination	X		APP&	SP-1 3-2;6-3
l. Equipment Decontamination	X			APP- 11.4.4
m. Emergency Equipment and First Aid	X			SP-2
n. Emergency Response and Contingency Procedures:	X			SP-2
(1) Pre-emergency planning	X			SP-2
(2) Personnel and lines of authority for emergency situations	X			SP-2
(3) Criteria and procedures for emergency recognition and site evacuation (alarms, etc.)	X			SP-2
(4) Decontamination and medical treatment of injured personnel	X			App 10.1
(5) A route map to emergency medical facilities and phone numbers for emergency responders	X			APP 10.3
(6) Criteria for alerting the local community responders	X			SP-1

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