

***Phase 1 Final Design Report  
Hudson River PCBs Superfund Site***

***Remedial Action  
Community Health and Safety Plan***



**General Electric Company  
Albany, New York**

**March 21, 2006**

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## LIST OF ABBREVIATIONS AND ACRONYMS

µg/L	micrograms per liter
µg/m <sup>3</sup>	micrograms per cubic meter
BBL	Blasland, Bouck & Lee, Inc.
CD	Consent Decree
CENP	Community Education and Notification Program
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CHASP	Community Health and Safety Plan
CHST	Construction Health and Safety Technician
CIH	Certified Industrial Hygienist
CMP	complaint management program
CO	Carbon Monoxide
CPR	cardiopulmonary resuscitation
CSP	certified safety professional
CWA	Clean Water Act
cy	cubic yards
dB	Decibels
dBA	A-weighted decibels
DO	dissolved oxygen
EGIA	East Griffin Island Area
EHS	environmental health and safety
EMP	<i>Environmental Monitoring Plan</i>
EMR	experience modification rate
EPA	(United States) Environmental Protection Agency
EPS	Engineering Performance Standards
FDR	<i>Final Design Report</i>
g/d	grams per day
GE	General Electric Company
H <sub>2</sub> S	hydrogen sulfide
HASP	Health and Safety Plan
HAZWOPER	40-hour Hazardous Waste Operations
IDR	<i>Intermediate Design Report</i>

## LIST OF ABBREVIATIONS AND ACRONYMS - CONTINUED

JSA	job safety analysis
kg/year	kilograms per year
MGD	Million gallons per day
mg/L	milligram per liter
MPA	mass per unit area
MSDS	material safety data sheet
NAAQS	National Ambient Air Quality Standards
NFPA	National Fire Prevention Association
ng/L	nanogram per liter
NTIP	Northern Thompson Island Pool
NYCRR	Official Compilation of NY State Codes, Rules and Regulations
NYSCC	New York State Canal Corporation
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDOT	New York State Department of Transportation
O <sub>3</sub>	ozone
OPA	Oil Pollution Act
OSHA	Occupational Safety and Health Administration
OSHT	Occupational Safety and Health Technician
PA systems	public address systems
PCBs	polychlorinated biphenyls
PFD	Personal Floation Device
Phase 1 RAM QAPP	Phase 1 <i>Remedial Action Monitoring Quality Assurance Project Plan</i>
PM <sub>10</sub>	particulate matter smaller than 10 microns in diameter
PM <sub>2.5</sub>	particulate matter smaller than 2.5 microns in diameter
PPE	personal protective equipment
ppm	parts per million
PSCP	Performance Standards Compliance Plan
QoLPS	Quality of Life Performance Standards
RA	Remedial action
RAM	Remedial Action Monitoring
RM	river mile
ROD	Record of Decision
RQ	reportable quantity

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## LIST OF ABBREVIATIONS AND ACRONYMS - CONTINUED

SCBA	self-contained breathing apparatus
SO <sub>2</sub>	sulfur dioxide
SPCC	Spill Prevention, Control & Countermeasure
SWPPP	<i>Stormwater Pollution Prevention Plan</i>
TSS	total suspended solids
USCG	United States Coast Guard
VHF	very high frequency

# SECTION 1

## INTRODUCTION

### 1.1 PURPOSE OF PLAN

General Electric Company (GE) has developed this Community Health and Safety Plan (CHASP) to address potential community health and safety issues for the public in the vicinity of the first phase of the Hudson River dredging project.

Consistent with GE's agreements with the U.S. Environmental Protection Agency (EPA), GE has submitted to EPA the final design for the first phase of the dredging project. The design document, referred to as the Phase 1 Final Design Report (Phase 1 FDR) (Blasland, Bouck & Lee, Inc. (BBL), 2006), describes the first phase of the dredging project that EPA has selected for the Upper Hudson River, including construction and operation of a sediment processing and dewatering facility, construction and operation of an associated rail yard, the first year of actual dredging operations, an environmental monitoring program, the backfilling of dredged areas with clean fill; and a habitat reconstruction program.

The Phase 1 project is an environmental remediation project of unprecedented size and scope. EPA has established Engineering Performance Standards (EPS) (Malcolm Pirnie and TAMS 2004) and Quality-of-Life Performance Standards (QoLPS) (Ecology & Environment 2004) to minimize impacts on the local community and environment during the project, and GE has designed the project to comply with these standards. However, even if EPA's performance standards are achieved during all work activities, some activities will likely be heard and seen by nearby residents and visitors.

In addition, any construction project of this magnitude can present potential hazards to the public, if the project is not properly planned or executed. For example, EPA has required that recreational users continue to navigate the Upper Hudson River. During this time, several project vessels will be stationed in the river, increasing the potential for boating accidents with non-project vessels.

This CHASP describes potential hazards and impacts to members of the local community, and the steps that GE and its contractors will take to prevent and respond to them. Generally, GE followed this basic approach when developing this document:

- First, identify and evaluate potential hazards and community impacts which, absent preventive measures, could realistically occur during work activities;
- Second, evaluate "preventive measures" that could be put in place before the project begins and during activities to reduce the potential for hazards and impacts to occur. This evaluation included the use of modeling to predict some possible impacts (*e.g.*, noise and air emissions);

- Third, develop response actions and procedures that could be taken in the event hazards or community impacts occur. Given the preventive measures already implemented, the likelihood of such hazards occurring during the project is low; and
- Finally, identify some “mitigation” or additional preventive measures which could be implemented in the event an accident, injury or severe impact occurs. It should be noted, however, that the identification of mitigation measures is not an exhaustive list. If an incident does occur, GE will evaluate its cause to develop specific mitigation measures to prevent a recurrence.

This CHASP also sets forth a Community Education and Notification Plan (CENP) for providing the public with timely and accurate information about project work activities and schedule, and a Complaint Management Program (CMP) for the public to register project-related complaints.

The focus of this document is on those potential hazards or impacts that may affect the public. Separate project Health and Safety Plans (HASPs) that address worker safety will be developed after GE hires its contractors to perform work activities.

This CHASP addresses impacts potentially resulting from the activities of GE and its contractors in the vicinity of the project area. Potential hazards relating to movement of trains near the project area are addressed by separate regulatory programs and are not addressed here.

## **1.2 GE ENVIRONMENTAL HEALTH AND SAFETY POLICY**

GE strives to provide a safe and healthy working environment in all the communities in which it does business. GE’s environmental health and safety (EHS) programs combine clear leadership by management; the participation of all employees, contractors and functions; and the use of appropriate technology to ensure the health and safety of its employees and the public.

At the heart of GE’s EHS policy are the following goals, which GE pursues relentlessly every day:

- 100% compliance everywhere GE operates or sells products;
- Eliminate hazards and provide a safe workplace;
- Be good neighbors in the communities where GE employees live and work;
- Minimize the use and release of hazardous materials; and,
- Assess all new activities and products for EHS impacts.

In addition to these policy goals, GE also sets common global standards for EHS in areas such as industrial hygiene, ergonomics, personal protective equipment (PPE), process safety, chemical storage and handling, spill prevention and waste management.

In order to accomplish these goals and standards, GE insists that every employee and contractor become a part of the EHS team. GE employs more than 1,000 EHS professionals to develop and drive EHS processes and metrics into the Company’s operating system. EHS

performance is measured and valued every day across GE - it is embedded in everything the Company does.

GE requires that each of its facilities and sites identifies and controls potential hazards in order to protect the public, its employees and the environment. Reviews are conducted regularly, deficiencies, if any, are identified, issues are tracked to closure, improvements are made to prevent potential hazards, and mitigation measures are implemented as a result of these reviews. The end result enhances injury prevention, increases operations knowledge, improves communications and helps assure compliance with required EHS standards.

GE hires hundreds of contractors to perform a variety of activities for the Company. Before any contractor is hired, that contractor's health and safety programs are reviewed and evaluated for consistency with GE's internal programs. In addition, written procedures and documented training requirements are developed for all personnel who will be engaged in high-risk operations, and contractor orientations are held to discuss potential site hazards and health and safety performance expectations. A GE EHS representative is assigned to oversee contractor work and verify that EHS performance expectations are met.

Regarding emergency preparedness, each GE facility or site is required to develop a written program that includes emergency evacuation and incident response plans for a variety of potential emergencies that may take place at the facility. These plans are communicated to all individuals who enter the site. These plans are also provided to off-site emergency response agencies who may respond to on-site incidents.

And each year, in partnership with local emergency response agencies, GE facilities are required to conduct emergency drills for all shifts. Once the drills are complete, the facility is required to develop corrective actions identified from any opportunities for improvement that may have been identified from the drill. These corrective actions must be tracked to closure.

Performance of the Phase 1 dredging project will abide by the requirements of GE's world-class EHS program.

### **1.3 DOCUMENT ORGANIZATION**

This CHASP includes the following sections:

**Section 1 – Introduction:** This section presents general information about the report and a summary of related reports.

**Section 2 – Project Summary:** This section presents background information related to Phase 1 activities.

**Section 3 – Project Schedule and Operations:** This section describes the schedule for work activities, including hours of operation.

**Section 4 - Actions to Address Quality-of-Life Performance Standards:** This section provides a description of EPA's QoLPS, a summary of the design analyses performed to evaluate

the project's ability to achieve those standards, a description of preventive measures included in the design to address those impacts, a summary of the monitoring that GE will conduct under each standard, and a description of the actions that GE will take if monitoring demonstrates corrective action is needed or if a Quality of Life complaint is received.

**Section 5 – Assessment and Management of Potential Hazards:** This section identifies potential hazards associated with Phase 1 activities, which are described by type of activity (*e.g.*, construction of the sediment processing facility, dredging operations and associated in-river activities, and operation of the processing facility and associated rail yard). Prevention and mitigation measures are also identified, as appropriate, for each potential hazard.

**Section 6 – Site Safety Personnel Responsibilities:** This section discusses the roles, qualifications and responsibilities of the project Health and Safety teams and lists contact information for the project Health and Safety team. This section also describes the controls that will be established to ensure security and limited access at the processing facility and in-river work areas.

**Section 7 – Release Reporting and Response, and Emergency Response Plan:** This section describes reporting procedures and responses to spills and releases of dredged materials or other potentially hazardous substances, such as fuel. Next, it describes the procedures for responding to an emergency incident in the project area, and describes the roles of external emergency response organizations. It also provides an emergency contact list.

**Section 8 – Actions to Address Resuspension Performance Standard and Other In-river Water Quality Requirements:** This section summarizes the monitoring that will be conducted to address the resuspension performance standard and describes contingency actions that may be implemented if environmental monitoring demonstrates the need for responsive action.

**Section 9 – Protection of Water Supplies:** This section identifies public and private water users in the vicinity of work activities, and describes the process for notifying water users of potential impacts related to resuspension of polychlorinated biphenyls (PCBs) should environmental monitoring demonstrate a need for corrective action.

**Section 10 – Community Education and Notification Program and Complaint Management Program:** This section describes the process for informing the public of project activities, status and schedule, including notifications to mariners to ensure their safety in the vicinity of work areas. This section also details how the public can request project information or register complaints.

**Section 11 – References:** This section provides full bibliographic references to key documents referred to in the body of the report.

## 1.4 SUMMARY OF RELATED DOCUMENTS

This CHASP has been developed to facilitate the public's understanding of potential health and safety issues that may impact the community during remedial activities. It is meant to be a "stand-alone" document that, where appropriate, presents information from the following documents in abbreviated form for completeness and readability:

- The Consent Decree (CD) signed by the United States and GE, and filed with the court on October 6, 2005 for approval (EPA/GE 2005);
- The Phase 1 Intermediate Design Report (Phase 1 IDR) (BBL 2005) and Phase 1 FDR;
- The Hudson River EPS addressing PCB resuspension during dredging and other in-river activities, concentrations of PCBs on the river bottom after dredging, and the rate at which dredging occurs;
- The Phase 1 Environmental Monitoring Plan (Phase 1 EMP) (Appendix 1 to the Phase 1 FDR) which describes monitoring requirements for surface water, air quality, hydrogen sulfide, odor, noise, and lighting;
- The Hudson River QoLPS addressing project-related issues/impacts associated with air quality, odor, noise, lighting, and navigation;

A revised version of this CHASP will be submitted to EPA after GE selects contractors to perform this work. This revised CHASP will incorporate relevant information from the following yet-to-be-developed documents, as well as providing updates to certain sections of this document (*e.g.*, contact information for the project health and safety team, who will be selected at a later date);

- The Phase 1 Remedial Action Work Plans, which will describe plans and schedules for the construction and operation of the sediment processing facility and dredging operations;
- The Phase 1 Performance Standards Compliance Plan (Phase 1 PSCP), which will describe actions to be taken to address the performance standards established by EPA;
- The Phase 1 Remedial Action Monitoring Quality Assurance Program Plan (Phase 1 RAM QAPP), which will describe the environmental monitoring program, including many of the contingency monitoring plans mentioned in this CHASP; and,
- The Phase 1 Project Health and Safety Plan (Phase 1 HASP), which will describe the protection of workers during activities related to sediment processing facility work, processing equipment installation, and dredging operations.

In addition, if changes or modifications to this CHASP are warranted during Phase 1 (*e.g.*, additional activities or hazards are identified), addenda to this CHASP will be developed and submitted to EPA.

## SECTION 2

### PROJECT SUMMARY

This section describes the physical location and setting of the project area and Phase 1 sediment removal and processing activities. It also summarizes each of the major program elements involved in river-based activities such as dredging backfilling/capping, and habitat replacement and reconstruction, as well as land-based activities such as construction of the sediment processing facility, dewatering operations at the facility, and the loading of rail cars for transport and disposal of materials. This summary is based on the full details of the project that are provided in the Phase 1 FDR, including the detailed Specifications and Contract Drawings and other documents that will guide the first phase of project construction and implementation.

#### 2.1 PROJECT SETTING

The Hudson River is located in eastern New York State and flows approximately 300 miles in a generally southerly direction from its source, Lake Tear-of-the-Clouds in the Adirondack Mountains, to the Battery, located in New York City at the tip of Manhattan Island. For the purpose of sediment remediation, EPA divided the Upper Hudson River (*i.e.*, the section of river upstream of the Federal Dam at Troy, New York) into three sections as described below and illustrated on Figure 2-1.

- **River Section 1:** Former location of Fort Edward Dam to Thompson Island Dam (from river mile [RM] 194.8 to RM 188.5; approximately 6.3 river miles);
- **River Section 2:** Thompson Island Dam to Northumberland Dam (from RM 188.5 to RM 183.4; approximately 5.1 river miles); and
- **River Section 3:** Northumberland Dam to the Federal Dam at Troy (from RM 183.4 to RM 153.9; approximately 29.5 river miles).

On February 1, 2002, EPA issued the Superfund Record of Decision (ROD) for the Hudson River PCBs Superfund Site which called for, among other things, the removal and disposal of PCB-contaminated sediments from the Upper Hudson River that meet certain mass per unit area (MPA) and surface concentration or characteristic criteria (EPA, 2002a). The ROD calls for the removal of targeted sediments by dredging, which will be done in two distinct phases. This CHASP is part of the final design for Phase 1 of the project. Phase 1 sediment removal, processing, and disposal is expected to take one full construction season (*i.e.*, non-winter months) to complete, and is designed to remove approximately 265,000 cubic yards (cy) of sediment (the minimum required amount is 200,000 cy). Phase 2 is a much larger multi-year effort that will be designed to remove the remainder of the sediments that meet the removal criteria described in the ROD.

## **2.2 SUMMARY OF PHASE 1 REMEDIAL ACTIVITIES**

As described below, and in greater detail in the Phase 1 FDR, targeted sediments will be removed from the river using environmental dredging equipment, and then transported by barge to a land-based sediment processing facility. At the processing facility, sediments will be dewatered and stabilized for safe transport, and then loaded into rail cars for transport out of the Hudson River Valley for ultimate disposal in a licensed landfill. Areas that have been dredged will be backfilled or capped with approximately 1 foot of clean material, which will facilitate habitat replacement in those areas. Shorelines affected by the project will be restored to a stable condition, as well. The major project elements designed to accomplish these tasks during Phase 1 of the project are further described below, and include:

- Construction of the sediment processing facility and rail yard;
- Dredging operations on the river and transport of dredged sediments by barge to the processing facility;
- Backfilling/capping operations in the river after dredging;
- Operation of the sediment processing facility;
- Rail transport of processed sediment off-site for final disposal; and
- Habitat replacement and reconstruction activities.

These major elements of the project form the basis for analysis, prevention, and control of potential health and safety issues that could occur during the project. Based on this categorization of activities, Section 5 of this CHASP identifies the preventive measures, management and mitigation of several potential hazards that could affect the community during Phase 1. In addition, Section 4 of this CHASP discusses the mitigation and management of potential quality of life impacts of the project (air quality, odor, noise, lighting and navigation).

### **2.2.1 Construction of the Sediment Processing Facility, Rail Yard and Support Facilities**

EPA selected the 100-acre Energy Park property located between the Champlain Canal and Towpath Road in the Town and Village of Fort Edward for construction of the project's sediment processing facility, where sediments will be dewatered and prepared for off-site transport. The construction of this facility and associated access road, wharf, and rail yard must be completed before dredging can begin. Figure 2-2 shows the location of the property and an overall layout of the facilities.

Construction activities are expected to be conducted during daylight hours, six days a week. Work on the seventh day, as well as nighttime work activities, will only be conducted if necessary.

A wide variety of materials, including gravel, sand, cement, pipes, pumps, tanks, building components, and other construction materials, will be brought to the site primarily by trucks and possibly by rail. Initially, for the first few weeks of construction, trucks may temporarily use Towpath Road to access the site, but only until a larger main access road connecting an existing

truck route on Route 196 to the northern side of the property is functional. This new access road will reduce project-related truck traffic in the Village of Fort Edward near the site.

Clearing of heavy brush and small trees on the Energy Park property will be limited to two areas along the existing railroad tracks and along the west side of Bond Creek, which runs across the property parallel to the canal. Areas on the property that are not needed to support facility activities will be left undisturbed wherever possible. For example, the wetland area along Bond Creek, including several mature trees, will be left undisturbed and protected during construction and operation of the facility.

To accommodate the rail cars that will be used to transport the processed sediments offsite, a rail yard will be constructed adjacent to the existing Delaware & Hudson Railway Company, Inc., line, a subsidiary of Canadian Pacific Railway. Several thousand feet of new railroad track will be laid to enable loading, maneuvering, repair, and inspection of rail cars.

A waterfront barge unloading facility will be constructed along the Champlain Canal, on property owned by the New York State Canal Corporation (NYSCC). The waterfront area will encompass approximately 1,500 feet of shoreline, which includes a 150-foot-long unloading wharf, a 200-foot-long work/maintenance wharf, and barge staging areas.

The majority of the processing facility site will be contained within a secure storm water collection and treatment system, underlain by an impermeable liner, that will capture rain water falling on the property. The system will also capture and treat all process water used or generated on the property, including processing areas, the wharf, rail yard loading area, and other on-shore areas that could come in contact with PCB-containing sediments.

The processing facility will be secured within a perimeter fence, and access will be controlled through gates staffed with security personnel. Electric, water, and sewer utilities will be installed at the site, as will several fire hydrants and other safety measures.

In addition to the processing facility and rail yard, a marine staging facility will be constructed in the Town of Moreau on the west side of the river, south of canal Lock 7. This facility will be used as a river access and work support marina to minimize marine traffic through Lock 7 and at the processing facility wharf. To address comments and suggestions provided by New York State and local elected officials, the location of this staging area has been shifted from a New York State-owned property where a public boat launch is proposed to an area situated just to the north that is owned by the New York State Department of Transportation (NYSDOT). This property will be upgraded, beginning with construction of access roads, earthwork to clear and grub the site, grading and preparation of parking areas, and installation of security fencing, gates and project-support trailers. Primary utilities will be brought to the site, and a dock system for approximately 30 vessels will be constructed. Dredged sediments will not be transported to or processed at this marina.

### **2.2.2 Dredging Operations, Transport of Dredged Sediments to the Processing Facility, and In-river Monitoring Activities**

As shown on Figure 2-3, Phase 1 dredging will be conducted in two areas of the Upper Hudson: 1) in the Northern Thompson Island Pool (NTIP), an area approximately one-and-a-half miles long between the northern end of Rogers Island and about a half mile south of Lock 7, and 2) in an approximately half-mile long area to the east side of Griffin Island.

Dredging is planned to begin in May of the first dredging season, and to continue into November. Approximately 265,000 cy of sediment are targeted for removal from nine dredge areas within the two general areas discussed above. Together, these nine dredge areas cover approximately 94 acres of river bottom. To meet EPA's Phase 1 productivity requirements, dredging is expected to occur 24 hours a day, six days a week. The seventh day will be reserved for maintenance, make-up time for unplanned project interruptions, and as a contingency to satisfy EPA's productivity requirements.

Dredging will be conducted from barges using backhoe-mounted, hydraulically-closing clamshell mechanical dredges. To achieve EPA's Productivity Performance Standard, it is currently estimated that up to eight dredges may be operating at any one time. Dredging will begin in the northern end of the project area and work will generally proceed downstream from there. However, the East Griffin Island Area (EGIA) will also be dredged early in the season and in parallel with dredging in the NTIP.

Material dredged from the river will be placed directly onto large barges. If there is limited accessibility to the area being dredged, dredged material may be placed into a hopper and then transferred to a barge. A fleet of up to 14 barges, moved by tug boats, will be needed to transport dredged sediment and debris from the river, through Lock 7 on the Champlain Canal, and up the canal to the unloading wharf at the processing facility. To maintain productivity targets, as many as 30 daily one-way barge trips through Lock 7 may be necessary during peak days of dredging. The actual numbers of dredges and barges will be determined by the contractor selected to implement the project, and will be further described in a work plan developed by the contractor selected to perform the dredging work.

Throughout the project, extensive monitoring will be conducted to assess compliance with EPA's performance standards and water quality requirements. This will include monitoring of PCB levels in water and river sediments. Monitoring of air quality, odor, noise, and lighting will also be conducted. In-river monitoring activities will be staged from the marine staging facility located in the Town of Moreau on the west side of the river.

### **2.2.3 Backfilling and Capping Operations**

After dredging is completed in an area, clean soil, sand, gravel, or stone will be spread over most dredged areas to stabilize the sediment bed, provide suitable substrate for habitat reconstruction, or to further isolate remaining sediments in place. Several specific types of backfill and capping configurations are planned, based on what type of river bottom, PCB levels in residual sediments, and water flow characteristics are encountered within each dredge area. Backfill and capping materials will be transported from one or more quarries to an as-yet-

unidentified staging area on the river, where they will be loaded onto barges or tugboats and transported to the project area.

#### **2.2.4 Operation of the Sediment Processing and Dewatering Facility**

The primary purpose of the sediment processing and dewatering facility is to effectively separate river water from sediment solids so that the dewatered sediments can be efficiently and safely transported offsite without the unnecessary bulk and weight of river water. This dewatering process starts when dredged material arrives at the wharf in barges.

At the wharf, material will be unloaded from barges by either a crane or excavator, and large debris such as rocks and tree limbs or other bulky materials will be sorted out. The remaining sediment will be processed through a trommel screen and hydrocyclone system. These large machines further sort the material by particle size into coarse sand and gravel, and fine silty material.

Coarse sediment from the hydrocyclones will be removed and transported to stockpile areas near the rail yard where it will be loaded into rail cars for shipment offsite. The remaining slurry of fine sediments and water will be pumped to other thickening equipment, mixed with polymers to further enhance dewatering, and then sent through large filter presses for additional water removal. Once dewatered, trucks will move the processed “filter cake” material to enclosed structures near the rail yard for loading onto rail cars.

Water collected during the dewatering process will be treated. Storm water from any area in contact with sediment material will be collected in lined surface impoundments for treatment. The on-site water treatment plant will be designed to treat approximately two million gallons per day (MGD). Once treated, water will be discharged to the Champlain Canal, with monitoring to verify compliance with established water quality requirements.

As with dredging, operations at the processing facility are expected to occur 24 hours a day, six days a week. The seventh day will be reserved for maintenance, make-up time for unplanned interruptions, and as a contingency to satisfy EPA’s productivity requirement.

#### **2.2.5 Rail Transport of Processed Sediment for Off-Site Final Disposal**

Dewatered sediments will be staged in stockpiles near the rail yard, and then will be loaded into rail cars. On average, one train of 81 loaded rail cars will depart the rail yard, and one train of 81 empty cars will arrive at the rail yard every four to five days during Phase 1. The actual frequency of train movement will vary based on rail company scheduling, rate of sediment processing, and other factors.

Before being loaded at the processing facility, each rail car will be fitted with a water-tight liner system, to meet applicable regulatory requirements. Once a train is loaded, it will travel from the processing facility to a licensed disposal facility outside the Hudson River Valley. The specific disposal facility is expected to be identified by the time that the Remedial Action (RA) Work Plans are developed, and will be included in a future update to this CHASP.

### **2.2.6 Habitat Replacement and Reconstruction**

A habitat replacement and reconstruction program will be conducted in dredged areas. Through placement of appropriate substrate material during backfilling/capping and the planting of aquatic or wetland vegetation in areas that were vegetated prior to dredging, the goal of the program is to promote development of suitable habitat for aquatic organisms. Given the limited growing season in the upper Hudson River, habitat-specific planting may not occur until the next construction season after Phase 1 dredging activities are complete.

## **SECTION 3**

### **PROJECT SCHEDULE AND OPERATIONS**

This section briefly summarizes the Phase 1 project schedule, anticipated hours of operation, and expected total duration of the Phase 1 project.

#### **3.1 SUMMARY OF ACTIVITIES BY SEASON**

Prior to the start of dredging, the Energy Park site must be transformed from its current condition to a fully functional and secure sediment processing and dewatering facility. Facility construction will begin once EPA approves the final design, the CD is approved by the court, and contractors are hired to perform the work. Construction activities could begin as early as Fall 2006 and will include: site grading; installation of site roads and utilities; construction of the wharf unloading area, the on-site rail yard, and the sediment processing facility; testing and start-up of processing equipment; and construction of a marine staging facility in Moreau. Completion of these activities depends on the timing of regulatory approvals needed to begin work and seasonal constraints.

Depending on weather and river flow conditions, the Phase 1 dredging season is expected to encompass approximately 28 weeks from mid-May through October. Backfilling, capping and shoreline restoration may continue through November. When work activities actually begin depends upon construction of the processing facility and rail yard (including all site work, installation of processing equipment, and testing), opening of the Canal System to commercial traffic, and mobilization of dredging equipment.

Operations at the sediment processing facility will begin before dredging starts to allow for mobilization, training of personnel, delivery of supplies, preparation and testing of equipment and procedures, and review of safety measures. Operations at the processing facility will continue after dredging ends in order to process all dredged sediment and load them onto rail cars.

Once all Phase 1 dredged sediments are processed, the sediment processing equipment will be shut down and secured for the winter season. The storm water collection and water treatment systems will operate year-round to continue capturing and treating storm water runoff that may collect on the property. Site security measures will also be maintained year-round.

#### **3.2 HOURS OF CONSTRUCTION AND OPERATION**

Construction of the processing facility is expected to occur during daylight hours, six days a week. Work on the seventh day of each week, as well as night-time work activities, will only be conducted if necessary.

Once dredging begins, in-river work activities and processing and dewatering operations at the processing facility are expected to be conducted 24 hours a day, six days a week, to satisfy

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EPA's productivity performance standard. The seventh day of each week will be reserved for maintenance, make-up time for unplanned project interruptions, and as a contingency to satisfy EPA's productivity requirements.

Loading of rail cars in the rail yard is expected to occur primarily during daylight hours, but the movement of trains to and from the rail yard may occur at any time based on schedules independently controlled by Canadian Pacific Railway.

### **3.3 DURATION OF ACTIVITIES**

Following construction and testing of the sediment processing facility, dredging will begin in May near Rogers Island in the NTIP (in the vicinity of the Fort Edward Yacht Basin) and proceed downstream (see Figure 2-3). Dredging near EGIA will also begin early in the Phase 1 program. As needed, additional dredging passes will begin soon after initial dredging. Project activities are expected to continue through November.

A final schedule for dredging activities along the river and in each dredge area will be provided in the contractor work plans. These plans will include a detailed Dredging Plan which will describe the expected timing of dredging within each dredge area. This CHASP will be revised after these work plans are prepared to include more detailed information about the dredging schedule. GE will submit the revised CHASP, once it is available, to EPA and will make it available to the community.

### **3.4 SCHEDULE CHANGES AND NOTIFICATIONS**

Updates to the schedule of work activities and other project information will be regularly provided to EPA, New York State Department of Environmental Conservation (NYSDEC), local elected officials and the public (as described in Section 10.1). This information will be posted on a project Web site, will be included in monthly progress reports and will be distributed, as appropriate, via listserv notices. Significant changes to the schedule (*e.g.*, temporary work stoppages) will be communicated promptly to EPA, NYSDEC, NYSCC, other appropriate regulatory agencies and local elected officials.

## SECTION 4

### ACTIONS TO ADDRESS QUALITY-OF-LIFE PERFORMANCE STANDARDS

#### 4.1 BACKGROUND

In May 2004, EPA issued the Hudson River QoLPS that address air quality, odor, noise, lighting, and river navigation. These standards apply to Phase 1 and may be modified following completion of Phase 1.

GE has developed the engineering design of this project with the objective of achieving the QoLPS. During Phase 1, EPA and GE will assess the ability of the project design to satisfy these performance standards. This section describes the QoLPS, summarizes the actions that GE will take during Phase 1 to satisfy those standards, the actions to be taken if the numerical values in those standards are exceeded, and the actions to be taken to address complaints from the local community related to these quality-of-life issues.

GE's overall approach to addressing the QoLPS is:

- First, design the project to attain the applicable standards through engineering controls, operational features, and mitigation or contingency measures (where necessary), to the extent feasible.
- Second, conduct monitoring during the project, as necessary and in response to complaints regarding quality-of-life issues, to assess whether the project is meeting the applicable standards.
- Third, if the monitoring shows an exceedance of a standard, investigate the cause to determine whether the exceedance is project-related.
- Fourth, if the exceedance of the standard is project-related, consider all appropriate and reasonable engineering controls or mitigation measures, implement whatever controls or measures are decided upon, and conduct appropriate monitoring.
- Fifth, based on the nature and cause of the exceedance, make functional or operational provisions as appropriate to prevent the exceedance from recurring.
- Sixth, provide the necessary reports to EPA and any complainants.

These steps are described below for each of the QoLPS. In accordance with the CD, during the Phase 1 project, to the extent that additional measures to address the QoLPS include equipment modifications or additions, only those that are reasonably available from a schedule and cost standpoint will be implemented.

## 4.2 AIR QUALITY

### 4.2.1 Description of Air Quality Performance Standard

Various project work activities could result in the release of emissions into the air. The QoLPS for air quality includes numerical standards for PCBs in ambient air and for opacity (the reduction of visibility from air emissions), and requires an analysis of achievement of the National Ambient Air Quality Standards (NAAQS) for several other air pollutants.

#### *PCBs*

Work activities such as sediment handling and processing may result in PCB-related impacts to air quality. The QoLPS for air quality includes standards and “concern levels” (at 80% of the standard levels) for total PCB concentrations in the air during the remedial action. There are separate concern levels and standards for residential and commercial/industrial areas. They are:

- For residential areas, a concern level of 0.08 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) and a standard of  $0.11 \mu\text{g}/\text{m}^3$ , both as 24-hour average PCB concentrations; and
- For commercial/industrial areas, a concern level of  $0.21 \mu\text{g}/\text{m}^3$  and a standard of  $0.26 \mu\text{g}/\text{m}^3$ , both as 24-hour average PCB concentrations.

#### *Opacity*

Opacity issues may result from vessel, vehicular, or equipment emissions. The air quality standard for opacity, based on New York State Codes, Rules and Regulations [6 NYCRR § 211.3], is that opacity during project operations must be less than 20% as a 6-minute average, except that there can be one continuous 6-minute period per hour of not more than 57% opacity.

This standard will not apply to the line-haul locomotive engines used by the rail carriers, which are subject to EPA’s national standards governing opacity [40 Code of Federal Regulations (CFR) Part 92]. However, it will apply to the switcher engine used to operate the rail yard.

#### *NAAQS*

Under the Federal Clean Air Act, EPA has promulgated NAAQS for several pollutants (known as “criteria pollutants”) to protect public health and welfare. These include:

- Respirable particulate matter (*i.e.*, < 10 micrometers in diameter) ( $\text{PM}_{10}$ );
- Fine particulate matter (*i.e.*, < 2.5 micrometers in diameter) ( $\text{PM}_{2.5}$ );
- Carbon monoxide (CO);
- Sulfur dioxide ( $\text{SO}_2$ );
- Nitrogen dioxides ( $\text{NO}_x$ ); and
- Ozone ( $\text{O}_3$ ).

The QoLPS requires an evaluation, during design, of the project's ability to achieve the NAAQS for these pollutants. If that evaluation demonstrates that the project will achieve those standards, no further monitoring or evaluations of the criteria pollutants are necessary during project implementation.

#### **4.2.2 Design Analyses**

The potential for air emissions of PCBs and criteria pollutants (or their precursors) during project activities was evaluated during design. Potential impacts on opacity of air were also considered. As summarized below, this evaluation assisted in the selection of appropriate engineering controls and contingency measures to prevent exceedances of the air quality standards and concern levels.

##### ***PCBs***

As part of the final design of Phase 1, GE conducted air quality modeling to assess whether the project would achieve the above-referenced concern levels and standards for PCBs in ambient air. The results are summarized below (by project activity), along with a description of preventive and contingency measures included in the design to enable the project to meet the PCB criteria for air. This modeling did not include the general site work and construction of the processing facility, because no PCB-containing materials will be used or are anticipated to be encountered during that work, and therefore, no PCB air emissions are expected.

Dredging operations. Air quality modeling was performed to assess the impacts of PCB emissions from dredging operations. In particular, volatilization of PCBs from the water due to resuspension of sediments and emissions from open barges being loaded with dredged sediment was evaluated. The modeling indicated that PCB emissions from the water would be negligible.

In the case of loading barges, a very conservative screening model predicted that EPA's air quality standards could be exceeded if the barges are carrying sediments with high levels of PCBs (average greater than 200 milligrams per kilogram and only during high-wind conditions). Another model procedure, using more realistic assumptions, predicted that this activity would not exceed EPA's standards. Actual PCB air monitoring data will be collected during dredging to measure achievement of EPA's standards. Should monitoring demonstrate that EPA's standards or concern levels may not be achieved, wind screens will be fitted around the perimeter of barges containing sediments with high levels of PCBs. These wind screens will substantially reduce wind speeds across the water covering sediments in the barges; and even the conservative model predicts that with these wind screens in place there would be no PCB levels exceeding EPA standards or concern levels.

Barge transport. Modeling was also conducted to assess potential PCB emissions from barges lined up at Lock 7 (assumed to be up to three at a time) and from barges tied up at the sediment processing facility wharf (also assumed to be up to three at a time). The model predicts no exceedances of either the residential or the commercial/industrial concern levels or standards due to PCB emissions from barges in these locations.

Processing facility operations. Modeling was also conducted to assess operations at the sediment processing facility. The modeling predicts that, in the absence of any controls, emissions from the processing facility could cause exceedances of EPA's standards. The primary source of potential emissions is two fine sediment stockpile areas. Additional potential sources include a gravity thickener and a process water recycle tank. Several preventive measures have been integrated into the Phase 1 final design to control these potential sources of PCB emissions. The fine sediment stockpile areas will be enclosed and ventilation systems will be installed to capture and treat PCB emissions before the air is discharged. The ventilation systems will be used as needed based on monitoring results. The design also calls for covers over the gravity thickener and recycle water storage tanks to reduce PCB emissions. The modeling indicates that, with these controls in place, EPA's standards and control levels should not be exceeded.

### ***Opacity***

The Phase 1 design is expected to meet the numerical QoLPS for opacity. As required by the design, contractors will maintain and operate vessels and vehicles properly to prevent opacity problems and routine maintenance of diesel engines, generators and other equipment will be required throughout the project.

### ***NAAQS***

Air quality modeling was performed during design to assess potential emissions of the criteria pollutants during Phase 1 activities. Modeling results confirmed that emissions of criteria pollutants are not predicted to cause exceedances of the NAAQS. Therefore, no provisions for monitoring or contingency actions regarding criteria pollutants are necessary during implementation of this project.

### ***Dust Control***

A dust control plan has been prepared and will be implemented to minimize generation of dust during construction of the sediment processing facility. This plan includes the wetting down with water of soil piles and open excavations at the end of each day and as needed. In addition, haul roads will be wetted down and covers will be placed on trucks hauling fine or dusty material. During operations, the contractor will implement dust control measures from transport vehicles, haul roads, and material stockpiles, as needed.

## **4.2.3 Air Quality Monitoring Summary**

### ***PCBs***

Extensive monitoring of PCBs in ambient air will be conducted during work activities to assess and verify attainment of the QoLPS for PCBs in air. This monitoring will use samplers operating continuously for 24 hours a day, and will be conducted at locations along the dredging corridor, at unloading areas, and around the sediment processing facility, as follows:

- Representative stations within the dredging corridor will be sampled during dredging. A 24-hour sample will be collected daily at each station during dredging and will be analyzed for PCBs. Additionally, at least two days of baseline data, prior to the start of dredging, will be collected at stations that are representative of the first day of dredging.
- Based on meteorological data that will be collected at the sediment processing facility, permanent monitoring stations will be established around the perimeter of the facility and in the wharf unloading area. These stations will be sampled during processing facility operations. A 24-hour sample will be collected daily at each station during operations and will be analyzed for PCBs. Additionally, at least two days of baseline data, prior to the start of processing operations, will be collected at the processing facility stations.
- A permanent monitoring station will be established to collect background data at a location upwind of all project activities. This station will be sampled during dredging and processing facility operations. A 24-hour sample will be collected daily and will be analyzed for PCBs. Additionally, at least two days of baseline data will be collected at this station prior to the start of dredging.

During Phase 1, EPA will determine if the goals of the air monitoring program can be achieved with less frequent monitoring or fewer monitoring stations.

Under routine monitoring conditions, analytical results of air quality samples will be reported by the laboratory within 72 hours of receipt by the laboratory. These results will be compared with EPA's standard. However, achievement of the concern level and standard will be assessed at receptors (residential or commercial/industrial, as applicable), either via monitoring at the receptor locations or by conservative modeling (with EPA approval) using the monitoring data from locations closer to the source to predict ambient air levels at the receptor locations.

### *Opacity*

Opacity will be monitored via visual observations made and recorded by a certified visual observer using EPA Method 9 at the point of emission. Such observations will be made at the start-up of each piece of permanent equipment that generates air emissions or if an opacity complaint is received from the public.

#### **4.2.4 Actions in Event of Exceedance of PCB Air Quality Concern Level**

If monitoring (or modeling, if used to assess compliance at a given receptor) demonstrates that an applicable air quality concern level has been exceeded, GE will take the following steps:

1. Promptly notify EPA, but no later than 24 hours after receipt of the analytical results.
2. Investigate the cause of the exceedance, including examination of background PCB concentrations (sampling-event-specific as well as baseline) and site-specific meteorological data to help identify the source of the exceedance.

3. Reduce turnaround time for analyzing air samples from 72 hours to 48 hours from receipt of the sample at the laboratory, until such time as PCB concentrations fall below the concern level.
4. As necessary, implement engineering controls and/or mitigation measures.
5. Provide a weekly report to EPA describing any corrective actions taken.

#### **4.2.5 Actions in Event of Exceedance of PCB Air Quality Standard**

If monitoring (or modeling, if used to assess compliance at a receptor) demonstrates an exceedance of an applicable air quality standard, GE will take the following steps:

1. Notify EPA, NYSDEC, and the New York State Department of Health (NYSDOH) immediately upon receipt of the analytical results.
2. Investigate the cause of the exceedance.
3. Implement the following increased monitoring and related steps:
  - Establish additional monitoring stations as needed to evaluate the cause of the exceedance;
  - Examine background PCB concentrations (sampling-event-specific as well as baseline) and site-specific meteorological data to help identify the source of the exceedance;
  - Reduce turnaround time for analyzing air samples from 72 hours to 48 hours from receipt of the sample at the laboratory; and
  - Continue such monitoring as appropriate.
4. Work with EPA field staff to develop an action plan and to implement engineering controls and/or mitigation measures.
5. Provide daily monitoring reports to EPA, NYSDEC, and NYSDOH until the issue is resolved.
6. Provide a corrective action report to EPA within three working days of the discovery of the exceedance, including an analysis of the cause of the exceedance and a description of mitigation measures taken. This report will also include background and baseline monitoring data to help determine the source of the exceedance.

#### **4.2.6 Actions in Event of Exceedance of Opacity Standard**

If the opacity standard is exceeded, GE will notify EPA and NYSDEC and will take appropriate contingency measures (*e.g.*, repair or, if necessary, upgrading of the equipment). A written report will be submitted to EPA identifying reasons for the exceedance and any mitigation measures taken to prevent future exceedances.

#### **4.2.7 Actions in Event of Air Quality Complaint**

If a complaint (as defined in Section 10.2.2.3) relating to air quality is recorded, GE will take the following steps:

1. Investigate the cause of the complaint to verify that it is project-related.
2. If the complaint is project-related, conduct monitoring and/or modeling, as necessary, to determine whether the applicable concern level or standard has been exceeded in the area referred to in the complaint.
3. If the monitoring and/or modeling shows an exceedance of the applicable concern level or standard, implement the steps specified in Sections 4.2.4, 4.2.5, or 4.2.6 (as applicable).
4. If the monitoring and/or modeling does not show an exceedance of the applicable concern level or standard, report the preliminary monitoring results to EPA, work with EPA to evaluate potential mitigation measures to address the complaint, and if both parties agree, implement such measures.
5. Notify the person registering the complaint of the steps taken to resolve the complaint (as specified in Section 10.2.2.3), and include a report on the complaint and response actions (if any) in the monthly reporting of complaints to EPA.

#### **4.2.8 Potential Additional Engineering Controls and Mitigation Measures**

In the event the steps described above indicate the need for additional engineering controls or mitigation measures, GE will implement such measures, as appropriate. Selection of specific actions will be determined on a case-by-case basis. GE may consider the following, or other, as-yet-unidentified measures, depending on the specific cause of the exceedance:

- Installing wind screens on barges loaded with sediments (as discussed above);
- Covering material stockpiles or tanks;
- Modifying operations to limit emissions; and/or
- Spraying biodegradable foam over exposed dredged sediment.

### **4.3 ODOR**

#### **4.3.1 Description of Odor Performance Standard**

Odors may be generated by dredged sediments that contain decaying organic matter. Odors are difficult to measure because they vary depending on the concentration of the pollutant and the sensitivity of the person exposed to the odor. One of the most reliable indicators of odor emissions is a smell detected by the human nose.

The most likely odor during dredging and sediment processing activities would come from hydrogen sulfide (H<sub>2</sub>S) released by decaying plants and other organic material found in the river sediments. PCBs are odorless.

The QoLPS for odor establishes a standard for H<sub>2</sub>S to minimize unwanted odors from the project. The standard for H<sub>2</sub>S odor, based on the NYSDEC ambient air standard, is 14 µg/m<sup>3</sup> or 0.01 parts per million (ppm) as a one-hour average.

In addition, the QoLPS for odor specifies a “concern level” consisting of the presence of uncomfortable project-related odors identified by project workers or an odor complaint from the

public, and an “exceedance level” consisting of an exceedance of the numerical H<sub>2</sub>S standard or “frequent, recurrent odor complaints related to project activities.”

#### **4.3.2 Design Analyses**

It is not anticipated that dredged sediments will generate odors that will reach the concern or exceedance levels in the QoLPS. Hundreds of sediment cores previously collected from the Hudson River for physical and chemical analyses and other studies generally did not present offensive odors. Debris - which is more likely than other dredged material to contain wood, vegetation, shellfish, and other types of organic material - will be separated from the dredged material at the waterfront area of the processing facility. If an offensive odor is detected from this debris, it will be moved, as quickly as practical, to the debris staging area in the center of the site. Mitigation measures are described in Section 4.3.6.

#### **4.3.3 Odor Monitoring Summary**

Odor monitoring will be conducted if an odor complaint is received or workers detect an uncomfortable project-related odor, and the odor is identified as H<sub>2</sub>S. In that event, monitoring for H<sub>2</sub>S will be conducted at locations upwind and downwind of the suspected odor source. H<sub>2</sub>S levels will be measured via direct readings using a hand-held H<sub>2</sub>S meter or, when this is not possible, via collection of air samples in a Tedlar bag, using a low-flow pump, followed by measurement using a hand-held meter. In the latter case, the H<sub>2</sub>S meter can be brought to the sample or the sample can be transported in the Tedlar bag to the meter for direct measurement of H<sub>2</sub>S. These devices will be available at the processing facility, at barge unloading areas, and at shoreline locations, so pumps and bags can be readily deployed to the site of the odor in the event of a complaint.

#### **4.3.4 Actions in Event of Exceedance of Hydrogen Sulfide Standard**

If monitoring for H<sub>2</sub>S is conducted (as described in Section 4.3.3) and demonstrates an exceedance of the H<sub>2</sub>S numerical standard, GE will take the following steps:

1. Promptly notify EPA, but no later than 24 hours after receipt of the analytical data.
2. Investigate the cause of the odor to verify that it is project-related.
3. If source of odor is project-related, work with EPA field staff to develop an action plan and implement engineering controls and/or mitigation measures.
4. Continue regular H<sub>2</sub>S monitoring until issue is resolved.
5. Provide a corrective action report to EPA within 10 days of discovery of the exceedance, including an analysis of the cause of the exceedance and a description of any mitigation measures taken.

#### **4.3.5 Actions in Event of Odor Complaint**

If a complaint (as defined in Section 10.2.2.3) relating to odor is received and the odor is identified as potentially hydrogen sulfide, GE will conduct the H<sub>2</sub>S monitoring described in Section 4.3.3; and if the monitoring shows an exceedance of the H<sub>2</sub>S standard, GE will implement the steps defined in Section 4.3.4. In addition, GE will notify the person who

registered the complaint of the steps taken to resolve the complaint (as specified in Section 10.2.2.3) , and will include a report on the complaint and response actions (if any) in the monthly reporting of complaints to EPA.

If an odor complaint is received and the odor is not identified as H<sub>2</sub>S, GE will take the following steps (multiple complaints regarding the same potential odor will be treated as one complaint):

1. Document the odor complaint and investigate the source of the odor to determine if it is project-related.
2. If odor is project-related, investigate the odor to determine if it is “uncomfortable,” rather than simply discernible. (For this purpose, an “uncomfortable” odor is defined, in accordance with New York State Law [6 NYCRR §211.2], as an odor which “unreasonably interfere[s] with the comfortable enjoyment of life or property.”) As part of this investigation:
  - Further discuss the nature and intensity of the odor with the person registering the complaint; and
  - If necessary, obtain an objective assessment of odor intensity.
3. If a project-related uncomfortable odor is identified, take mitigation measures as appropriate to reduce or eliminate the source of the odor.
4. Submit a follow-up report to EPA that describes any measures taken to reduce or eliminate the source of the odor.
5. Notify the person registering the complaint of measures taken to reduce or eliminate the source of the odor (as specified in Section 10.2.2.3), and include a report on the complaint and response actions (if any) in the monthly reporting of complaints to EPA.

As noted above, the QoLPS for odor defines the “exceedance level” to include “frequent, recurrent odor complaints.” For this purpose, “frequent, recurrent complaints” will be defined on a case-by-case basis. However, the occurrence of such complaints will trigger the same responses described above.

#### **4.3.6 Potential Additional Engineering Controls and Mitigation Measures**

In the event the steps described above indicate the need for additional engineering controls or mitigation measures, GE will implement such measures, as appropriate. Selection of specific actions will be determined on a case-by-case basis. GE may consider the following, or other, as-yet-undefined measures, depending on the specific cause of the odor:

- Adjusting handling procedures for dredged sediments;
  - Promptly transferring debris with an offensive odor to the debris stockpile area near the rail yard. If necessary, the debris will be covered or directly loaded into a rail car for transport off-site; and/or
  - Using tarps, foams, or covers to prevent odors from escaping from dredged sediments.
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## 4.4 NOISE

### 4.4.1 Description of Noise Performance Standard

Many of the activities associated with the project have the potential to produce noise. EPA established its QoLPS for noise to limit the effects of project noise on the community.

EPA categorized project activities that have the potential to generate noise as either short-term or long-term. Short-term activities include construction of the processing facility, dredging, and backfilling/capping. Short-term activities could vary from several weeks to several months in a particular area. Long-term activities are expected to continue for the duration of the project and include equipment operations at the sediment processing facility and rail transfer of processed materials.

In developing its QoLPS for noise, EPA considered the effects of daytime and nighttime dredging and dewatering activities near residential areas. For example, a lower residential noise standard has been developed for night-time hours, from 10 p.m. to 7 a.m. This lower standard also applies to mixed commercial and residential areas.

The numerical noise criteria set forth in the QoLPS are expressed in decibels using the A-weighted scale (dBA). They are as follows:

- Short-Term Criteria (applicable to facility construction, dredging, and backfilling/capping activities):
  - *Residential Control Level* (maximum hourly average)  
Daytime = 75 dBA
  - *Residential Standard* (maximum hourly average)  
Daytime = 80 dBA  
Night-time (10:00 pm – 7:00 am) = 65 dBA
  - *Commercial/Industrial Standard* (maximum hourly average)  
Daytime and night-time = 80 dBA
- Long-Term Criteria (applicable to sediment processing facility and rail yard operations):
  - *Residential Standard* (24-hour average)  
Daytime and night-time = 65 dBA
  - *Commercial/Industrial Standard* (maximum hourly average)  
Daytime and night-time = 72 dBA

The QoLPS for noise defines the “concern level” as an exceedance of the residential control level, or an exceedance of an applicable noise standard that can be easily and immediately mitigated, or receipt of a project-related noise complaint. It defines the “exceedance level” as an exceedance of an applicable noise standard that cannot be easily and immediately mitigated or as “frequent, recurrent noise complaints related to project activities.”

#### 4.4.2 Design Analyses

As part of the Phase 1 Final Design, GE conducted noise attenuation modeling to predict noise levels at receptors (*e.g.*, nearby residences or businesses) to assess achievement of the applicable noise criteria listed above. The results of that modeling are summarized below (by project activity), along with a discussion of preventive or mitigation measures where necessary.

Processing facility site work and construction. Based on an assessment of construction activities at and near the sediment processing facility (*e.g.*, general site work, wharf construction, road construction, truck traffic transporting fill for facility construction), the noise modeling predicts that noise levels generated during these activities will be below EPA's standards.

Processing facility and rail yard operations. Noise will be generated as material is processed through a variety of pumps and mechanical equipment and transported by truck to stockpiles for loading and off-site transport/disposal. Rail yard operations also will generate noise as locomotives maneuver rail cars and unit trains on and off the property. Modeling predicts that the noise from these activities will not exceed EPA's standards, with the exception of size separation and barge unloading activities at or near the wharf, if no controls are put in place. To minimize noise in this area, GE will require its contractor to use a sound-dampening shroud on the rotary trommel screen and select other equipment (*e.g.*, unloading crane) with noise control devices.

In addition, while not required as a result of modeling, an earthen berm may be constructed along the south end of the property, to help reduce noise impacts on nearby residences. The construction of this berm will depend on the availability of excess general fill generated during site grading. Further, the processing facility has been laid out to minimize the amount of tree clearing, which will also help dampen sound coming from the facility.

Dredging and barging operations. In-river dredging and barging operations (including backfilling/capping) require the use of engine-driven dredges, tugboats, and other equipment that unavoidably generate noise. The noise attenuation model predicts that the majority of in-river operations will not cause an exceedance of EPA's noise standards. However, the model predicts that night-time dredging within 200 feet of shoreline residences could cause an exceedance. GE will conduct a noise study when dredging begins to confirm actual equipment sound levels and assumptions used in the modeling. If this study confirms the model predictions, the dredging contractor will be instructed to reduce noise levels if and when it is necessary to perform dredging within 200 feet of residences at night. This could involve the use of noise barriers around pumps, use of smaller work boats instead of tugs to move barges at night in these areas, and/or other operational adjustments that could be implemented on a temporary and as needed basis.

Installation of sheet piles and mooring posts. Sheet piles will be installed in the river by vibratory and impact hammering in the eastern channel of Griffin Island to control resuspension of PCBs during dredging. Impact hammering will also occur during installation of mooring posts south of Lock 7. These activities are expected to take approximately of two weeks each, and will only occur during the daytime. The noise modeling predicts that these activities will result in exceedances of EPA's control level and standards for noise.

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GE has considered several noise control/mitigation options to reduce the noise generated by these activities. These include: (1) installation of a 20+-foot-high sound barrier wall along the shoreline between the pile driving and the residences; (2) placement of a temporary barge-mounted 30- to 40-foot-high sound barrier along the shore; and (3) use of sound-dampening blankets around the pile-driving hammerhead. Installation of a 20+-foot high sound barrier wall along the shoreline would itself generate considerable noise during installation, would require access issues to be resolved with property owners, and does not appear to be practical because noise control is needed for only approximately two weeks. Similarly, use of a temporary barge-mounted 30- to 40-foot high sound barrier would not appear practical and could not be used when driving sheets adjacent to the shoreline. Further, project data demonstrating the noise-reduction effectiveness of placing sound-dampening equipment around the hammerhead have not been identified. Therefore, based on current knowledge, GE has been unable to identify mitigation measures that will practically and reliably reduce noise levels from these activities to meet EPA's standards. GE is discussing this issue with EPA and will discuss it with the dredging contractor, in an attempt to identify additional techniques that may address this issue.

#### **4.4.3 Noise Monitoring Summary**

Extensive noise monitoring will be conducted before and during work activities to assess achievement of EPA's QoLPS for noise.

A two-week noise monitoring study will be conducted before construction of the processing facility begins to establish baseline noise levels at the processing facility and at certain receptor locations near dredging activities. This study, which will be used to establish noise levels at different times of day, will include a minimum of three 24-hour sampling events at the processing facility and five 24-hour sampling events along the river. Additional data may be collected if background noise levels at these locations are close to or exceed the noise standards.

A second noise study will be undertaken at the initial startup of dredging operations. This two-week study will measure noise levels around the dredging, unloading, and processing operations. It will include approximately 20 one-hour sampling events.

To measure noise levels during work activities, a sound level meter will be used at or near receptor locations along the shoreline adjacent to dredging operations and at the perimeter of the processing facility. Monitoring may be done closer to residential areas or businesses if needed to further assess sound level effects.

During short-term work activities (*e.g.*, construction of the processing facility, dredging, and backfilling/capping), monitoring will be conducted for a full hour every four hours. If the applicable noise criteria are not exceeded during a two-week period, and the project team receives EPA approval, the monitoring frequency may be reduced during short-term activities.

During long-term work activities (*e.g.*, equipment operations at the sediment processing facility and associated rail yard), monitoring will be conducted in residential and commercial areas for a full hour every four hours.

All monitoring will be conducted with hand-held sound meters. The compliance point for attainment of the noise standards will be at the receptor. However, monitored noise levels closer to the source that meet the noise standards will be considered to show attainment.

#### **4.4.4 Actions in Case of Exceedance of Residential Control Level**

If monitoring (or modeling, if used to assess compliance at a receptor) demonstrates that the daytime noise control level for residential areas has been exceeded at a residence, GE will take the following steps:

1. Investigate the cause of the increased noise to verify that it is project-related.
2. If noise increase is project-related, implement additional monitoring, as needed, to evaluate the cause of the noise increase.
3. Continue such additional monitoring until it confirms that the issue is resolved.
4. Consider additional engineering controls and/or mitigation measures.

#### **4.4.5 Actions in Event of Exceedance of Noise Standard**

If monitoring (or modeling, if used to assess compliance at a receptor) demonstrates an exceedance of an applicable noise standard at a receptor location, GE will take the following steps:

1. Promptly notify EPA, but no later than 24 hours after discovery of the exceedance.
2. Investigate the cause of the exceedance to verify that it is project-related.
3. If the noise increase is project-related, implement additional monitoring, as needed, to evaluate the cause of the noise increase and assess the potential impact of non-project-related noise on receptors.
4. Work with EPA field staff to develop and implement an appropriate action plan involving engineering controls and/or mitigation measures.
5. Continue additional monitoring and provide daily monitoring reports to EPA until the issue is resolved.
6. Provide a corrective action report to EPA within 10 days of the discovery of the exceedance, including an analysis of the cause of the exceedance and a description of mitigation measures taken.

Although, as noted above, the QoLPS for noise distinguishes between exceedances of a standard that are easily and immediately mitigated (“concern level”) and those that are not (“exceedance level”), the same actions described above will be taken in either case. However, the difficulties and time necessary to mitigate exceedances will obviously affect the response actions to be taken.

#### **4.4.6 Actions in Event of Noise Complaint**

If a complaint (as defined in Section 10.2.2.3) relating to noise is recorded, GE will take the following steps:

1. Investigate the cause of the complaint to verify that it is project-related;
2. If the complaint is project-related, conduct monitoring and/or modeling, as necessary, to determine whether the applicable control level or standard has been exceeded in the area referred to in the complaint.
3. If the monitoring and/or modeling shows an exceedance of the applicable control level or standard, implement the steps specified in Sections 4.4.4 or 4.4.5 (as applicable).
4. If the monitoring and/or modeling does not show an exceedance of the applicable control level or standard, report the preliminary monitoring results to EPA, work with EPA to evaluate potential mitigation measures to address the complaint, and if both parties agree, implement such measures.
5. Notify the person registering the complaint of the steps taken to resolve the complaint (as specified in Section 10.2.2.3), and include a report on the complaint and response actions (if any) in the monthly reporting of complaints to EPA.

As noted above, the QoLPS for noise defines the “exceedance level” to include “frequent, recurrent odor complaints.” For this purpose, “frequent, recurrent complaints” will be defined on a case-by-case basis. However, the occurrence of such complaints will trigger the same responses described above.

#### **4.4.7 Potential Additional Engineering Controls and Mitigation Measures**

In the event the steps described above indicate the need for additional engineering controls or mitigation measures, GE will implement such measures, as appropriate. Selection of specific actions will be determined on a case-by-case basis. GE may consider the following, or other, as-yet-unidentified measures, depending on the specific cause of the noise:

- Using shrouds or noise-dampening devices on equipment;
- Changing to the use of alternative equipment at certain times of the day or night;
- Placing small portable barriers around the noise sources or between the noise sources and receptors, where practicable, to block or reduce sound propagation;
- Using distance and natural or artificial features to attenuate noise;
- Placing operating restrictions on equipment, as appropriate;
- Making operational adjustments, including sequencing of pertinent operations; and/or
- Modifying hours of operation of construction or dredging activities.

## **4.5 LIGHTING**

### **4.5.1 Description of Lighting Performance Standard**

To meet EPA's standard for the rate of project activities, in-river activities and processing facility operations will be performed 24 hours per day, six days per week. This will require the use of lighting to illuminate work areas and protect worker safety. Lighting will be needed on project vessels to ensure their safe passage during night-time activities. Lighting will also be needed at the processing facility in the wharf area, rail yard, staging areas, and parking lots.

Lighting is measured in footcandles using a brightness meter. The QoLPS for lighting establishes the following numerical standards for lighting, which vary depending on the type of area affected:

- For rural and suburban residential areas: 0.2 footcandle;
- For urban residential areas: 0.5 footcandle; and
- For commercial/industrial areas: 1 footcandle.

The QoLPS for lighting defines the "concern level" as an exceedance of an applicable numerical standard that can be easily and immediately mitigated or receipt of a project-related lighting complaint. It defines the "exceedance level" as an exceedance of an applicable numerical lighting standard that cannot be easily and immediately mitigated or as "frequent, recurrent complaints related to project activities."

### **4.5.2 Design Analyses**

Modeling of potential lighting impacts, conducted as part of the design of this project, predicts that both night-time in-river operations (dredging, barge transport, backfilling/capping) and night-time processing facility operations will meet the QoLPS numerical criteria for lighting.

Although the modeling indicates preventive measures are not needed, GE will implement several measures to reduce lighting impacts on the community while continuing to maintain safe working conditions. For example, GE's contractors will be directed to reduce light impacts through use of proper positioning, shielding, and directing of lights toward work areas and away from surrounding areas. In addition, at the sediment processing facility, while streetlights will be installed at all on-site roadway intersections, they will not be installed along all roadways. Care has also been taken during design to minimize the number of trees removed during facility construction, which will further help reduce overall light impacts to surrounding areas.

### **4.5.3 Lighting Monitoring Summary**

Monitoring of light levels will be conducted at the shoreline of dredging operations and at the perimeter of the sediment processing facility. In addition, monitoring may be conducted closer to residential areas or businesses, if needed, to further assess light-level effects.

Monitoring will be conducted three times between 10 p.m. and dawn during the first night of dredging activities in a given area. Monitoring will be repeated whenever the dredging operation is moved to a different dredge area. Monitoring will also be performed at the perimeter of the

processing facility or at the nearest receptor property line. Here, monitoring will be conducted three times between 10 p.m. and dawn when the facility initially begins activities after dusk and if significant changes in lighting for the facility have been made.

The compliance point for attainment of the lighting standards will be at the receptor. However, monitored light levels closer to the source that meet the lighting standards will be considered to show attainment.

#### **4.5.4 Actions in Event of Exceedance of Lighting Standard**

If light levels exceed an applicable standard at a receptor location and the exceedance can be easily and immediately mitigated, GE will take the following steps:

1. Investigate the cause of the lighting exceedance to verify that it is project-related.
2. If the exceedance is project-related, implement increased monitoring, as needed.
3. Implement mitigation measures, as appropriate.
4. Re-evaluate light levels at the receptor to confirm the issue is resolved.
5. Submit a follow-up report to EPA, including a description of actions taken to resolve the exceedance.

If light levels exceed an applicable standard but the exceedance cannot be easily and immediately mitigated, GE will take the following steps:

1. Promptly notify EPA, but no later than 24 hours after discovery of the exceedance.
2. Investigate the cause of the lighting exceedance to verify that it is project-related.
3. If the exceedance is project-related, implement regular light monitoring in the affected area (*i.e.*, monitoring beyond the initial monitoring described in Section 4.5.3).
4. Develop and implement an action plan for appropriate mitigation measures.
5. Continue the regular monitoring until the issue is resolved.
6. Provide a corrective action report to EPA within 10 days of discovery of the exceedance, describing the cause of the lighting exceedance and mitigation measures implemented, if any, to resolve the exceedance.

In addition, in the event of a deviation from the lighting requirements applicable to lighting on vessels, GE will follow the procedures for deviations from navigation requirements, as described in Section 4.6.

#### **4.5.5 Actions in Event of Lighting Complaint**

If a complaint (as defined in Section 10.2.2.3) relating to lighting is recorded, GE will take the following steps:

1. Investigate the cause of the complaint to verify that it is project-related.

2. If the complaint is project-related, conduct monitoring and/or modeling, as necessary, to determine whether the applicable standard has been exceeded in the area referred to in the complaint.
3. If the monitoring and/or modeling shows an exceedance of the applicable standard, implement the applicable steps specified in Section 4.5.4.
4. If the monitoring and/or modeling does not show an exceedance of the applicable standard, report the preliminary monitoring results to EPA, work with EPA to evaluate potential mitigation measures to address the complaint, and if both parties agree, implement such measures.
5. Notify the person registering the complaint of the steps taken to resolve the complaint (as specified in Section 10.2.2.3), and include a report on the complaint and response actions (if any) in the monthly reporting of complaints to EPA.

As noted above, the QoLPS for lighting defines the “exceedance level” to include “frequent, recurrent lighting complaints.” For this purpose, “frequent, recurrent complaints” will be defined on a case-by-case basis. However, the occurrence of such complaints will trigger the same responses described above.

#### **4.5.6 Potential Additional Engineering Controls and Mitigation Measures**

In the event the steps described above indicate the need for additional engineering controls or mitigation measures, GE will implement such measures, as appropriate. Selection of specific actions will be determined on a case-by-case basis. GE may consider the following, or other, as-yet-unidentified measures, depending on the specific cause of the lighting issue:

- Light positioning;
- Re-orientation of lights; and/or
- Additional shading.

## **4.6 NAVIGATION**

### **4.6.1 Description of Navigation Performance Standard**

The river will be used by public, commercial, and project vessels during work activities. EPA developed the QoLPS for navigation, in consultation with the NYSCC, to manage project and non-project vessel movement on the river.

The QoLPS for navigation requires that project vessels comply with the applicable provisions of federal and state navigation laws, rules, and regulations. As described in the Performance Standards Compliance Plan (PSCP) Scope attached to the Statement of Work for the CD, GE is also required to comply with the following:

1. Restrict access to work areas and provide safe access around them in the navigational channel, to the extent practical.

2. Notify the NYSCC of in-river project activities and provide information to the NYSCC and/or United States Coast Guard (USCG) so as to allow them to issue Notices to Mariners.
3. Provide the public with a schedule of anticipated project activities.
4. Schedule project river traffic so that non-project traffic is not unnecessarily hindered while at the same time allowing efficient performance of the project. (Note that project vessels will be considered commercial vessels for purposes of navigation.)
5. Coordinate lock usage with the NYSCC and its lock operators.
6. Establish temporary aids to navigation, such as lighting, signs, and buoys, to maintain safe and efficient vessel movement.

The QoLPS for navigation defines the “concern level” as a deviation from the above requirements that can be easily and immediately mitigated or receipt of a project-related navigation complaint. It defines the “exceedance level” as a situation where “remedial activities unnecessarily hinder overall non-project vessel movement and create project-related navigation impacts,” or as “frequent, recurrent complaints indicating project activities are unnecessarily hindering overall non-project-related vessel movement.”

#### **4.6.2 Design Analyses**

To meet the QoLPS for navigation, this project has been designed to maximize safety and productivity and to avoid unnecessary disruption of non-project navigation while allowing efficient performance of the project. The design includes the following requirements:

- All project vessels will be verified as structurally sound and seaworthy by an independent third-party marine surveyor. They must be operated by properly trained and experienced pilots and crews, and be compliant with all applicable federal and state navigation laws, rules, and regulations.
- All project vessels will be tracked via radio dispatch to schedule and control traffic in a way that minimizes interference with non-project vessels while optimizing productivity.
- Use of Lock 7 on the Champlain Canal will be coordinated with the NYSCC and will be reduced by staging and routing project support vessels (*i.e.*, vessels other than barges and associated tugs) from the marine staging facility on West River Road in Moreau.
- To the extent practicable and consistent with meeting other goals and performance standards, project vessels will not be tied or anchored in navigable channels in a manner that prevents or obstructs passage of other vessels.
- Non-project access to active work areas will be restricted in coordination with the NYSCC. Mariner notification will be used (as described in Section 10.1), and buffer zones and temporary aids (*e.g.*, lighting, signage, buoys, etc.) will be established to allow safe passage of non-project traffic around active work areas.

- The NYSCC and USCG will be provided with verbal and written routine notices regarding project schedules to allow those agencies to issue Notices to Mariners regarding anticipated access restrictions, project vessel scheduling, lock scheduling, contingencies or other information.
- The public will be provided with a schedule of anticipated project activities that may affect navigation. This will be accomplished through communications with lock operators during lock usage; broadcasting on appropriate marine frequencies during in-river activities; posting notices at locks, marinas, and public boat launches; distributing notices to interested commercial and recreational user groups; and/or posting information about in-river activities on the project web site (see Section 10.1.).

#### **4.6.3 Navigation Monitoring Summary**

Marine traffic will be routinely monitored after dredging operations begin. This routine monitoring will involve the recording in daily logs of information about river navigation activities in the vicinity of in-river project operations, along with any resulting navigation issues. A monthly navigation report will be submitted by GE to EPA and NYSCC, summarizing (in tabular format) navigation activities for the previous month, including daily records, as well as a log of navigation compliance and follow up actions. It will also identify any in-river project activities not previously identified that may significantly affect navigation by commercial and recreational vessels.

#### **4.6.4 Actions in Event of Deviation from Navigation Requirements**

If in-river operations deviate from the applicable federal and state navigation regulations listed in the QoLPS for navigation or from the design plans relating to navigation and such deviation can be easily and immediately mitigated, GE will take the following steps:

1. Promptly notify EPA and the NYSCC, but no later than 24 hours after discovery of the deviation.
2. Implement mitigation measures, as appropriate.
3. Submit a follow-up report to EPA and the NYSCC, including a summary of the navigation issues and mitigation actions taken.

If on-river operations deviate from the applicable federal and state navigation regulations listed in the QoLPS for navigation or from the design plans relating to navigation and such deviation cannot be easily and immediately mitigated, GE will take the following steps:

1. Notify EPA and the NYSCC immediately.
2. Identify the cause of the deviation.
3. Develop and implement an action plan for mitigation measures.
4. Submit a corrective action report to EPA and the NYSCC within 10 days of discovery of the deviation, including a description of the cause(s) of the navigation problem(s) and mitigation actions taken.

#### **4.6.5 Actions in Event of Navigation Complaint**

If a navigation complaint (as defined in Section 10.2.2.3) is recorded, GE will take the following steps:

1. Investigate the cause of the complaint to verify that it is project-related.
2. If the complaint is project-related, conduct an investigation to determine whether the project is in compliance with all substantive federal and state navigation requirements and if project activities have interfered with other river traffic.
3. Notify the NYSCC of the complaint and consult with the NYSCC, if necessary, in the investigation.
4. If it is determined that the project is not in compliance with all substantive federal and state navigation requirements or that GE has not taken appropriate steps to minimize interference with river traffic, implement the applicable steps specified in Section 4.6.4, including notification to EPA and the NYSCC, implementation of mitigation measures, and submission of a follow-up report.
5. If it is determined that the project is in compliance with all substantive federal and state navigation requirements and that GE has taken appropriate steps to minimize interference with river traffic, work with EPA, in coordination with the NYSCC, to evaluate potential measures to address the complaint, and if both parties agree, implement such measures.
6. Notify the person registering the complaint of the steps taken to resolve the complaint (as specified in Section 10.2.2.3), and include a report on the complaint and response actions (if any) in the monthly reporting of complaints to EPA.

As noted above, the QoLPS for navigation defines the “exceedance level” to include “frequent, recurrent complaints indicating project activities are unnecessarily hindering overall non-project vessel movement.” Such complaints will be defined on a case-by-case basis and will be handled in the same manner described above.

#### **4.6.6 Potential Mitigation Measures**

In the event that mitigation measures are required to address a deviation from applicable federal or state navigation regulations, the mitigation measures will consist of taking the necessary steps to comply with those regulations.

In the event the steps described above indicate the need for additional mitigation measures, GE will implement such measures, as appropriate. Selection of specific actions will be determined on a case-by-case basis. GE may consider the following, or other, as-yet-undefined measures, depending on the specific circumstances:

- Spacing in-river vessels to minimize channel encroachment.
- Revising the schedule for work in dredge areas and/or times of project vessel and equipment movement in the river to reduce impacts on non-project navigation, including performing certain activities during off-peak hours, if practical.

- Using passing lanes to allow non-project vessels to pass project vessels.
- Allowing specific times during the day for non-project boat access to otherwise access-restricted areas (as is already planned in the east channel of Rogers Island for access to the Fort Edward Yacht Basin).
- Generally, while operations are occurring in the east channel of Rogers Island, limited passage of non-project vessels to and from the Fort Edward Yacht Basin will be allowed. A gate will be designed in the resuspension barrier to be placed at the southern end of this channel. Recreational vessels will be able to travel through this gate each day during a ½-hour period between the hours of 7 a.m. and 9 a.m., and again during a ½-hour period between 3 p.m. and 5 p.m. The specific ½-hour slot within these 2-hour time periods will be determined by the dredging contractor. Initially, this channel will be closed in order to complete dredging near the Fort Edward Yacht Basin. If closure of the navigation channel is required in other areas, which is not anticipated during Phase 1, EPA and NYSCC will be consulted.

#### **4.6.7 Contingency Plans for Navigation Accidents**

Section 7.0 discusses contingency plans and emergency response plans for dealing with navigation accidents.

## SECTION 5

### ASSESSMENT AND MANAGEMENT OF POTENTIAL HAZARDS

#### 5.1 DESCRIPTION OF EVALUATION

As is discussed in Section 1.2, GE is committed to conducting business in a manner that is protective of the health and safety of its employees and the local communities in which it functions. Toward that end, this project has been designed with health and safety as its first and most fundamental goal. As a result of those diligent design efforts and all of the protective measures that have been incorporated into that design, risks of project-related potential hazards to the community are quite low. In addition, while this dredging project is unprecedented in terms of its size and scope, many of the project activities are routine construction activities that would occur in many commercial construction projects. For example, as discussed in Section 2.2.1, this project involves site preparation and general building construction activities, which are no more hazardous to the community as part of this project than they would be in any commercial development project.

To ensure that the design incorporates comprehensive health and safety preventive measures, GE has thoroughly evaluated and assessed potential project-related hazards that could occur during the project. This section describes that evaluation, the preventive measures that have been incorporated into the project design, the proposed responses if such a hazard occurs despite implementation of preventive measures, and potential mitigation measures to consider in an attempt to prevent an incident from recurring.

In addition to the thorough evaluation and assessment of potential hazards, GE also intends to hire experienced companies with the best safety track records. During the contractor selection process, GE will evaluate a number of safety performance metrics of those contractors interested in working on the project (*e.g.*, the qualifications and certification of their safety personnel; their experience modification rate (EMR); their preventable and unpreventable vehicle accident record; results of recent inspections by the federal Occupational Safety and Health Administration (OSHA); their history of safety violations, if any; their safety program and safety statistics; their history of worker compensation claims; and, for trucking companies, their commercial driver logs and practices).

Again, above all else, GE's goal during the course of this evaluation was to identify preventive measures and/or design modifications that could be implemented prior to construction and dredging to minimize the chance for potential hazards to occur in the first instance. This evaluation was conducted in four major steps:

- First, potential hazards (assuming no preventive measures are in place) were identified and evaluated based on the likelihood that they would occur and the potential that they would impact the local community should they occur.

- Second, “preventive measures” were identified which could reduce, if not eliminate, the potential that an identified hazard could occur. An example of a preventive measure is installation of a chain link fence around the processing facility to prevent trespassers from accessing the property.
- Third, a review of response actions was conducted to ensure equipment and/or resources needed to appropriately respond to an incident were obtained prior to construction. For example, if a fuel spill occurred, the contractor may choose to use booms and absorbent “napkins” to contain the spilled material. Therefore, booms and absorbent “napkins” would have to be obtained prior to the start of the project and stored in convenient places so they would be available should a spill happen. For most incidents, response actions and procedures are described fully in Section 7. If a specific response is not covered under the hazard, then it is described in Section 7. However, some response actions are provided below if they are unique to a particular type of hazard.
- Finally, “mitigation measures” - or additional preventive measures - were identified where possible to stop incidents from recurring. For example, if a trespasser accesses the processing facility project personnel would consider mitigation measures based upon the unique circumstances of the incident. If the trespasser climbed over the perimeter fence, GE may increase security patrols. If the trespasser cut a hole through the fence in the middle of the night, GE may add more lights in the area. If the trespasser was quickly spotted and apprehended by site security before accessing the property, no mitigation measure might be needed. Some mitigation measures are provided below for certain types of hazards. For other hazards, mitigation measures depend on the unique circumstances of the event so an evaluation of such measures at this time is premature. Those mitigation measures that are included here should be viewed as suggestive and not exhaustive.

Potential hazards described in this section have been divided into three categories based on the underlying work activities: (1) those that could occur during construction of the processing facility and associated rail yard; (2) those that could occur during dredging and associated in-river activities; and, (3) those that could occur during operation of the processing facility and associated rail yard.

Again, while the likelihood is quite low of any of the identified potential hazards occurring during this project in light of the extensive preventive measures incorporated into the project design, GE evaluated and prioritized, within each work activity category, potential hazards, based on the likelihood that, *without* preventive measures, the potential hazard could occur and its potential severity (the degree of impact to the community should the potential hazard occur). Thus, while potential hazards have been grouped into significant, moderate and low potential hazard classifications, considering the preventive measures already incorporated into the project, none of these potential hazards are likely to occur.

Potential hazards (for each category listed above) were divided into three groups (prior to considering preventive measures):

- *Significant potential hazards* – These consist of hazards that are **both** reasonably likely to occur **and** have the potential to cause a significant impact to the public prior to putting preventive measures in place. Only one potential hazard was deemed significant: the occurrence of fog during in-river operations (Section 5.3.1).
- *Moderate potential hazards* – These consist of hazards that are **either** fairly likely to occur (prior to putting preventive measures in place) but not likely to cause a significant impact, **or** are less likely to occur but have the potential to cause a significant impact if they did occur.
- *Low potential hazards* – These consist of hazards that have a relatively low probability of occurring **and** do not seem likely to cause a significant impact if they did occur.

Once potential hazards were evaluated, specific preventive and mitigation measures were identified to address them.

## **5.2 POTENTIAL HAZARDS DURING CONSTRUCTION OF PROCESSING FACILITY AND ASSOCIATED RAIL YARD**

Activities related to the construction of the processing facility and associated rail yard (described in Section 2.2.1) may cause similar potential hazards to the community as any commercial construction project (*e.g.*, vehicular accidents, spills and releases of fuel or other materials or safety risk to trespassers). Installation of the wharf area may present a potential hazard to non-project river traffic. Finally, installation of utility infrastructure on-site may present an increased potential for fire. These potential hazards are described more fully in the following sub-sections.

### **5.2.1 Significant Potential Hazards During Construction of Processing Facility and Associated Rail Yard**

None have been identified.

### **5.2.2 Moderate Potential Hazards During Construction of Processing Facility and Associated Rail Yard**

These include vehicular accidents and on-site injury of non-project individuals.

#### **5.2.2.1 Vehicular Accidents Due to Increased Truck Traffic**

During construction of the processing facility and associated rail yard, clean fill and other construction materials will be delivered to the site by truck. Increased truck traffic may increase the potential for vehicular accidents in the community.

### **Preventive Measures**

Trucks accessing the processing facility during construction will use an existing, established truck route in the community. This truck route bypasses most residential areas and school zones and avoids narrow village streets where accidents may be more likely.

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To minimize the number of project trucks and vehicles accessing the processing site property from narrow village streets, the design of the facility has been modified with a new two-mile access road connecting the existing truck route on Route 196 to the northern perimeter of the site. Once this access road is functional, project traffic will be required to use this entrance to the site.

To further reduce the likelihood of traffic accidents near the processing facility, project personnel working on in-river activities will be staged at a marine staging facility on West River Road in Moreau, thereby reducing the need for large numbers of individuals to access the processing facility each day.

### **Potential Mitigation Measures**

Should a vehicular accident occur involving project traffic, GE will evaluate implementation of additional temporary traffic control measures, such as new traffic signals, traffic signs, or a reduction of the speed limit in certain areas.

#### **5.2.2.2 Injury to Trespassers onto Processing Facility Site During Construction**

Trespassers at the processing facility may injure themselves or cause a disruption to operations.

### **Preventive Measures**

At the start of construction, a 7-foot-high chain link fence with three strands of barbed wire will be installed around the perimeter and certain interior portions of the processing facility to minimize public trespass. Entry points will be staffed by a security guard and anyone wishing to access the site will be required to sign in and show proper identification. A detailed security plan will be prepared. However, to maintain security, it will not be distributed to the public.

### **Response**

Should a trespasser be discovered on-site, security and local authorities will be notified.

### **Potential Mitigation Measures**

Should trespassers access the processing site property during construction, potential mitigation measures may include: increased security presence; coordination with local authorities to apprehend trespassers; and installation of additional video cameras and/or lighting.

#### **5.2.3 Low Potential Hazards During Construction of Processing Facility**

These include: a fire that begins on-site but spreads off-site; a spill or release of fuel or other materials; an accident associated with construction of on-site utility infrastructure; and an accident between the public and in-river project equipment used to install a wharf area at the processing facility.

### **5.2.3.1 On-site Fire Spreads Off-site**

The presence of combustible materials (*e.g.*, wood scrap and debris, dry vegetation, fuel tanks) on-site, the potential that project personnel engage in cigarette or pipe smoking, or certain construction activities (*e.g.*, welding) could create the potential for an on-site fire. Although any fire can become significant quickly, this hazard was characterized as low due to the site's large geographic area, the limited presence of combustible material, and the surrounding buffer that significantly decreases the potential for an on-site fire to impact the community.

#### **Preventive Measures**

A "hot work" permit will be required when activities require a spark-emitting tool or welding to occur. Hot work permits control the use of fire, welding, sparks, etc. by informing management that there is a potential fire-generating activity proposed. These permits also require that fire extinguishers be present and a fire watch associated with the work be established. In addition, good housekeeping practices will be followed. Combustible scrap and debris will be removed regularly, before it is allowed to accumulate.

Storage areas will be routinely inspected and maintained. The Uniform Fire Code and National Fire Prevention Association (NFPA) standards will be followed when storing fuels and compounds that are flammable, ignitable or reactive. Compounds stored on-site will be kept in their original containers, unless damaged. Containers will meet the NFPA standards for storage. Labels on containers will be visible and readable. A Material Safety Data Sheet (MSDS) will be available for each compound present.

Structures in the processing facility will be constructed consistent with the substantive requirements of applicable fire and safety codes. Per applicable regulations, all work areas will have approved type portable fire extinguishers and/or approved type semi portable fire extinguishers to prevent a fire from spreading off-site. Fire hydrants will be installed during construction of the processing facility to provide ready access to the fire-fighting water supply.

During construction activities, drills will be held with project personnel and external emergency responders to ensure fire prevention procedures are followed.

Designated smoking areas will be clearly marked for project personnel. In addition, no open fires will be permitted near debris piles.

During routine site inspections, on-site security will routinely check for the presence of potentially-combustible materials or on-site conditions that could create a fire.

A Fire Prevention Plan, incorporating the elements set out above, will be developed by the contractor hired to build the processing facility. This Plan will be routinely discussed at project safety meetings.

### **5.2.3.2 Spill or Release of Fuel or Other Materials**

Spills or releases of potential or known hazardous materials (*e.g.*, diesel fuel, antifreeze, or hydraulic oil) at the processing facility during construction may migrate off-site, causing an impact to the community.

#### **Preventive Measures**

The contractor hired by GE to construct the processing facility will be required to prepare a spill prevention control and countermeasure (SPCC) plan, which is described in Section 7.2.2.

To the extent possible, fueling of construction vehicles and equipment will be conducted either at the contractor's designated staging area or in the vicinity of the work performed by the equipment. Maintenance will be performed primarily in the staging area but may also be performed where the equipment is parked, if performed between shifts. These areas will have or be within a secondary containment system to capture storm water runoff, spills or releases.

Project personnel will be trained in proper liquid waste generating activities and liquid waste storage and disposal procedures. Regular meetings will be held with project personnel to discuss and reinforce disposal procedures.

In addition, stored fuel will be covered or enclosed and project personnel will be trained in proper fueling procedures. Project personnel will not leave fueling operations unattended and will follow applicable federal and state regulations. Fuel will be delivered by truck as needed or stored in above-ground fuel storage tanks with secondary containment features to prevent spills.

Vehicles and equipment will be checked for leaks each day they are used. As needed, repairs will be made or leaking vehicles or equipment will be removed from the site.

Absorbent spill clean-up materials and spill kits will be available in fueling areas and on fueling trucks, and project personnel will dispose of materials properly after use.

#### **Potential Mitigation Measures**

Should spills or releases of fuel or other material occur, GE may consider: additional training for project personnel to review and reinforce procedures; purchase of new or different equipment; or a re-evaluation and potential modification of the on-land secondary containment system.

### **5.2.3.3 Off-site Accident Due to Extension of Public Utilities to Processing Facility**

Extending electric, water, telephone and sewer utilities to the processing facility will require off-site construction activities that may include trenching, pipe installation and overhead line work. These activities may occur near busy roadways, creating the potential for accidents that may impact the community. Any utility work performed off-site by a local utility should be performed in accordance with the appropriate health, safety and construction requirements of that local authority or company.

#### **5.2.3.4 Accident Involving Public and Project Equipment in Champlain Canal**

During construction of the processing facility, a wharf will be installed along the Champlain Canal. The surrounding area could be used by swimmers, anglers and boaters. It is possible that one of these river users could become entangled with project-related equipment situated in the canal.

#### **Preventive Measures**

Details of project work activities will be communicated to the public through the CENP (see Section 10.1).

To minimize obstruction of navigation within the Champlain Canal, the canal will be widened near the processing facility wharf so that it does not encroach upon the existing navigation channel.

Work areas will be clearly marked by, for example, floating signage; demarcation buoys upstream and downstream of work areas; demarcation buoys near in-river equipment; and, demarcation or float lines near fixed project features (*e.g.*, sheet pile walls). Location of buoys will be regularly inspected to ensure relevance to work areas.

Recreational river users will be encouraged to keep a safe distance from work activities. If recreational river users are approaching project equipment, project personnel may use blowhorns or other means to provide warnings.

As part of monthly marine equipment inspections, the contractor will check that boats, barges and other equipment have adequate lighting and that it is operating properly.

#### **Potential Mitigation Measures**

Potential mitigation measures include: working with NYSCC to improve communications with boaters traversing this section of the canal; designating a project vessel as a warning boat to notify river users they are nearing work areas; or enhancement of buoys or other markings.

### **5.3 POTENTIAL HAZARDS DURING DREDGING AND OTHER IN-RIVER ACTIVITIES**

Activities related to dredging and other in-river work are described in Sections 2.2.2 and 2.2.3. The performance of these activities may present potential hazards to the community, including: navigation hazards caused by fog; in-river boating accidents; increased turbulence affecting non-project vessels; spills and releases of fuel or other materials into the river; fires; damage to known or undetected underwater structures; safety risk to trespassers on unattended project vessels or work areas; and safety risk to shoreline structures if shoreline becomes unstable.

#### **5.3.1 Significant Potential Hazards During Dredging and Other In-river Activities**

This includes only navigation and safety hazards caused by fog.

### **5.3.1.1 Navigation and Safety Hazards Increased by Fog**

Fog often occurs on the river, particularly in the morning hours. Fog increases the possibility for accidents between vessels or between a vessel and in-river equipment. Also, trespass by the public in project areas or unattended project vessels could increase under the cover of fog, increasing the potential for a safety hazard to the trespasser.

#### **Preventive Measures**

Because of reduced visibility and concern for personal safety, most recreational boaters will not be on the river during foggy conditions. However, to prevent accidents from occurring in foggy conditions, operations on moving project vessels will be slowed or halted, as necessary, to ensure the safety of the public and project personnel. Activities on stationary equipment and staged vessels may also be halted or slowed, depending on the intensity of the fog and the specific work activity.

Should vessels continue to move in the water when fog is present, they will be equipped with signaling devices (*e.g.*, lighting) and possibly automatic identification systems to assist their safe passage. In addition, project personnel will communicate as needed with NYSCC personnel to track non-project vessels.

### **5.3.2 Moderate Potential Hazards During Dredging and Other In-river Activities**

These include: spills and releases during refueling activities; spills and releases of dredged material; a fire; boating accidents; and, injury to trespassers on project vessels or at associated work areas.

#### **5.3.2.1 Spills and Releases During Refueling Activities**

The dredges, tug boats and support vessels used to perform dredging and related in-river activities will require regular refueling from fuel barges. During refueling activities, which are similar to refueling activities of non-project vessels, spills or releases of fuel may occur. These releases may be relatively minor (*i.e.*, a few drops) to significant. Under the terms of the Clean Water Act (CWA), releases of oil or hazardous substances in the navigable waters of the United States are regulated and must be reported and mitigated if the quantities exceed “reportable quantities” [33 CFR 153].

#### **Preventive Measures**

All refueling activities will comply with USCG regulations [33 CFR 156 (oil & hazardous material transfer operations)] for on-water fuel distribution and storage.

To maximize safety and efficiency, refueling barges will be used to refuel dredges at or near the location where the dredges are operating. Refueling of support vessels will generally take place at the marine staging facility on West River Road. Although some support vessels may carry limited quantities of fuel for infrequent refueling while on the river, that fuel will be in special containers manufactured specifically for this use.

Other potential preventive measures are described above in Section 5.2.3.2.

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## **Potential Mitigation Measures**

These are described in Section 5.2.3.2.

### **5.3.2.2 Spills and Releases of Sediment Containing PCBs**

It is possible that a spill or release of dredged sediments occurs during transport of dredged sediments to the processing facility or offloading of loaded barges at the processing facility wharf.

## **Preventive Measures**

The barges used on this project have been specifically designed to safely contain and transport river sediments without leaking, tipping or spilling. The barges are low, broad, nearly flat-bottomed vessels made of thick steel plates and are built to handle heavy loads and remain very stable in a wide variety of marine conditions (*e.g.*, wind, waves and wakes). For example, to prevent leakage, only continuous “mono-hulled” barges will be used; split-hulled scows will not be permitted even if the bottom seam has been welded shut.

All barges will be water-tight, sound and of appropriate dimension for use within the Upper Hudson River and Champlain Canal, including safe passage through the locks. In addition, all barges will be certified as seaworthy by an independent third-party marine surveyor prior to being mobilized to the project site.

The process of loading barges has been designed to prevent overfilling or tipping. Barges will be loaded in a systematic and controlled manner. They will be securely anchored and moored to the dredge platform during loading, which adds to their stability. Barges will be secured or controlled at all times; they will be anchored, lashed to a tugboat or other control vessel, and/or moored to shore or secure dockage.

Barges will be fitted with spill aprons to prevent sediments from accumulating on the sides of barges, and barges will be sprayed or washed, if needed, before being moved from the dredge area.

During initial startup of in-river activities, dredging rates will be relatively slow (less than 2,500 cy/week for the first two weeks) to enable the project team to closely monitor dredge performance, resuspension and overall operations. During this period, project personnel will identify problems, if any, with equipment or operational procedures that could cause spills of dredged material. If problems are identified, GE will evaluate additional preventive measures.

At the processing facility wharf, barges will be securely moored during unloading to enhance their stability and prevent tipping. A spill apron specifically designed for barge off-loading at the processing facility will extend from the unloading wharf to overlap with the side of the barge. This apron will catch any sediment or water that may fall from the unloading crane or excavator as the sediments are removed from the barge and moved onto the wharf. Any material that lands on this spill apron will drain back into the barge or into the on-site water collection and treatment system at the wharf.

Project safety officers specially trained to educate, observe and train project personnel on spills and releases will be on hand during operations. These safety officers will review and observe procedures and equipment operations to help prevent spills or releases of dredged sediment.

Care has also been taken during project design to evaluate uncontrollable factors that could cause spills (*e.g.*, tornadoes, floods and accidents). These factors were evaluated and appropriate safety measures have been incorporated to prevent spills during dredging and other in-river activities. Further, if severe weather strikes, operations may be temporarily reduced or halted until the storm passes.

### **Potential Mitigation Measures**

These may include: additional training for project personnel to review and reinforce procedures; consideration of new or different barge equipment and/or unloading equipment at the wharf; or a re-evaluation of barge loading and wharf unloading procedures.

#### **5.3.2.3 Fire or Explosion on Vessel**

It is possible that a fire could start on a project vessel and spread onto the water, potentially impacting the community. The potential for an explosion on a project vessel, however, is unlikely because dredged sediments contain insignificant levels of volatile compounds and the sediments will be wet. Additionally, larger vessels operate on diesel fuel, which is not explosive under normal operating conditions.

### **Preventive Measures**

Smoking will be prohibited on and within 10 feet of project vessels. A “hot work” permit will be required when activities require a spark-emitting tool or welding to occur. Open containers of flammable or explosive materials will not be transported on project vessels.

Per USCG regulations, all project vessels will have approved type portable fire extinguishers and/or approved type semi portable fire extinguishers [33 CFR 145 (fire-fighting equipment)] to suppress a fire. The operator/skipper of each project vessel must complete a USCG boating safety training course prior to conducting work on the river. Each operator/skipper must demonstrate proficiency in the following subject areas: proper operation of a boat; boat and safety equipment inspections; content and frequency of equipment safety inspections; and proper use of on-board safety equipment, including fire extinguishers.

A Fire Prevention Plan, incorporating the elements set out above, will be developed by the contractor hired to perform the in-river work. This Plan will be routinely discussed at project safety meetings.

### **Potential Mitigation Measures**

If fires or explosions on project vessels occur, GE will re-evaluate current preventive measures, particularly project fire-fighting capability. GE will work with the USCG and local

emergency responders to ensure that the proper fire prevention controls are in place on all project vessels.

#### **5.3.2.4 Accident Involving Moving Non-project Vessel and Moving Project Vessel**

River traffic in the Upper Hudson will increase significantly during the Phase 1 project. Curiosity seekers may specifically travel to close proximity of in-river work activities to watch, potentially becoming less attentive to the operation of their vessels. Additionally, collisions may occur as a result of operator fatigue, operator distraction, operator impairment, avoidance of another non-project or project vessel, loss of control or other conditions.

#### **Preventive Measures**

All project vessels will travel at a slow and safe speed to allow non-project vessels adequate time to see and react to them.

In an effort to encourage non-project boaters to avoid work areas, and thereby decrease the number of vessels near work activities, recreational boaters will be notified of work activities and will be provided a schedule for upcoming work areas via the CENP described in Section 10.1. These notices will include recommendations that recreational river users avoid project work areas (*e.g.*, not to pass within 10 feet of project vessels).

To encourage non-project vessels that near work areas despite mariner advisories to keep a safe distance, work areas will be clearly marked by, for example, floating signage; demarcation buoys upstream and downstream of work areas; demarcation buoys near in-river equipment; and, demarcation or float lines near fixed project features (*e.g.*, sheet pile walls). Location of buoys will be regularly checked for relevance to work areas.

During night-time operations, all project vessels and equipment will be well-lit to improve non-project vessels' visibility. This lighting will be checked regularly for proper operation.

Project personnel will be in contact with lock operators as necessary to receive information on lock usage and canal traffic.

Trained and experienced vessel operators will be used, an important aspect in the prevention of all accidents. Standard USCG and NYSCC rules for navigation will be followed to prevent vessel mishaps. To maintain their focus on work activities, project personnel will only use cell phones for job-related calls.

#### **5.3.2.5 Runaway Project Vessel**

Barges should be securely anchored or held in position by a tugboat during loading. They will also be anchored at the processing facility wharf. However, it is possible that a barge or other project vessel breaks away from its mooring or loses power when moving, presenting a potential hazard to other boaters.

## **Preventive Measures**

Properly-maintained equipment and thorough procedures for securing vessels will reduce the potential for runaway vessels. In addition, notifying recreational boaters and posting work advisories at marinas could reduce the number of recreational boaters in work areas, thereby reducing the danger posed by a run-away project vessel. Mariners will be advised of project activities as described in the CENP (see Section 10.1).

## **Response**

During dredging and other in-river activities, one tug will be available downstream of Lock 7 to assist in capturing a run-away vessel, which will reduce the potential for accidents or damage.

### **5.3.2.6 Injury to Public on Project Vessels or Equipment**

Trespass into project work areas may occur by curious individuals, or unintentionally by those who fail to notice work area postings and/or signage. This can pose a safety risk to the trespasser.

## **Preventive Measures**

Physical restrictions installed to control turbidity (*e.g.*, sheet pile, silt curtains) will help deter trespassers, as will notice and signage. Work areas will be clearly marked by, for example, floating signage; demarcation buoys upstream and downstream of work areas; demarcation buoys near in-river equipment; and, demarcation or float lines near fixed project features (*e.g.*, sheet pile walls). Buoys will be regularly checked for their visibility and relevance to current work areas. In addition, stationary project vessels and equipment will be well-lit and lighting will be checked regularly for proper operation.

Fencing will be installed at marinas and will be posted with appropriate warning signage. Vessel cabins and storage areas will be locked as needed and security patrols will be conducted, as further described in Section 6.4. Project safety briefings will be held regularly and will include instructing project personnel to be alert for the potential presence of trespassers.

## **Response**

The project team will remain alert to the potential for trespass and will provide amplified verbal warnings or other alerts should trespassers be discovered. Work activities will be halted as necessary to prevent injury, until the trespass situation is corrected. If trespassers do not leave the area as requested or are repeat offenders, crews will call local law enforcement for assistance.

## **Potential Mitigation Measures**

If trespassing occurs, GE may consider: installation of razor wire on security fencing; adding additional lights to illuminate work areas; increased security patrols; or increased signage and buoys.

### **5.3.3 Low Potential Hazards During Dredging or Other In-river Activities**

These include: spills and releases due to equipment failure; damage of structures above or below water; sinking project vessels; turbulence caused by project vessels; breach of a dredged sediment transport pipeline; trespass in work areas; floating project debris; instability of the shoreline; and hazards to the public on-shore during near-shore activities.

#### **5.3.3.1 Spills and Releases Due to Equipment Failure or Damaged Vessel**

It is possible that a spill or release of a petroleum product occurs because of a failure in equipment (*e.g.*, broken fuel line, ruptured hydraulic line) or because of damage to a project vessel as a result of an accident. Such a spill or release could impact the community.

#### **Preventive Measures**

Prior to mobilizing equipment to work areas, the contractors will be required to provide GE with independent third-party inspection reports demonstrating that each vessel is seaworthy and is fully functional. During work activities, the dredging contractor will have an independent, third-party marine surveyor conduct monthly marine safety inspections on each project vessel to check the integrity of equipment components most likely to fail and cause a spill or release (*e.g.*, hydraulic lines, fuel lines). In addition, hydraulic systems for marine equipment will be required to use a biodegradable vegetable oil as hydraulic fluid.

Additional preventive measures are described in Section 5.2.3.2.

#### **Potential Mitigation Measures**

Should spills or releases of fuel occur because of equipment failure, GE may consider: purchase of new or different equipment; a modification in equipment maintenance procedures; or a re-evaluation and potential modification of refueling activities.

#### **5.3.3.2 Damage to Bridge or Other Above-ground Structure by Project Vessel**

A project vessel may interfere with a known or unknown above-ground structure, such as a bridge abutment, pier, dock, sheet pile wall, dam or overhead cable. This may occur as a result of operator fatigue, operator distraction, avoidance of a non-project or project vessel, loss of control or other conditions.

#### **Preventive Measures**

An identification of physical structures in and near project work areas was conducted during the design stage. Locations of these identified structures have been included in the project design and will be communicated to the dredge operators performing in-river activities. These locations will be verified in the field before work activities begin.

During work activities, the presence of above-ground structures, including any setback requirements, will be discussed at project meetings. Any “near miss” incidents will be reported and discussed, so potential incidents can be avoided in the future.

Trained and experienced vessel operators will be used, an important aspect in the prevention of all accidents. Standard USCG and NYSCC rules for navigation will be followed to prevent vessel mishaps. To maintain their focus on work activities, project vessel operators will only use cell phones for job-related calls.

### **5.3.3.3 Loss of Lock 7 Service**

Project vessels and barges will travel through Lock 7 to and from the processing facility several times each day. During any of these lock passages, an incident (*e.g.*, a vessel collision or sinking) could occur that could damage the lock and/or result in the lost use of the lock for a period of time.

#### **Preventive Measures**

The project team will comply with all applicable NYSCC regulations and will comply with directions or instructions given by the lock operator. Safe vessel speed and procedures will also will be maintained when approaching or exiting Lock 7.

To facilitate orderly passage of barges through Lock 7, mooring posts will be installed just south of the lock where barges can be safely staged and sequenced. Also, a turning dolphin will be installed near Lock 7 to allow safe turning of barges as they approach Lock 7 from the north.

#### **Response**

If a project vessel damages the lock, the contractor, in cooperation with GE and the NYSCC, will remove the vessel, assess damage, and repair the lock as necessary.

#### **Potential Mitigation Measures**

If Lock 7 becomes inoperable, GE will evaluate the cause of the losses of service with the NYSCC. Possible mitigation measures may include: NYSCC upgrades to lock infrastructure; modifications to locking procedures; or reduction in number of vessel trips through of Lock 7.

### **5.3.3.4 Damage to Underwater Structures by Project Vessels or Work Activities**

Identified underwater structures in Phase 1 work areas include: a municipal outfall; the Village of Fort Edward's water supply line; and other unmarked utilities. The potential exists that an underwater structure is damaged during dredging or in-river activities.

#### **Preventive Measures**

The same preventive measures described for above-ground physical structures (described in Section 5.3.3.2) will be employed to protect underwater structures during in-river work activities.

#### **Response**

If work activities result in damage to an underwater structure, the contractor will notify GE, and GE will notify the appropriate authorities. The contractor, in cooperation with GE and the appropriate authorities, will assess damage and repair the structure as necessary.

### **5.3.3.5 Accident Involving Public and Stationary Project Vessel or Equipment**

Swimmers, anglers and boaters use river areas where work activities will be performed. The potential exists for these river users to strike stationary project equipment (*e.g.*, a vessel, buoy, float line, stationary environmental monitoring units, etc.).

#### **Preventive Measures**

Preventive measures implemented to prevent accidents involving moving non-project and project vessels (as described in Section 5.3.2.4) will also prevent this type of hazard.

### **5.3.3.6 Potential Public Hazards Resulting from Sunken Project Vessel**

It is possible that a project vessel could sink as a result of a collision or other serious mishap or malfunction. A sunken vessel presents number of potential hazards, including potential hazards to navigation, the resuspension of dredged sediment (if the vessel is a loaded sediment barge) or the potential for leaking fluids. Project efforts to recover the sunken vessel could temporarily block river navigation, thereby impacting the community.

#### **Preventive Measures**

Prior to mobilizing equipment to work areas, the contractors will be required to provide GE with independent third-party marine inspection reports demonstrating that each vessel is seaworthy and is fully functional. During work activities, the dredging contractor will conduct monthly marine safety inspections on each project vessel to ensure the integrity of the equipment. Routine maintenance will be performed regularly to ensure the safe operation of all project vessels and equipment.

Trained and experienced vessel operators will be used, an important aspect in the prevention of accidental sinking. Standard USCG and NYSCC rules for navigation will be followed to prevent vessel mishaps that could lead to sinking.

#### **Response**

The location of the sunken vessel will be marked as a warning to boaters. The sunken vessel will be recovered or removed as soon as practical. The urgency with which the sunken vessel is recovered will depend on a number of factors, such as whether it is blocking the navigation channel or whether it is leaking fluids. Emergencies relative to the sinking of a project vessel will be handled according to the emergency procedures described in Section 7.3. Spills or releases of dredged sediment will be handled according to the procedures described in Section 7.2.

### **5.3.3.7 Turbulence Caused by Project Vessels**

Vessel wakes or prop wash from project vessels may pose hazards to recreational boaters. Waves could capsize or swamp vessels such as canoes, kayaks, or small skiffs, if recreational boaters venture too close to project vessels.

## **Preventive Measures**

Mariners will be notified of project activities (including work schedule, areas where work will be performed, and recommended distances to maintain from project vessels and equipment) according to the CENP in Section 10.1. In addition, if the project team notices encroachment by the public, they will sound warning horns and/or provide amplified voice warnings. Project vessels will reduce speed if the project team notices encroachment by the public.

## **Potential Mitigation Measures**

If project personnel observe a wake impacting a recreational vessel, a “near miss” report will be generated, which will evaluate the cause of the incident and consider additional methods for preventing such incidents from recurring. Mitigation measures may include: reducing project vessel speed; creation of a no wake zone; or halting activities when recreational vessels encroach upon project work areas.

### **5.3.3.8 Potential Breach of Dredged Material Transport Pipeline**

In dredge areas with shallow water conditions (*e.g.*, near shoreline), the contractor may elect to pump dredged sediment to a barge moored in deeper water. These sediments would be placed into a hopper located on the dredge platform and pumped to the barge. An accidental break of the transport line could cause dredged sediment to be discharged into the river.

## **Preventive Measures**

A visual inspection of sediment transport line construction (*e.g.*, pipe, pumps, floats and connections) will be conducted before the system is used to ensure its integrity. The contractor will conduct a hydrostatic test of pipelines with river water, prior to the introduction of dredged sediment, to reveal weaknesses. If weaknesses are identified, a further evaluation of the system will be conducted and equipment modifications will be implemented, as appropriate.

Buoys or other visible markings will clearly mark in-river slurry lines to prevent collision by project or non-project vessels. These markings will be checked regularly to ensure they continue to be visible and located appropriately.

### **5.3.3.9 Floating Project Debris**

Dredging or debris removal activities could dislodge woody debris adjacent to the river bank or other debris (*e.g.*, limbs from tree-trimming activities) that may float downstream, presenting a potential hazard to other river users.

## **Preventive Measures**

Hand-held equipment will be used to trim or remove vegetation or debris along shorelines where needed to allow room for safe operation of dredges and other project equipment. Vegetation and debris will be collected by the contractor and disposed of properly. The contractor will regularly report these activities in debris-removal progress reports, based on a Debris Removal and Vegetation Trimming Plan that must be prepared and submitted by the contractor.

## **Response**

If in-river project-related debris or debris that may obstruct project operations is observed in or near work areas, it will be retrieved by the contractor, to the extent possible.

## **Potential Mitigation Measures**

In locations where floating debris may cause impacts to non-project river users, the contractors performing shoreline vegetation and debris removal activities may consider locating project personnel immediately downstream of work activities so floating debris can be promptly captured.

### **5.3.3.10 Shoreline Instability**

It is possible that shoreline soils slough into the river during or following dredging activities, resulting in a potential risk to the public and/or shoreline structures.

## **Preventive Measures**

Dredging activities near the shoreline have been specifically designed in consultation with EPA to provide for the stability of the shoreline during and after dredging activities. Essentially, the maximum dredge cut at the shoreline is two feet, or the depth of contamination if less than two feet. The dredge will then move away from the shoreline to create a stable slope that will be no steeper than 3:1, unless the existing slope is steeper.

Before leaving shoreline areas, the project team will check shoreline slopes and re-construct them if needed to maintain stability.

## **Response**

The contractor will repair project-related shoreline areas that slough into the river during or after dredging activities.

## **Potential Mitigation Measures**

If shoreline areas slough into the river during dredging or other in-river activities, GE and EPA may re-evaluate existing shoreline stability requirements and modify them, as appropriate.

### **5.3.3.11 Injury to Public During Shoreline Dredging or Debris Removal Activities**

Curious individuals standing on-shore watching project activities may get too close, presenting a potential risk of injury to themselves. Removal of tree limbs in areas of thick vegetative cover may also present a risk to individuals who venture too close.

## **Prevention Measures**

Prior to dredging or debris removal activities near the shoreline, the project team will attempt to communicate with shoreline property owners to update them on work activities and warn them to keep their distance. If necessary, the project team will ask for permission to post caution tape on-land to warn potential onlookers of work areas.

Notifications of work activities and schedule will also be posted on the project Web site and included in notices to mariners and other interested parties, as described in Section 10.1 and information provided to shoreline property owners will reduce the potential for injury. The project team will provide sound alerts or amplified verbal warnings to individuals who appear to be venturing too close to work areas, to ask them to move away before an injury occurs.

## **5.4 POTENTIAL HAZARDS DURING OPERATION OF PROCESSING FACILITY AND ASSOCIATED RAIL YARD**

Activities related to operation of the processing facility and associated rail yard are described in Section 2.2.4. Potential hazards that have been identified with these activities include: fire or explosion at the facility; injury to trespassers into the facility; vehicular, boat or train accidents; spills and releases of compounds used at the site; and failure of the on-site water containment system.

### **5.4.1 Significant Potential Hazards During Operation of Processing Facility and Rail Yard**

None have been identified.

### **5.4.2 Moderate Potential Hazards During Operation of Processing Facility and Rail Yard**

These include: fire or explosion at the facility; injury to trespassers into facility; and certain types of accidents involving vehicles and/or trains.

#### **5.4.2.1 Fire or Explosion at Processing Facility**

A fire or explosion that occurs at the processing facility site has the potential to spread off-site. In addition, during a fire or explosion, emissions may impact the community.

#### **Preventive Measures**

Preventive measures that have been implemented to prevent a fire from occurring during construction of the processing facility, as described in Section 5.2.3.1, will also prevent fires from occurring during facility operations.

Chemicals (*e.g.*, polymers) used for sediment dewatering and stabilization at the processing facility are non-flammable under normal operating conditions and will be stored in appropriate containers.

#### **5.4.2.2 Injury to Public Trespassing in Processing Facility**

Non-project individuals accessing the processing facility site may injure themselves, particularly if trespassing occurs at night.

## **Preventive Measures**

Preventive measures that have been implemented to prevent trespassers from accessing the processing site during construction, as described in Section 5.2.2.2, will also prevent trespassers from access the facility during operations.

## **Response**

Similarly, response actions are described in Section 5.2.2.2.

## **Potential Mitigation Measures**

Similarly, potential mitigation measures are described in Section 5.2.2.2.

### **5.4.3 Low Potential Hazards During Operations of Processing Facility and Rail Yard**

These include: certain train, boat or vehicular accidents; derailment of a train in the rail yard; dust generation; and a spill or release of compounds used at the site.

#### **5.4.3.1 Project Train Derailment in Rail Yard affecting Off-site Areas**

Derailment of a project train in the facility rail yard could result in a release of processed material to off-site areas.

## **Preventive Measures**

Before being loaded at the processing facility, each rail car will be fitted with a water-tight liner system, a water-tight lid, or a combination of both to meet applicable regulatory requirements. During loading, project personnel will check that processed material is evenly distributed within the rail car to prevent tipping. In addition, rail cars will be weighed to ensure the weight capacity is not exceeded.

#### **5.4.3.2 Accident Involving Project Vehicle and Non-project Vehicle**

The potential exists for an accident involving a non-project vehicle and a project vehicle, most likely on an off-site roadway near the processing facility.

## **Preventive Measures**

Processed material will be transported from the processing facility via rail. Backfill and capping materials that will be used in the river will be transported to dredge areas via barge or tug. Both of these measures will significantly reduce project vehicular traffic near the processing facility.

To minimize the number of project trucks and vehicles accessing the processing site property from narrow village streets, the design of the facility has been modified with a new two-mile access road connecting the existing truck route on Route 196 to the northern perimeter of the site. Once this access road is functional, all project traffic will be required to use this entrance to the site.

To further reduce the likelihood of traffic accidents near the processing facility, project personnel working on in-river activities will be staged at a marine staging facility on West River Road in Moreau, thereby reducing the need for large numbers of individuals to access the processing facility each day.

### **Potential Mitigation Measures**

Should a vehicular accident occur involving project traffic, GE will evaluate implementation of additional temporary traffic control measures, such as new traffic signals, traffic signs, or a reduction of the speed limit in certain areas.

#### **5.4.3.3 Spill or Release of Fuel or Other non-PCB Materials**

Spills or releases of potential or known hazardous materials (*e.g.*, diesel fuel, antifreeze, or hydraulic oil) at the processing facility during operations may migrate off-site, causing an impact to the community.

### **Preventive Measures**

Preventive measures that will be implemented to prevent spills during facility construction, as described in Section 5.2.3.2, will also prevent be implemented to prevent spills during facility operations.

### **Potential Mitigation Measures**

Should spills or releases of fuel or other material occur, GE may consider: additional training for project personnel to review and reinforce procedures; purchase of new or different equipment; or a re-evaluation and potential modification of the secondary containment system.

#### **5.4.3.4 Accident Involving Non-project Vessel and Project Vessel at Processing Facility**

The potential exists for a vessel operated by a member of the public to make contact with a project barge, tugboat or support vessel in the wharf area of the processing facility.

### **Preventive Measures**

To minimize obstruction of navigation within the Champlain Canal, the canal will be widened near the processing facility wharf so that it does not encroach upon the existing navigation channel.

Preventive measures that will be implemented to prevent accidents in the river during dredging between moving project and non-project vessels, as described in Section 5.3.2.4, will also prevent accidents at the processing facility wharf area.

#### **5.4.3.5 Storm Event Exceeds the Capacity of the On-Site Containment System**

It is possible that a significant storm may exceed the capacity of the on-site storm water and drainage collection and treatment system, resulting in the potential for PCB-containing water to leave the site.

## **Preventive Measures**

The on-site storm water and drainage containment system has been designed to withstand a 100-year, 24-hour-duration storm event. This meets requirements of NYSDEC's Storm Water Pollution Prevention Plan (SWPPP) design standards.

Based on applicable NYSDEC requirements and the site-specific SWPPP that the contractor will prepare for the storm water collection and water treatment systems, several preventive measures will be implemented to maintain the full capacity and functioning of the storm water collection system and treatment works. For example, the on-site containment system and water treatment facility will be inspected and maintained on a regular basis; disturbed areas and areas used for storage of materials will be examined for evidence of, or the potential for, pollutants entering the drainage system and addressed, as appropriate; erosion and sediment controls will be properly maintained; and sediment traps and ponds will be emptied whenever necessary.

## **Response**

In the very unlikely event that a 100-year storm event causes the capacity of the processing facility storm water retention and treatment capacity to be approached or reached, the processing of dredged sediments will cease and all systems will be diverted to storage, conveyance and treatment of storm water.

## SECTION 6

### SITE SAFETY PERSONNEL RESPONSIBILITIES

#### 6.1 DISCUSSION OF PROJECT HEALTH AND SAFETY PERSONNEL ROLES

The purpose of this Section is to define the roles, responsibilities, qualifications and contact information for the key project health and safety personnel - Project Safety Manager; Facility Construction Safety Representative; Dredging Safety Representative; Processing Facility Safety Representative; Sub-contractor Safety Representatives; and other Safety Representatives. Clearly defining these roles and responsibilities will help establish clear lines of communication and ensure a well-coordinated response to incidents involving local emergency responders. This Section also describes the Site Security Plan for the processing facility.

Should project safety personnel change during implementation of the Phase 1 project, EPA will be notified, and the information will be posted at EPA's Hudson River field office and on EPA's Web site at [www.epa.gov/hudson](http://www.epa.gov/hudson). In addition, GE will post the information on GE's project Web site. This information will also be placed in all site office trailers, at major work locations, on each project vessel and in each project vehicle.

#### 6.2 PROJECT SAFETY PERSONNEL

##### 6.2.1 Project Safety Manager

The Project Safety Manager has overall responsibility for the safe operation of all aspects of construction and implementation of the Phase 1 project. If an emergency requires response from an external emergency response organization, the Project Safety Manager or his/her designee will be the liaison with emergency responders, providing necessary information regarding the incident and coordinating on-site resources. Because the remedial activities will take place 24 hours a day, the Project Safety Manager will have at least two designated deputies so that there will always be someone in the Project Safety Manager role on duty and on site. The Project Safety Manager or his/her designee will be accessible by radio, cell phone, and pager whenever on duty.

The Project Safety Manager will be a Certified Industrial Hygienist (CIH) or a Board Certified Safety Professional (CSP), and will have completed OSHA's 40-hour Hazardous Waste Operations (HAZWOPER) Training (29 CFR 1910.120), additional 8-hour HAZWOPER Supervisor Training, and be current in the 8-hour annual refresher course. In addition, the Project Safety Manager will have current training in first aid and cardiopulmonary resuscitation (CPR).

The responsibilities of the Project Safety Manager include:

- Ensuring proper implementation of procedures specified in this CHASP and in the to-be-developed project HASP;

- Maintaining and revising as necessary this CHASP and the project HASP;
- Ensuring that all project personnel have appropriate training certifications and medical clearance;
- Serving as Emergency Response Liaison and Incident Commander, notifying first responders;
- Suspending work activities in an emergency or if unsafe work conditions exist;
- Issuing authorization, in conjunction with the Project Manager, to proceed with work activities after issuance of a stop-work action;
- Ensuring drug and alcohol testing for all new personnel; and
- Informing appropriate authorities and response agencies in the event of a spill, as described in Section 7.0 of this CHASP.

### **6.2.2 Facility Construction Safety Representative**

The Facility Construction Safety Representative will be responsible for ensuring community and worker health and safety during construction of the sediment processing facility. The Facility Construction Safety Representative will have a 10-hour OSHA Construction Safety certification, or certification as a CSP or Construction Health & Safety Technician (CHST). In addition, the Facility Construction Safety Representative will have current training in first aid and CPR and be competent in scaffold and excavation work.

The responsibilities of the Facility Construction Safety Representative include the following, as they relate to construction of the sediment processing facility:

- Implementing this CHASP and the project HASP;
- Developing safety protocols and procedures (Job Safety Analyses [JSAs]) for all field work;
- Performing and documenting periodic audits of compliance with health and safety procedures;
- Initiating emergency response plan procedures, as necessary;
- Providing safety orientation training to field workers;
- Suspending work activities in an emergency or if unsafe work conditions exist;
- Follow-up and conducting investigations on all incidents and/or near-miss incidents;
- Ensuring appropriate PPE is available for and used by project personnel and local first responders;
- Upgrading or downgrading the levels of PPE based on observations and air monitoring data;
- Regularly reviewing and observing procedures and equipment operations to ensure spills or releases do not occur; and

- Observing project personnel for signs and symptoms of chemical exposure, heat/cold stress, etc.

### **6.2.3 Dredging Safety Representative**

The Dredging Safety Representative will be responsible for ensuring community and worker health and safety during dredging operations. The Dredging Safety Representative will have completed the required OSHA 40-hour HAZWOPER Training [29 CFR 1910.120], additional 8-hour HAZWOPER Supervisor Training and be current in the 8-hour annual refresher course, and will be a CSP, CIH, or Occupational Safety and Health Technician (OHST), will have current training in first aid and CPR, and will be respirator fit test certified.

The responsibilities of the Dredging Safety Representative include the following, as they relate to dredging operations:

- Implementing this CHASP and the project HASP;
- Developing safety protocols and procedures (JSAs) for all field work;
- Ensuring proper calibration and use of monitoring instruments in accordance with applicable manufacturers' instructions;
- Performing and documenting periodic audits of compliance with health and safety procedures;
- Initiating emergency response plan procedures, as necessary;
- Ensuring adherence to all decontamination procedures;
- Providing safety orientation training to field workers;
- Suspending work activities in an emergency or if unsafe work conditions exist;
- Follow-up and conducting investigations on all incidents and/or near-miss incidents;
- Ensuring PPE is available for and used by project personnel and local first responders;
- Upgrading or downgrading the levels of PPE based on observations and air monitoring data;
- Regularly reviewing and observing procedures and equipment operations to ensure spills or releases do not occur; and
- Observing project personnel for signs and symptoms of chemical exposure, heat/cold stress, etc.

### **6.2.4 Processing Facility Safety Representative**

The Processing Facility Safety Representative will be responsible for ensuring community and worker health and safety during operation of the sediment processing facility. This representative will be a HAZWOPER supervisor, will be current in the 8-hour refresher course, will be up-to-date in the 10-hour OSHA construction course, will be a CSP, CIH, or OHST, and will have current training in first aid and CPR. This representative will be respirator fit test certified, a forklift trainer and a confined space supervisor.

The responsibilities of the Processing Facility Safety Representative include the following, as they relate to operation of the sediment processing facility:

- Implementing this CHASP and the HASP.
- Developing safety protocols and procedures (JSAs) for all field work.
- Ensuring proper calibration and use of monitoring instruments in accordance with applicable manufacturers' instructions.
- Performing and documenting periodic audits of compliance with health and safety procedures.
- Initiating emergency response plan procedures, as necessary.
- Ensuring adherence to all decontamination procedures.
- Providing safety orientation training to field workers.
- Suspending work activities in an emergency or if unsafe work conditions exist.
- Follow-up and conducting investigations on all incidents and/or near-miss incidents.
- Ensuring PPE is available for and used by project personnel and local first responders.
- Upgrading or downgrading the levels of PPE based on observations and air monitoring data.
- Regularly reviewing and observing procedures and equipment operations to ensure spills or releases do not occur.
- Observing project personnel for signs and symptoms of chemical exposure, heat/cold stress, etc.

### **6.2.5 Other Safety Representatives**

Safety representatives with training, capabilities, and experience at least equal to the project safety representative dedicated to a particular work area (*e.g.*, construction, dredging or facility operations) will be stationed at additional work areas, as needed.

The responsibilities of these additional safety representatives include the following, as they relate to the particular work areas to which they are assigned:

- Implementing this CHASP and the HASP.
- Developing safety protocols and procedures (JSAs) for all field work.
- Performing and documenting periodic audits of compliance with health and safety procedures.
- Initiating emergency response plan procedures, as necessary.
- Providing safety orientation training to field workers.
- Suspending work activities in an emergency or if unsafe work conditions exist.

- Follow-up and conducting investigations on all incidents and/or near-miss incidents.
- Ensuring PPE is available for and used by project personnel and local first responders.

### **6.2.6 Subcontractor Safety Representative**

Project subcontractors with more than 25 employees will be required to have one dedicated safety representative for every 25 employees, whose training, capabilities, and experience will be at least equal to the project safety representatives dedicated to a particular work area (*e.g.*, construction, dredging or facility operations).

### **6.2.7 Site Supervisors**

Site Supervisors will be responsible for all on-site health and safety activities that relate to their task, and will have the authority to suspend such activities in the event of an emergency. The Site Supervisor will be the primary point of contact for all field personnel and visitors observing field activities, and has direct responsibility for the implementation and administration of the HASP. Specifically, the Site Supervisor will be responsible for:

- Enforcing all health and safety rules and regulations within the scope of the HASP.
- Conducting daily health and safety briefings.
- Conducting and documenting health and safety audits.
- Coordinating with the Project Safety Manager and other safety representatives on matters pertaining to project health and safety.
- Evaluating field activities to detect and correct unsafe acts and conditions.
- Educating employees regarding applicable work practices, procedures, rules, and regulations.
- Educating employees on applicable emergency contingency plans.
- Reporting all accidents and injuries to the Project Manager, Project Safety Manager and other appropriate safety representatives.

Site Supervisors involved with the processing facility or dredging operations will have completed the required OSHA 40-hour HAZWOPER Training [29 CFR 1910.120], additional 8-hour HAZWOPER Supervisor Training and be current in the 8-hour annual refresher course. Site Supervisors involved with the construction of the processing facility or rail yard will have a 30-hour OSHA Construction Safety certification, or certification as a CSP, CIH, OHST or CHST. In addition, all Site Supervisors will have current training in first aid and CPR.

### **6.2.8 Processing Facility and Dredging Personnel**

All contractor and sub-contractor personnel involved with the processing facility or dredging operations will be required to provide proof of OSHA 40-hour HAZWOPER Training [29 CFR 1910.120] and current refresher, and a written statement of medical clearance to wear a respirator. All personnel will be made aware of the provisions of this CHASP and the project HASP and will be required to sign an acknowledgement of that fact. This documentation will be maintained by the Project Safety Manager.

All processing facility and dredging personnel will be required to have a medical evaluation certifying their physical fitness for hazardous waste site operations [29 CFR 1910.120(f)]. At a minimum, this evaluation will comply with OSHA's Respiratory Protection Standard [29 CFR 1910.134].

All project personnel will be required to attend daily health and safety and project coordination meetings to be eligible to work on the site that day. At this meeting, personnel will sign in with the Site Supervisor (or designee), who will verify the status of employee credentials and distribute daily sign-in sheets.

### **6.2.9 Additional Training Requirements**

All site workers must attend a Project Orientation session covering site hazards, procedures, fire extinguisher use, and the contents of the approved project HASP prior to starting work or entering the site.

All site workers will receive training on the effects and consequences of controlled substance use on personal health, safety, and work environment. A pre-work test for controlled substances will be required for Contractor employees prior to starting work. All site workers will be subject to random unannounced controlled substance and alcohol testing.

Workers that drive any type of vehicle on or off the site for any purpose related to the project (other than driving to and from work) will complete a full-day hands-on defensive driving course.

At least two employees current in first aid/CPR will be assigned to each team carrying out a specific field task and will be on the site during operations. These individuals will be trained in the precautions and protective equipment necessary to protect against exposure to blood-borne pathogens.

The operator/skipper of each project vessel must complete a USCG boating safety training course prior to conducting work on the river. Each operator/skipper must demonstrate proficiency in the following subject areas: proper operation of a boat; boat and safety equipment inspections; content and frequency of equipment safety inspections; proper use of on-board safety equipment, including fire extinguisher, radio or cellular phone, flares, horn, etc.; proper procedures on the completion and filing of a float plan; appropriate boating "rules-of-the-road" emergency procedures in the event of capsizing or being thrown overboard; and different types of personal floatation devices (PFDs) and their proper inspection and use.

## **6.3 CONTACT INFORMATION FOR PROJECT HEALTH AND SAFETY PERSONNEL**

Table 6-1 presents contact information for project safety personnel. Because this information is not available at the time this version of the CHASP was submitted to EPA, it will be provided in an updated CHASP that will be submitted at the same time as the Remedial Action Work Plans.

**TABLE 6-1**

**CONTACT INFORMATION**

<b>Project Safety Personnel</b>	<b>Name/Contact</b>	<b>Telephone Numbers</b>
Project Safety Manager	TBD	TBD
Facility Construction Safety Representative	TBD	TBD
Processing Facility Safety Representative	TBD	TBD
Dredging Safety Representative	TBD	TBD
Other Safety Representatives	TBD	TBD
Sub-Contractor Safety Representatives	TBD	TBD
Site Supervisors	TBD	TBD
Other Project Safety Personnel	TBD	TBD

TBD = To be determined

**6.4 SITE SECURITY PLAN**

**6.4.1 Facility Activities**

Facility activity areas (*e.g.*, construction areas, processing areas, the barge unloading area, and the rail yard) will be fenced and gated. Security personnel will staff gates 24 hours a day, seven days a week, during work and non-work periods, to restrict access and minimize potential public trespass.

**6.4.2 In-river Activities**

Before working on a marine vessel, all personnel will first complete a merchant mariner application for review and background check. As necessary, project personnel will occupy or otherwise secure marine vessels 24 hours a day, seven days a week, so security personnel will not be necessary on each vessel. When project personnel will not be present, marine vessels with cabins or areas will be locked or otherwise secured. Support vessels will dock at the marine staging facility when not in use. Warning signs on and around each barge performing dredging activities will alert the public to avoid work areas. Air horns or other appropriate means will warn non-project vessels approaching an active dredge area to keep away. If a non-project vessel continues to approach a dredge area, project personnel will contact the appropriate authorities for assistance.

**6.4.3 Access Control**

Several thousand feet of perimeter and exclusion zone chain link fencing with three strands of barbed wire on top will be installed around the perimeter and interior portions of the processing facility to restrict unauthorized access. Entry points will be staffed by a security guard and anyone wishing to access the site will be required to sign in and show proper identification. A detailed security plan will be prepared. However, to maintain security, it will not be distributed to the public.

As discussed in previous sections, all non-dredging-related project support boats and associated equipment will be staged at the West River Road marine staging facility. To secure project vessels and equipment, chain link fencing and locking gates will be installed around portions of the site. The area will be routinely patrolled.

## SECTION 7

### RELEASE REPORTING AND RESPONSE, AND EMERGENCY RESPONSE

#### 7.1 OVERVIEW

This section addresses two related areas: reporting and responding to spills and releases, and responding to emergency incidents. Section 7.2 discusses reporting and responding to releases. Release reporting occurs when there is a spill or some other release of potentially hazardous substances that exceeds a threshold amount set by federal or state law. This would include a release to the river (*e.g.*, a spill of dredged sediment or fuel oil from a project vessel) or a spill on land at the sediment processing facility.

Reporting of a release does not necessarily mean an emergency situation has arisen, only that a release greater than an established threshold has occurred.

Section 7.3 describes responses to emergency situations (*e.g.*, a fire, boating accident or other incident that may present a hazard to the community). As discussed in Section 5.0, GE's focus throughout the planning of this project has been on prevention, that is, identifying measures that could be implemented before construction begins to prevent incidents from occurring during work activities. Nonetheless, given the magnitude and duration of this project, it is important to have the right people, equipment and procedures in place to respond to an incident.

Section 7.3.2 primarily addresses those types of incidents that would require response by local emergency responders – police, fire, ambulance, etc. To develop the procedures discussed in this section, GE coordinated with local elected officials, the public and with members of local emergency organizations, including representatives of the Fort Edward Volunteer Fire Department, the Fort Edward Village Police Department, the Fort Edward Rescue Squad, the Gansevoort Fire Department, the Moreau Emergency Squad, the Saratoga County Office of Emergency Services, the South Glens Falls Fire Company and Dive Team, the South Glens Falls Police Department, the Washington County Department of Public Services, the Washington County Fire Coordinator, Washington County Public Safety, and the Washington County's Sheriff's Department. A list of individual participants is provided in Table 7-1. Of course, no two incidents are quite the same and it is not possible to design a one-size-fits all response in advance. Rather, this section discusses the basic plans and procedures that, in the event of an emergency, will be adapted to fit the circumstances.

As previously stated, specific work activities and procedures will be further refined in work plans prepared by the contractors hired to perform the project. GE will continue to meet with emergency responders and local elected officials throughout the contractor selection process and before work activities begin to further develop emergency response protocols. Specific planning steps are further discussed in Section 7.3.1.

**TABLE 7-1****EMERGENCY RESPONDERS AND LOCAL ELECTED OFFICIALS  
WHO ASSISTED IN EMERGENCY RESPONSE PLAN DEVELOPMENT**

<b>Name</b>	<b>Organization</b>
Walter Sandford	Fort Edward Village Police
Dennis Babson	Fort Edward Volunteer Fire Department
Brian Brockway	Fort Edward Volunteer Fire Department
Matt Hurlburt	Fort Edward Volunteer Fire Department
Darcy Miller	Fort Edward Volunteer Fire Department
Mike Trip	Fort Edward Volunteer Fire Department
Dennis Williams	Fort Edward Volunteer Fire Department
Tim Cady	Gansevoort Volunteer Fire Department
Kurt Haas	Gansevoort Volunteer Fire Department
Andre Delvaux	Moreau Emergency Squad/Saratoga County Office of Emergency Services
Ronald Quinn, Jr.	Moreau Emergency Squad
Mike Aufiero	Saratoga County Office of Emergency Services/Saratoga County HAZMAT 8 Team
Reed Devitt	South Glens Falls Fire Company
Daniel Fitzgibbon	South Glens Falls Fire Company/Dive Team
Ken Jacox	South Glens Falls Fire Company/Dive Team
Jake Losaw	South Glens Falls Fire Company
James Ryan	South Glens Falls Fire Company
Tom Tracy	South Glens Falls Fire Company
Robert Kelley	South Glens Falls Police Department
Richard Kidwell	Washington County Department of Public Services
Alvon Macauley, Jr.	Washington County Fire Coordinator
Stephen Griffin, Jr.	Washington County Public Safety
Matthew Mabb	Washington County Sheriff's Department
Merrilyn Pulver	Town of Fort Edward Supervisor
John Rieger	Town of Fort Edward Councilman
Thomas DuFore	Town of Fort Edward Code Officer
James Lindsay	Town of Kingsbury Supervisor
Harry Gutheil	Town of Moreau Supervisor
William Hayes	Village of South Glens Falls Trustee

Section 7.3.2 describes some of the safety equipment that will be available in work areas to respond to emergencies. A full assessment of health and safety resources available to the project cannot be completed, until GE has hired contractors to perform the work. Therefore, this evaluation will continue, in coordination with local emergency response organizations. GE is committed to obtaining resources that are necessary to ensure community health and safety.

## **7.2 RELEASE REPORTING AND RESPONSE**

### **7.2.1 Reporting of Spills or Releases**

This section applies only to spills and releases within river work areas, at the West River Road marine staging area and at the sediment processing facility. Reporting of spills and releases in these areas is GE's responsibility. Reporting and responding to off-site accidents involving a release from loaded rail cars are addressed by separate regulatory programs and are not addressed here.

Spills may occur during an accident involving a loaded barge, truck or rail car (see Section 5.0). Federal and state laws and regulations define when a spill or release must be reported. Pursuant to its authority under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), EPA has developed a list of hazardous substances that, if released to the environment in an amount greater than a defined "reportable quantity," or "RQ," must be reported. For example, in the case of PCBs, the person in charge of a facility must immediately report upon learning that one pound or more of PCBs has been released to the environment within a 24-hour period.

Under its authority granted by the CWA, EPA has developed a similar list of reportable quantities of hazardous substances in the event of a release of hazardous substances to the navigable waters. As with the CERCLA list, these require reporting if an amount exceeding an RQ is spilled into the water. In addition, the Oil Pollution Act (OPA) requires notification if a sheen of oil is visible on the water.

Under state law, NYSDEC has developed its own list of hazardous substances that, if released to the environment, must be reported. That law [6 NYCRR Parts 595, 597] requires the reporting of releases above a defined RQ (in the case of PCBs, one pound or more) to NYSDEC immediately, but within two hours after the discharge. State law also requires reporting of releases involving less than the RQ if the release may result in fire, explosion, exceedance of air and water quality standards, or injury to the public.

In addition, Section 17-1743 of the NYSDEC Law requires that a person who stores more than 1,100 gallons of any liquid (including petroleum) must immediately report any release of the liquid to land or waters.

Finally, New York's Navigation Law requires any person responsible for causing a discharge of oil or other petroleum to land or water to notify NYSDEC immediately, but within two hours after the discharge, unless: (1) the spill is less than five gallons; (2) the spill is contained; (3) the spill has not and will not reach the water or any land; and (4) the spill is cleaned up within two hours of discovery.

If the release or spill requires reporting under CERCLA, the CWA or the OPA, a call will be placed to the National Response Center. Also, if a release or spill requires reporting to NYSDEC under the provisions summarized above, a call will be placed to the NYSDEC Spill Hotline. If a release occurs and is reportable under CERCLA, GE is also required by the CD to orally notify EPA's Team Leader for the project; or, in the event that the Team Leader is not available, either the EPA Project Coordinator or the Alternate EPA Project Coordinator, within 24 hours of obtaining knowledge of the consent of the event. GE is also required to provide oral notification to the NYSDEC Project Manager; or, in the event of the unavailability of the NYSDEC Project Manager, to the Chief of NYSDEC's Hudson River Unit and to the NYSDOH Bureau of Environmental Exposure Investigation.

## **7.2.2 Summary of Spill Response**

In the event of a spill or release, response actions will be the responsibility of the contractors GE hires to perform the work. Once hired, these contractors will develop SPCC plans that will provide more specificity regarding response actions. Separate SPCC plans will be prepared by the dredging contractor (for in-river activities) and the processing facility contractor (for incidents there). For the purposes of this CHASP, a general response approach has been summarized below.

### **7.2.2.1 Spill Response for In-river Activities**

Project vessels will be required to have USCG safety equipment including, as appropriate, ship-to-shore very-high-frequency (VHF) radios and cellular phones, to alert the project team, regulatory authorities and local responders of a spill.

The responders' first priority will be to assess the safety, rescue or medical needs of the public and/or workers immediately affected by the spill, if any. Emergency situations will be handled according to procedures in Section 7.3.

At the same time, the apparent scale and severity of the spill will be evaluated so that appropriate response actions can be taken. As needed, calls to project supervisors, safety officers and EPA will be promptly made through normal chain-of-command structures, to summon the contractor's spill response team or other support personnel. In all cases, the location and time of the spill, the vessels and people involved, and other important details will be conveyed to assist response actions and reporting.

Third, the spill will be contained and controlled. If the spill appears incidental (*e.g.*, brief duration and of limited spatial extent), containment may not be necessary or feasible. If the spill is of a larger magnitude (larger quantity, longer duration or spatial extent), contingency measures will be implemented per the appropriate SPCC plan, once developed. These measures will include actions to contain and control the spill to the extent possible (*e.g.*, safe, feasible, consistent with other project requirements), thereby stopping the spill, securing and stabilizing the immediate area, and taking steps to minimize the spread of the spill. Special consideration will be given to large spills that occur in portions of the river or canal that are known to be relatively free of PCBs or that have already been dredged and backfilled/capped in accordance with EPA's performance standard for residual sediments.

Fourth, the spill will be cleaned up or mitigated. A pre-planned course of action for the recovery of any spilled PCBs will be implemented. As needed, appropriate, and feasible after a spill, the project team will promptly undertake one or more of the following actions:

- No immediate direct action – this may be appropriate for smaller spills that would not be expected to cause significant or detectable effects, or if the spill occurs in portions of the river that are targeted for dredging but have not yet been remediated.
- Continue source control and containment and increase monitoring - this may be appropriate for spills that are brief and quickly contained or that are not migrating; spill material sampling or additional monitoring will help determine effects of the spill (if any) and what next steps may be warranted to clean up or further mitigate the spill.
- Isolate spill under clean backfill/capping material - this may be appropriate for small or limited spills in portions of the river where sediments have already been dredged but not backfilled. The backfill/capping material could isolate the spill and mitigate transport and potential exposure to the water column and biota.
- Remove spill during residuals dredging program - this may be appropriate for larger spills in portions of the river where inventory dredging has already occurred. If sampling/monitoring of the spill area indicates unacceptable levels of PCB concentrations, then the material will be targeted and removed during residuals dredging.
- Remove spill immediately - this may be appropriate for larger spills that have the potential to cause exceedances at near- or far-field water monitoring stations, or for larger/longer spills that impact sediments outside the dredge areas or previously dredged and capped sediments in the river or Champlain Canal. If warranted by the severity of the spill, immediate action will be taken to remove the spill in order to prevent or stop exceedances and/or preserve the integrity of a remediated or non-dredged area.
- Remove spill during demobilization - this may be appropriate for incidental spills that unavoidably recur but because of their limited scale or location in active work areas, do not necessitate a response until after all work is completed at the site. For example, if a very small amount of material is infrequently but unavoidably lost during unloading at the processing facility wharf (even though systems are in place to prevent such losses (see Section 5.3.2.2), it may be most prudent to monitor the situation and then remediate the area after all active handling of PCB-containing sediments is complete and the processing facility is being decommissioned or restructured for some future land use.

#### **7.2.2.2 Spill Response at the Processing Facility**

The built-in collection, containment and treatment system installed at the processing facility is designed to effectively address dredged and processed materials. Nonetheless, a significant accident or spill of material could warrant immediate actions to protect human health and safety, assess the severity of the event, and take appropriate mitigation measures, if needed. The event would be evaluated to determine its causes and future prevention, and proper project authorities would be notified of the event.

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Generally, on-site spills from a project truck will be picked up and placed back in the truck, while spills during the process of loading rail cars will be picked up and placed into the rail car.

### **7.2.3 Monitoring with Respect to Spills**

The comprehensive monitoring program that will be implemented to measure PCB resuspension during dredging will also monitor the potential effects of an in-water spill of PCB-containing material, should one occur.

#### **7.2.3.1 Water Column Monitoring**

Routine and contingency water column monitoring programs are described in Section 8.3.

If a spill were to occur in the river, it would not warrant response unless one or more of the water quality criteria were exceeded. If the spill were sufficiently large (*e.g.*, in the unlikely event of a major barge accident), control and mitigation actions would immediately be taken. Note that even if there is an exceedance at the near-field locations, the program is designed to still be protective of water quality at downstream far-field locations.

More frequent and robust sampling will be conducted if levels of EPA's resuspension standard are exceeded at near-field or far-field stations. This may lead to more informed and aggressive response actions, including reductions or complete stoppage of dredging activities until causes for the exceedances can be identified and, if project related, corrected or otherwise mitigated. As sampling frequency and extent increases, project managers receive greater and greater amounts of data to use as a basis for making appropriate response decisions.

#### **7.2.3.2 Processing Facility Discharge Monitoring**

If a spill occurs at the processing facility, materials should be securely contained and treated within the facility's water collection and treatment system before water is discharged to the Champlain Canal. Nevertheless, monitoring of the treated water discharge from the water treatment facility will be conducted. The potential effects of any on-site spill will be mitigated (either the material will be retrieved and processed as intended or the material will be diverted to the treatment facility). Therefore, spills are not expected to impact the quality of treated water being discharged into the canal. This conclusion will be confirmed by the required monitoring.

#### **7.2.3.3 First-hand Observation and Oversight Monitoring**

A small fleet of support vessels will be used continuously in a variety of ways, including to prevent or address spills and other accidents in the river. Regulatory agency representatives, project supervisors, safety officers, monitoring/sampling teams, and other support workers will, among other duties, be well positioned to make direct visual observations of operations. From their up-close vantage point, these personnel will be able to help identify and prevent conditions that could lead to a spill, or in the event of a spill, be on the scene to assess the situation and take appropriate action. Similarly, a variety of oversight and support personnel will be engaged at the wharf, processing facility and rail yard to make direct observations and assist in taking action in the event of an accident or spill.

## **7.2.4 Documentation and Follow-up**

As a way to document the spill, summarize the response actions taken, and record the after-the-fact engineering evaluation (if applicable) and proposed means of preventing recurrence, a written Spill Response Report will be prepared, as well as an Engineering Evaluation Report, if applicable. Based on the findings and recommendations within these reports, potential follow-up steps to prevent recurrence of the spill will be discussed, agreed upon, approved, and implemented as needed. This could include increasing the number of monitoring locations or frequency of monitoring, adjusting operational conditions or procedures, or implementing reasonable engineering solutions. Any follow-up or corrective actions that are taken would have to be feasible, cost-effective, and compatible with compliance under other performance standards.

In addition, as required by the CD, within 14 days of the onset of a spill or release reported under Paragraph 41, GE will provide to EPA and the NYSDEC a written report that describes the events that occurred and the measures taken, and to be taken, in response. Within 30 days of the conclusion of the event, GE will also submit a report detailing the actions taken to respond to the incident.

## **7.3 EMERGENCY RESPONSE**

### **7.3.1 Development of Emergency Response Plan**

This section discusses the plans and procedures for responding to emergencies that may affect local communities. This emergency response plan was developed based on the identification and evaluation of the potential for hazards to the community to occur during work activities (see Section 5.0).

As stated earlier, these plans were developed in coordination with local emergency responders and elected officials. Specifically, emergency response procedures were discussed at meetings of the Fort Edward Community Health and Safety Committee on January 25, 2006, and February 22, 2006. In addition, GE sponsored meetings on January 19, 2006, and March 6, 2006, with the local elected officials and emergency response representatives listed in Table 7-1. Based on these discussions, responsibilities were assigned to project personnel and external emergency response organizations. In addition, equipment needs and project resources was discussed (see Section 7.3.2).

To ensure the safety of the public, as well as emergency responders and project personnel, additional planning before work activities begin is critical. These activities will include: additional meetings with local emergency response groups to discuss procedures and tactics; selection of medical emergency receiving and extraction points; logistics; review of dive team operations; and other planning.

Planning will also include a pre-construction tour of the sediment processing facility site for emergency responders to review property characteristics and access into and out of the site. A second tour will be offered to representatives of external emergency response organizations of the sediment processing facility, once constructed.

Finally, periodic drills will be conducted involving project personnel and external emergency responders. Specific drill requirements and scheduling will be identified in the pre-planning process, and drills will be held at least annually. Drills will consist of a simulated fire, medical and water-based response, as well as a table-top drill. A formal critique and discussion will be conducted for each of the drills.

Before work activities begin, project health and safety personnel will be certified and trained as described in Section 6.0 of this CHASP. All safety equipment will be obtained and distributed throughout work areas. External emergency response agencies will be provided with copies of this CHASP and the project HASP. External agencies will also be notified when project work activities are scheduled to begin.

### **7.3.2 Emergency Equipment**

An important component of this emergency response plan is to ensure that appropriate emergency equipment is on hand and available for immediate response. This includes vessels and vehicles to get to and remove injured persons from work areas. To respond to project emergencies, project support boats and vehicles will be used to transport emergency personnel to incident locations, as well as to transport injured individuals to emergency responders. A project vehicle will be available for transport from limited access areas to medical receiving and extraction areas. An area of the sediment processing facility will be designated and marked as a helicopter landing zone to facilitate rapid transport via external agencies' helicopters.

A variety of essential equipment will be available on support boats and vehicles, as well as on barges and other vessels and positioned at the sediment processing facility. First-aid kits and oxygen kits will be available for basic life support treatment. An Automatic External Defibrillator will be available for advanced life support treatment. Blankets and other first-aid supplies (*e.g.*, hot packs) will be available should an individual be retrieved from the water. Backboards and stretchers will be available for transport. Eye washes and safety showers will be available for exposure of skin or eyes to sediment or chemicals.

In the event a confined space entry rescue is required (*e.g.*, on a project vessel or at the processing facility), self-contained breathing apparatus (SCBA) and tripod and extraction equipment will be available. To assist in the rescue of an individual who has fallen while wearing a harness, an aerial lift will be available. Project vessels and life rings with 100-foot of rope will be available to retrieve individuals who have fallen into the water. Project facilities, vehicles and vessels will be equipped with spill response kits and supplies to contain and clean-up releases to land and water.

For internal project communications, two-way radios and cellular phones will be used. Land lines will be available at the sediment processing facility and the West River Road staging area. Air horns/bull horns will be available at fixed locations to sound an evacuation alarm. In addition, vessels will be equipped with flares, as required by vessel safety regulations.

Specifically, the following equipment for safety and emergency response will be maintained on project vessels:

- USCG safety equipment, which includes;
- Fire extinguisher;
- Paddles;
- Personal floatation devices;
- Visual distress signals (flares);
- Sound producing device (air horn);
- Navigational lighting;
- Eye wash station (wash bottles at a minimum);
- Ship-to-shore radio; and
- Copies of the project HASP and this CHASP.

The on-shore staging area on West River Road will be equipped with the following emergency response equipment:

- Fire extinguisher;
- Eye wash station;
- First-aid kit;
- Phone (hard-wired); and
- Extra copies of the project HASP and this CHASP.

The sediment processing facility will be equipped with the emergency response equipment listed in Table 7-2

### **7.3.3 Roles of External Emergency Response Organizations**

External emergency response organizations are defined as existing, non-project, community, state and other emergency response organizations. Depending on the type of incident, their location and their unique capabilities, the roles and responsibilities of external emergency response organizations are defined below. Organizations are presented alphabetically. Emergency contact information is provided in Table 7-3.

#### **7.3.3.1 Albany Med Flight**

Albany Med Flight will respond to incidents at the sediment processing facility and in the river, based on evaluations performed at the scene by first responders. They will provide rapid patient transport to a designated medical facility (see Section 7.3.4).

**TABLE 7-2**

**PROJECT EMERGENCY EQUIPMENT**

<b>Equipment Description<sup>1</sup></b>	<b>Category</b>	<b>Location</b>
First aid kit	Basic life support	Office trailers, vehicles, marine vessels
Oxygen kit	Basic life support	Office trailers
Automatic External Defibrillator	Advanced life support	Office trailers
SCBA	Confined space entry rescue	Office trailers
Eyewash and safety shower	Basic life support	Process areas
Tripod and extraction equipment	Confined space entry rescue	Storage trailer
Two-way radios	Communication	All site safety personnel, project managers, key line supervisors
Project Vehicle	Transportation of injured personnel from limited access areas	Work area
Life ring and 100-ft rope	Fall into water rescue	Wharf, marine vessels
Flare gun and flares	Emergency Communications	Marine vessels
Aerial lift	Fall from elevation	Work area
Air horns/Bull horns	Evacuation signal/Vessel warnings	Various work locations, marine vessels, project vehicles
Support boat <sup>2</sup>	Capsized or sinking vessel	Wharf/Dredging operations
Backboard/basket	Basic life support transport injured personnel	Storage trailer
Blankets	Basic life support	Storage trailer
Fire extinguishers	Firefighting	Various work locations, office trailers, marine vessels, project vehicles
Helicopter landing area	Advanced life support	NW corner of processing facility
Oil/multi-purpose absorbent materials	Spill response	Storage trailer, vessels, project vehicles
Polybags	Spill response	Storage trailer
Brooms	Spill response	Storage trailer
Shovels	Spill response	Storage trailer
Drums	Spill response	Storage trailer
Transfer pumps	Spill response	Storage trailer
Floating/containment booms	Spill response	Storage trailer
Washing supplies (soap, brushes)	Decontamination	Decontamination stations

**Footnotes:**

1 = all equipment will be inspected as required and according to the project HASP.

2 = each support boat will additionally meet the requirements of the USCG regarding emergency supplies (*i.e.* fire extinguisher, first aid, paddles, flares, navigational lighting, horn, etc.) and flotation devices, as per the vessel classification.

**TABLE 7-3****EMERGENCY CONTACT INFORMATION**

<b>Emergency Contact</b>	<b>Contact Name</b>	<b>Emergency No.</b>	<b>Alternate No.</b>
Canadian Pacific Railway Police Communication Ctr.	N/A	800-716-9132	518-383-7200
Ft. Edward Police Department	Chief of Police Walter Sandford	911	518-747-6365 (station); 747-2782 (cell)
Ft. Edward Rescue Squad	Stewart Alheim	911	518-747-6198
Ft. Edward Fire Department	Chief, Brian Brockway	911	518-747-8309(station); 796-5467 (cell); 747-3948 (home); 796-5467 (cell)
Moreau Emergency Squad	Andre Delvaux	911	518-793-3011 (station); 791-2306 (cell); 793-2197 (home)
National Response Center and Terrorist Hotline	N/A	800-424-8802	N/A
New York State Canal Corporation	Director, Office of Policy Imp. & Planning John Callaghan	911	518-471-4220
New York State Department of Environmental Conservation	Hudson River Project Manager, Bill Ports	N/A	518-402-9774
New York State Department of Environmental Conservation	Bureau of Central Remediation Action, P. David Smith	N/A	518-402-9768
New York State Department of Health (Glens Falls)	Anita Gabalski, Director	N/A	518-793-3893
New York State Police	Troop "G" Headquarters	N/A	518-783-3211
New York State Police	Troop "T" Headquarters	N/A	800-635-8856
New York State Spill Response Program	Janet Crawford, Coordinator	N/A	800-457-7362
Poison Control Center	N/A	800-336-6997	N/A
Saratoga County Office of Emergency Services	County Coordinator, Mike McEvoy	N/A	518-885-2232 (station); 423-6600 (cell)
Saratoga County Sheriff	James Bowen, Sheriff	911	518-885-2450
South Glen Falls Fire Company	Chief James Ryan	911	518-792-1674 (station); 798-4020; 792-1674; Tom Tracy 792-0510 (home)

<b>Emergency Contact</b>	<b>Contact Name</b>	<b>Emergency No.</b>	<b>Alternate No.</b>
U.S. Coast Guard (Station Burlington, VT)	N/A	911	802-951-6792
U.S. Environmental Protection Agency	Hudson Falls Field Office Director, David King	N/A	518-747-4389
U.S. Environmental Protection Agency	Hudson River Team Leader, Doug Garbarini	N/A	212-637-3952
Warren County Sheriff	Larry Cleveland, Sheriff	911	518-761-6477
Washington County Department of Public Safety	Director, William Cook	911	747-7520 (station); 361-5513 cell; 747-0472 (home)
Washington County Sheriff	Undersheriff, Matthew Mabb	911	518-746-2475 (station); 744-5139 (cell); 747-0126 (home)

### **7.3.3.2 Fort Edward Police Department**

The Fort Edward Police Department will respond to incidents at the sediment processing facility and in the river. They are a first responder and will provide initial response to medical emergencies.

### **7.3.3.3 Fort Edward Rescue Squad**

The Fort Edward Rescue Squad will respond to incidents at the sediment processing facility and may be a joint responder to incidents in the river. They are a first responder and will provide initial response to medical emergencies. They will also provide patient transport to Glens Falls Hospital (see Section 7.3.4.1).

### **7.3.3.4 Fort Edward Volunteer Fire Department**

The Fort Edward Volunteer Fire Department will respond to incidents at the sediment processing facility and may respond to in-river incidents. They are a first responder and will provide fire-fighting assistance and water rescue.

### **7.3.3.5 Moreau Emergency Squad**

The Moreau Emergency Squad will be the primary rescue squad to respond to the West River Road marine staging facility. They may also provide joint response to incidents at the sediment processing facility. They will provide patient transport to Glens Falls Hospital (see Section 7.3.4.1).

### **7.3.3.6 New York State Police**

The New York State Police will respond to incidents at the sediment processing facility and in the river. They are a first responder and will provide initial response to medical emergencies and security.

### **7.3.3.7 Saratoga County Office of Emergency Services**

The Saratoga County Office of Emergency Services provides scene management and a mobile communications van.

### **7.3.3.8 Saratoga County Sheriff**

The Saratoga County Sheriff will provide land-based response to incidents in the river. They are a first responder and will provide initial response to medical emergencies.

### **7.3.3.9 South Glens Falls Fire Department**

The South Glens Falls Fire Department will respond to incidents in the river. They will provide fire-fighting assistance, water rescue and dive team operations.

### **7.3.3.10 U.S. Coast Guard**

The US Coast Guard First District, Sector Northern New England, Station Burlington is responsible for the Upper Hudson above the Troy locks. They are typically notified of on-water emergencies by local dispatch but due to their distance from the site would first notify the local community emergency response agency.

The Coast Guard Auxiliary Division 15 conducts vessel safety inspections for the Upper Hudson River.

### **7.3.3.11 Washington County Sheriff**

The Washington County Sheriff will respond to incidents at the sediment processing facility and in the river. They are a first responder for incidents in Washington County and are able to provide law enforcement and scene security.

### **7.3.3.12 Washington County Department of Public Safety**

The Washington County Department of Public Safety is the dispatch center for Washington County and receives 911 calls. They have a mobile command post and house the county Hazmat Team.

## **7.3.4 Location of Area Medical Facilities**

### **7.3.4.1 Glens Falls Hospital, 100 Park Street, Glens Falls**

Glens Falls Hospital will provide treatment for all medical injuries and emergencies. Figure 7-1 depicts the route to the hospital from both the West River Road marine staging area and the sediment processing facility.

Directions to the facility from the West River Road marine staging area are as follows: travel north on West River Road; make a right at end onto Route 197; take a left at first traffic light onto Fort Edward Road; continue straight traveling through South Glens Falls; cross back over the Hudson River; at the five-way intersection at the top of the hill in downtown Glens Falls, take a left on Hudson Avenue; go two blocks; emergency room is on the left.

Directions to Glens Falls Hospital from the sediment processing facility are as follows: Follow southern Lock 8 access road to East Street; continue west on East Street until end; make left onto Route 4 South; make right at traffic light onto Route 197 and cross over the Hudson River; at traffic light, make right onto Fort Edward Road; continue straight traveling through South Glens Falls; cross back over the Hudson River; at the five-way intersection at the top of the hill in downtown Glens Falls, take a left on Hudson Avenue; go two blocks; emergency room is on the left.

The NYSDOT may be reconstructing portions of Route 4 during project activities. Should Route 4 become impassable or overly congested as a result of NYSDOT's project, emergency vehicles traveling from the sediment processing facility to Glens Falls Hospital may follow this alternative route: Follow the Route 196 access road to Route 196; make left onto Route 196 heading west into Hudson Falls; follow onto Maple Street and then Lower Warren Street; continue straight into Glens Falls; at the five-way intersection in downtown Glens Falls, travel straight two blocks on Hudson Avenue; hospital emergency room will be on the left.

#### **7.3.4.2 Moreau Family Health, 1448 Route 9, Fort Edward**

Moreau Family Health will provide treatment for *minor* medical injuries that do not involve exposure to PCB-containing sediments. Directions to the facility from Phase 1 work areas are as follows: Follow Route 197 west to end; make right onto Route 9 North; facility is on right.

#### **7.3.4.3 Wilton Medical Arts, 3040 Route 50N, Wilton**

The Wilton Medical Arts facility will provide treatment for *minor* medical injuries that do not involve exposure to PCB-containing sediments. Directions to the facility from Phase 1 work areas are as follows: Follow Route 197 west to end; make left onto Route 9 South; enter I-87 South, the Adirondack Northway at Exit 17; exit at Exit 15; make left at end of exit ramp onto Route 50 North; facility will be on the left, across the street from Target.

#### **7.3.4.4 Albany Medical Hospital/St. Peter's Hospital**

Albany Medical Hospital or St. Peter's Hospital will provide treatment for patients transported by Albany Med Flight.

#### **7.3.4.5 Westchester Medical Center, Valhalla**

Patients with burn injuries may be transported via helicopter to the Westchester Medical Center in Valhalla, New York. A decision to transport a patient to the burn unit here will be made by local first responders and Albany Med Flight personnel.

### **7.3.5 General Approach For Project Emergencies**

In the event of an accident, project personnel will immediately notify 911 so that the proper emergency personnel can respond. Following the 911 call, a project-specific "Code" will be issued to project personnel over the two-way radio. These codes were developed based on the expected capabilities of project personnel and external responders. The codes are as follows:

- **Code 1** — Call “911”; external response required. These include the following types of incidents:
  - traumas (either with or without exposure) - *e.g.*, fractures, open wounds, falls from elevation;
  - life-threatening incidents (either with or without exposure) - *e.g.*, injured individual is unconscious, severely bleeding, not breathing or has chest pains;
  - chemical releases - *e.g.*, a visible plume or exposure causing eye or throat irritation;
  - fires - either controllable or uncontrollable; and
  - sinking or capsized boats.
- **Code 2** - Internal response with first aid supplies to provide basic life support, including minor medical injuries (*e.g.*, abrasions, lacerations, eye irritations, etc.).
- **Code 3** - Internal response with spill supplies, including liquid spills within a containment system or to the ground or water.
- **Code 4** - Internal response with support boat/marine vessel.
- **Code 5** - Call Canadian Pacific Railway. Off-site incidents involving rail cars will be the responsibility of the rail carrier, working with local emergency responders.

Refer to Table 7-4 for further description on emergency procedures.

The same personnel that called the Code will notify the Project Safety Manager, the appropriate area Safety Representative (*i.e.*, facility construction, dredging or facility operations), and other project safety personnel. All will respond to the scene accordingly.

If needed, air horns strategically located throughout the facility and on each project vessel will initiate the evacuation signal - one long blast.

The Project Safety Manager or designee will act as the incident commander for project emergencies that are handled internally. Trained on-site personnel will use fire extinguishers for small fires, and first aid/CPR-trained personnel will provide treatment for non-life threatening injuries.

In the event of an emergency requiring external emergency response, the first responding agency’s lead officer will become the incident commander. The Project Safety Manager will serve as liaison to the external incident commander, as appropriate.

Appropriate emergency response measures will immediately be taken by project personnel to assist those who have been injured and to protect others from unsafe conditions. These measures may include contacting the relevant authorities (depending on the nature of the emergency) and/or health care facilities (see emergency contact numbers listed in Table 7-3). It may also involve moving individuals to a secure location, as appropriate. On-site first-aid to an injury or illness will be provided by trained personnel. External emergency responders will be responsible for providing advanced life support services.

**TABLE 7-4**

**EMERGENCY PROCEDURES**

<b>Category of Incident</b>	<b>Criteria</b>	<b>Response Procedure</b>
Minor medical injury	Abrasions, lacerations, eye irritation, etc.	Initiate a “Code 2” with two-way radio
Trauma (without exposure)	Fractures, open wounds, fall from elevation	Initiate a “Code 1” with two-way radio
Trauma (with exposure)	Fractures, open wounds, fall from elevation	Initiate a “Code 1” with two-way radio and decontaminate injured individual (if applicable)
Life threatening (without exposure)	Unconscious, severe bleeding, not breathing, chest pains	Initiate a “Code 1” with two-way radio
Life threatening (with exposure)	Unconscious, severe bleeding, not breathing, chest pains	Initiate a “Code 1” with two-way radio and decontaminate injured individual (if applicable)
Chemical release	Visible plume or exposure causing eye or throat irritation	Activate evacuation signal and initiate a “Code 1” with two-way radio
Fire	Incipient stage (controllable)	Use fire extinguisher and initiate a “Code 1” with two-way radio <sup>2</sup>
Fire	Uncontrollable	Activate evacuation signal and initiate a “Code 1” with two-way radio
Liquid spill	< 5 gallons (w/in containment)	Initiate a “Code 3” with two-way radio
Liquid spill	> 5 gallons (w/in containment)	Initiate a “Code 3” with two-way radio and contact regulatory agencies
Liquid spill	Any amount to the ground or water	Initiate a “Code 3” with two-way radio and contact regulatory agencies
Rail car derailment	Rail car remains upright	Initiate a “Code 1” and “Code 5” with two-way radio
Rail car derailment	Rail car overturns	Initiate a “Code 1” and “Code 5” with two-way radio and contact regulatory agencies
Sinking/capsized vessel	People at risk	Initiate a “Code 1” with two-way radio

Footnotes:

1 = If the injured individual cannot be decontaminated due to the possibility of causing further injury, then the necessary PPE and supplies will be provided to emergency response personnel to protect them and their equipment.

2 = If the incipient stage fire is successfully extinguished, notify the Fire Department.

Definitions:

Code 1 = call “911”, external response required

Code 2 = internal response with first aid supplies to provide basic life support

Code 3 = internal response with spill supplies

Code 4 = internal response with support boat/marine vessel

Code 5 = call Canadian Pacific Railway

Evacuation signal = one long blast with air horn

If an incident involves a fire that cannot be controlled with an extinguisher, the work area and/or vessel will be evacuated immediately. The Project Safety Manager (or on-site designee) will promptly contact external fire department personnel whenever there is a fire, regardless of its intensity.

### **7.3.6 Additional Reporting and Response Relating to Emergencies**

In addition to notifications to first responders, GE will notify EPA and NYSDEC of any incident that may present an immediate threat to public health or welfare or the environment, by immediately (upon obtaining knowledge of the incident) notifying EPA's Team Leader, or, in the event of the unavailability of the Team Leader, the EPA Project Coordinator or Alternate EPA Project Coordinator); and also notifying the NYSDEC Project Manager, or, in the event of the unavailability of the NYSDEC Project Manager, the Chief of NYSDEC's Hudson River Unit or; the NYSDOH Bureau of Environmental Exposure Investigation.

GE will also immediately take all appropriate action to prevent, abate, or minimize the release or threat of a release, in consultation with EPA's Team Leader or the Team Leader's designee and in accordance with all applicable provisions of the Project HASP, the Contingency Plans and other applicable plans or documents. GE will satisfy these requirements by implementing the emergency plans described in this section of the CHASP, in consultation with the identified EPA personnel.

### **7.3.7 Responses to Specific Emergencies**

#### **7.3.7.1 Medical Emergency at Sediment Processing Facility**

In the event of a medical emergency at the sediment processing facility, a telephone call will be made to 911. The arriving unit will report to a designated entry location. The lead officer will be met by the Project Safety Manager and briefed or will immediately receive the injured individual(s) for evaluation and/or transport. In the event the injured individual(s) cannot be moved, emergency personnel will be escorted to the incident location.

Emergency personnel will be provided with any site-specific PPE beyond their own response gear. Response personnel will have access to on-site emergency response equipment, as needed. If the injured individual(s) cannot be decontaminated due to the possibility of causing further injury, the necessary PPE and supplies will be provided to protect emergency response personnel or equipment.

#### **7.3.7.2 In-river Emergency at Processing Facility (Wharf Area)**

A telephone call will be made to 911. The lead officer will respond to the designated location and will be met by the Project Safety Manager and briefed. Based on the incident, the lead officer will deploy appropriate water rescue resources with assistance from project personnel. Project personnel will assist external responders with operational support (*e.g.*, stopping dock work and barge movement) and by providing assistance (*e.g.*, boats, vehicles, PPE).

### **7.3.7.3 Medical Emergency in Dredge Area**

A telephone call will be made to 911. The lead officer will respond to the West River Road marine staging facility or other designated location. Injured individuals who are in a condition to be transported will be transferred by project vessel to the marine staging facility or other designated location. If the injured individual(s) cannot be transported, the lead officer will go to the designated location where he will be met by the Project Safety Manager and briefed. External emergency responders will be directed to the scene, if using their own vessel. Response personnel will have access to project emergency equipment, including vessels, as needed. If the injured individual(s) cannot be decontaminated due to the possibility of causing further injury, the necessary PPE and supplies will be provided to protect emergency response personnel or equipment.

### **7.3.7.4 Water Emergency Involving Man Overboard**

A telephone call will be made to 911. Arriving unit(s) will report to a designated entry location depending on the location of the incident. The lead officer will be met by the Project Safety Manager and briefed or will immediately receive the injured individual(s) for evaluation and/or transport. Project support vessels, project personnel and/or equipment will be made available to external emergency responders, as will any land-based logistics and/or support equipment.

### **7.3.7.5 Fire at the Processing Facility**

In the event of any fire at the sediment processing facility, a telephone call will be made to 911, regardless of whether the Project Safety Manager (or on-site designee) determines a need for external response. The arriving unit will report to the designated entry location and will be met by the Project Safety Manager and briefed. Project personnel will provide the lead officer with facility-specific information and logistical support, as needed.

### **7.3.7.6 Fire on Project Vessel**

The project team will provide in-river fire-fighting response. A telephone call will be made to 911. Arriving units will respond to the West River Road marine staging facility or other designated location, will be met by the Project Safety Manager or his/her designee and briefed. Based on the incident, the lead officer will deploy appropriate water rescue resources. Project personnel will assist external responders with operational support (*e.g.*, stopping dock work and barge movement) and by providing assistance (*e.g.*, boats, vehicles, PPE).

### **7.3.8 Worker Education and Monitoring**

All project personnel will be trained on procedures for handling emergency situations or hazardous conditions during the Phase 1 project. The training requirements for specific site personnel are given in Section 6.2 and will be further defined in the project HASP.

## SECTION 8

### **ACTIONS TO ADDRESS RESUSPENSION PERFORMANCE STANDARD AND OTHER IN-RIVER WATER QUALITY REQUIREMENTS**

The Resuspension Performance Standard (Malcolm Pirnie and TAMS, 2004) and water quality requirements (EPA, 2005) contain detailed measures designed to control the releases of PCBs and other compounds to the river during dredging. Extensive monitoring of river water will be conducted during dredging to monitor water quality.

This section provides a brief overview of the monitoring that will be undertaken to assess water quality, as well as the response actions to be taken should monitoring demonstrate the need for corrective action. More details about these issues are provided in the Phase 1 Environmental Monitoring Plan (Phase 1 EMP) attached to the Phase 1 FDR, and the Performance Standards Compliance Plan Scope (PSCP Scope) attached to the CD. Additional information will be provided in the Phase 1 Remedial Action Monitoring Quality Assurance Program Plan (Phase 1 RAM QAPP) and the Phase 1 Performance Standards Compliance Plan (Phase 1 PSCP) to be submitted as part of the Remedial Action Work Plans.

#### **8.1 RESUSPENSION PERFORMANCE STANDARD OVERVIEW**

The resuspension standard threshold is the maximum total PCB concentration in the water column at any time at the far-field monitoring stations (located more than one mile downstream of operations). This concentration is 500 nanograms per liter (ng/L) total PCBs - the same threshold as the federal drinking water standard. Remedial activities may proceed when the ambient total PCB concentration is 500 ng/L or less.

EPA has developed three action levels at which response actions, such as additional monitoring or contingency actions, will be taken: the Evaluation Level, Control Level, and Standard Level. These action levels apply to PCBs or total suspended solids (TSS) in the water at near-field stations (within 300 meters of dredging activities) or far-field stations. Table 8-1 summarizes the resuspension criteria for these action levels and the monitoring actions required if criteria are exceeded. Other response actions to be taken in the event of an exceedance are discussed in Section 8.4.

#### **8.2 WATER QUALITY REQUIREMENTS OVERVIEW**

In addition to the Resuspension Performance Standard for PCBs, other water quality requirements have been established for near- and far-field water monitoring stations. At near-field stations, standards have been set for dissolved metals (cadmium, lead, chromium, and mercury), pH and dissolved oxygen (DO) as follows:

- numerical standards for dissolved metals based on water hardness;
- pH not less than 6.5 or more than 8.5; and

**TABLE 8-1  
RESUSPENSION CRITERIA<sup>1</sup>**

Parameter		Evaluation Level			Control Level			Resuspension Standard Threshold		
		Limit	Duration	Monitoring Action	Limit	Duration	Monitoring Action	Limit	Duration	Monitoring Action
Far-Field PCB Concentration	Total PCBs	None	---	---	350 ng/L	7-day running avg.		500 ng/L	Confirmed occurrence <sup>2</sup>	Increase sampling to four, 6-hr. composites
Far-Field Net PCB Load	Total PCBs	300 g/d	7-day running avg.	Increase sampling to two 12-hr. composites	600 g/d	7-day running avg.	Increase sampling to three 8-hr. composites	None	---	---
	Tri+ PCBs	100 g/d			200 g/d			None	---	---
	Total PCBs	None	---	---	65 kg/yr	Dredging season	---	None	---	---
	Tri+ PCBs	None	---	---			22 kg/yr	---	None	---
Far-Field Net Suspended Solids Concentration <sup>3,4</sup>	TSS	12 mg/L	6-hr. running avg. net increase OR avg. net increase in the daily dredging period if less than 6 hrs. (whichever shorter)	Increase sampling to two 12-hr. composites	24 mg/L	Daily dredging period (> 6 hrs.) OR 24 hrs. on average (whichever shorter)	Increase sampling to three 8-hr. composites	None	---	---
Near-Field (300 m) Net Suspended Solids Concentration <sup>5</sup>	TSS (for River Section 1)	100 mg/L	On avg. for 6 hrs. OR daily dredging period (whichever shorter)	2 TSS samples/day at station with exceedance until station in compliance	100 mg/L	Avg. for daily dredging period (≥6 hrs.) or 24 hrs. (whichever shorter)	2 TSS samples/day at station with exceedance until station in compliance	None	---	---
Near-Field (100 m and Channel-Side) Net Suspended Solids Concentration <sup>5</sup>	TSS	700 mg/L	Continuous 3-hr. avg. OR confirmed occurrence when measured discretely every 3 hrs.	2 TSS samples/day at station with exceedance until station in compliance	None	---	---	None	---	---

Notes:

- Response actions to be taken when action levels are exceeded are described in Phase 1 EMP and PSCP Scope.
- Exceedances of the resuspension standard must be confirmed by the average concentration of four samples collected within 48 hours of the first sample.
- The increased far-field monitoring required for exceedance of the suspended solids criteria must include a sample timed generally to capture the suspended solids plume's arrival at the far-field station.
- The monitoring requirements for exceedance of suspended solids action levels are increased frequency sampling at the nearest far field station. The increased frequency at this station will be the same as the frequency required for the PCB action levels.
- All dredging and backfilling operations will be monitored in the near field during Phase 1.

g/d = grams per day

kg/yr = kilograms per year

mg/L = milligrams per liter

- DO for non-trout waters:
  - minimum daily average not less than 5.0 mg/L
  - not less than 4.0 mg/L at any time.

Standards at far-field stations have been established for total cadmium (5 micrograms per liter [ $\mu\text{g/L}$ ]), total chromium (50  $\mu\text{g/L}$ ), total mercury (0.7  $\mu\text{g/L}$ ), and total lead (15  $\mu\text{g/L}$ ). In addition, the requirements incorporate a trigger level of 10  $\mu\text{g/L}$  total lead for two far-field stations (Stillwater and Waterford) to protect water supplies and the public.

In addition to the above, the water quality requirements have been established for discharges of PCBs and other chemicals from the processing facility. In the event of an exceedance of the discharge limitations, an engineering evaluation will be performed and an Engineering Evaluation Report submitted to EPA and NYSDEC. Corrective actions may include additional testing, repairs to equipment, modifications to operations, or, if necessary, temporary cessation of operations.

### **8.3 SUMMARY OF MONITORING PROGRAM (ROUTINE AND CONTINGENCY)**

#### **8.3.1 General**

Water will be sampled at near-field stations (300 meters from dredging operations or 150 meters from resuspension control measures such as silt curtains) and far-field stations (one-mile or more downstream of active dredge areas). The sampling data from these stations will be compared to the three-tiered action levels specified in the Resuspension Performance Standard and to the other water quality requirements to assess the need for additional action.

#### **8.3.2 Near-field Monitoring**

Near-field monitoring locations are associated with individual remedial operations and move as the dredging operation moves. Generally, each dredging operation (except those with containment barriers) will be monitored by five monitoring stations:

- one station approximately 100 meters upstream of the dredge (to monitor background conditions);
- one station adjacent to the dredge;
- one station approximately 100 meters downstream of the dredge; and
- two stations approximately 300 meters downstream of the dredge.

Dredges that have a containment barrier to reduce the release of resuspended PCBs to the river will be monitored by six monitoring stations:

- one station approximately 100 meters upstream of the dredge;
- one station adjacent to the dredge;
- one station located within the area surrounded by the containment barrier;

- one station approximately 50 meters downstream of the dredge; and
- two stations approximately 100 meters downstream of the dredge.

If two or more dredges are operating within a 1,000 meter stretch of river, they may be monitored at one set of near-field monitoring stations.

At near-field monitoring stations, sampling will be conducted for TSS or a surrogate for TSS (such as turbidity), as well as a number of general water quality parameters (such as DO, pH, temperature, etc.), and for the metals subject to the water quality requirements. These data will be compared with the applicable action levels or other criteria described above.

### **8.3.3 Far-field Monitoring**

Far-field stations are located one or more miles from active dredge areas and will be generally located at:

- Bakers Falls (background station);
- Rogers Island;
- Thompson Island;
- Schuylerville;
- Stillwater;
- Waterford;
- Mohawk River at Cohoes;
- Albany; and
- Poughkeepsie.

The Thompson Island station will serve as the closest downstream far-field station for the Phase 1 project.

The Bakers Falls background station will be sampled at weekly, or possibly monthly, intervals for PCBs, TSS, and general water quality parameters (*e.g.*, turbidity, DO, pH, temperature). The Rogers Island station will be sampled daily for PCBs, TSS, and general water quality parameters. At Thompson Island, Schuylerville, Stillwater, and Waterford, continuous monitoring for water quality parameters will be conducted and daily composite samples will be collected from automated samplers at each station for PCB analysis. Water samples at Schuylerville, Stillwater, and Waterford will also be analyzed for total and dissolved metals. If data demonstrate the need for enhanced monitoring, sampling frequency will increase appropriately.

The Lower Hudson River stations (Albany and Poughkeepsie) will be sampled every four weeks for PCBs, TSS, and water quality parameters. If the data demonstrate the need for enhanced monitoring, sampling frequency will increase to weekly. The Mohawk River station will be sampled for PCBs once every other month from May to November.

### **8.3.4 Off-season Water Column Monitoring**

During the year when in-river activities have ceased, water column sampling will be conducted weekly at the five Upper Hudson River stations; monthly at Bakers Falls, Albany, and Poughkeepsie; and every other month at the Mohawk River station.

## **8.4 SUMMARY OF CONTINGENCY ACTIONS FOR RESPONDING TO EXCEEDANCES OF ACTION LEVELS**

This section summarizes the response actions to be taken if the monitoring data show exceedances of the action levels in the Resuspension Performance Standard or other water quality requirements.

### **8.4.1 Exceedances of Resuspension Standard Action Levels**

#### **8.4.1.1 Evaluation Level**

If monitoring shows an exceedance of the Evaluation Level, an engineering evaluation will be considered to determine the cause of the exceedance. If performed, the evaluation will begin upon receipt of data confirming an exceedance of the Evaluation Level. Investigative measures that may be implemented will depend on specific project circumstances and may include one or more of the following actions:

- visual observations of operations;
- discussions with project personnel;
- review of operations records;
- examination of the integrity of containment barriers (if in use);
- examination of barge loading system and barge integrity;
- examination of resuspension associated with tugs, barges, and other support vessels; and
- additional monitoring or sampling.

Following the evaluation, if the cause of the exceedance can be identified and is project-related, potential engineering solutions may be recommended.

#### **8.4.1.2 Control Level**

If monitoring shows an exceedance of the Control Level, an engineering evaluation will be conducted. The evaluation will begin upon receipt of data confirming an exceedance of the Control Level. Investigative measures that may be implemented will depend on specific project circumstances and may include those listed in Section 8.4.1.1.

Potential engineering solutions to address the exceedance will be proposed and implemented, unless no engineering solution is necessary. Possible engineering solutions to be considered include:

- initiate mandatory engineering evaluation and continual adjustments to dredging operations until the Evaluation Level or better is attained;

- evaluate and identify any problems;
- consider changes in resuspension controls, dredge operation, or dredging equipment;
- consider implementing additional or different resuspension controls;
- consider changing location and rescheduling more highly contaminated areas for later in the year (applies to May and June only), if other options are not effective; and
- temporarily cease operations if required.

An Engineering Evaluation Report will be prepared and submitted to EPA that will contain the results of the engineering evaluation, the proposed engineering solution, and a proposed schedule for implementing the solution.

#### **8.4.1.3 Standard Level**

If monitoring shows an initial occurrence of a PCB concentration in excess of the Standard Level, EPA will be promptly notified, but no later than three hours after receipt of the data. If subsequent sampling confirms an exceedance of the Standard Level: 1) GE will promptly notify EPA, NYSDEC, NYSDOH, and the downstream public water suppliers (*i.e.*, Halfmoon and Waterford), but no later than three hours after data receipt; 2) dredging will be temporarily suspended; 3) an engineering evaluation will be performed; and 4) an engineering solution will be developed. A schedule for reinitiating dredging will be developed. An Engineering Evaluation Report will be submitted to EPA with a proposed schedule for implementing the solution. Dredging will be reinitiated upon EPA approval.

#### **8.4.2 Exceedances of Other Water Quality Requirements**

If monitoring shows an exceedance at a near-field or far-field station of any of the in-river standards specified in the water quality requirements for non-PCB constituents, GE will provide prompt notification, but no later than three hours after receipt of the data, to EPA and NYSDEC (and, for exceedances at far-field stations, to NYSDOH and the downstream public water suppliers). An investigation will be conducted as to the cause of the exceedances, using methods such as those listed in Section 8.4.1.1. GE will then propose an appropriate response to EPA for approval. Such response may include one or more of the actions listed in Section 8.4.1.2. An Engineering Evaluation Report will be prepared and submitted to EPA that will contain the results of the engineering evaluation, the proposed solution and a proposed schedule for implementing the solution.

## **SECTION 9**

### **PROTECTION OF WATER SUPPLIES**

#### **9.1 SUMMARY**

During the design phase of this project, a multi-pronged investigation was conducted by EPA and GE to identify private and public water intakes in the vicinity of Phase 1 dredge areas. The ultimate objective of this program is to ensure that water users in the area will be notified, as appropriate, if EPA's Resuspension Performance Standard or other water quality requirements, as described in Section 8, is not achieved.

EPA initiated this program by mailing a survey to all shoreline residents, requesting information about shoreline infrastructure and historical water usage.

Concurrently, GE undertook a comprehensive data collection effort during which the NYSCC and NYSDOT records were collected and reviewed to identify additional shoreline infrastructure in the project area. A literature review of engineering records and detailed drawings also was conducted from sources such as the NYSCC, local towns, villages, NYSDEC and NYSDOT.

GE conducted a review of shoreline parcels during a subsequent existing conditions survey to field verify document research results and potentially identify additional intakes. Finally, direct outreach was made via phone and/or mail to shoreline property owners in an attempt to identify additional Hudson River water users and confirm research and observations.

Before in-river activities commence, another field survey will be conducted by GE's contractor(s) to verify existing information in the field.

#### **9.2 LIST OF KNOWN WATER INTAKES**

Thirteen private water intakes have been identified in or downstream of the project area. No commercial or agricultural water intakes have been identified. Two municipal water supply intakes are located in the upper river downstream of the Phase 1 project area. A list of known water users is presented as Table 9-1. If additional water intakes are identified after submission of this CHASP, this list will be updated in a revised CHASP which will be prepared after GE's contractors are selected:

**TABLE 9-1****LIST OF KNOWN WATER INTAKES**

<b>Type of User</b>	<b>Tax ID Number</b>	<b>Approx. River Mile</b>	<b>Shore</b>
Private	171-2-14	Between RM 194-195	Eastern
Private	179-1-19	2000 feet north of RM 191	Eastern
Private	187-1-31	RM 190	Eastern
Private	203-1-2.2	RM 188	Eastern
Private	203-1-6	RM 187	Eastern
Private	187-1-5	2000 feet north of RM 190	Eastern
Private	187-1-30.1	Just north of RM 190	Eastern
Private	187.1-30.2	Just north of RM 190	Eastern
Private	187-1-24	Just south of RM 190	Eastern
Private	187-2-5	Just south of RM 190	Eastern
Private	187-2-6.1	Just south of RM 191	Eastern
Private	187-4-10	Between RM 189-190	Eastern
Private	92-1-7	RM 190	Western
Public (Halfmoon)	N/A	RM 159	Western
Public (Waterford)	N/A	RM 157	Western

**9.3 METHODS TO ADDRESS SPECIFIC TYPES OF WATER INTAKES****9.3.1 Public Water Supplies**

In the vicinity of the project area, the only communities to use the Hudson River as a source for municipally-provided water are the towns of Halfmoon and Waterford, both located in Saratoga County. Both communities are located significantly downstream of all Phase 1 dredge areas.

The Town of Halfmoon's municipal water intake is located in the Lock 1 channel on the river's western shore at RM 159. The closest upstream dredge area to this intake is the East Griffin Island dredge area located approximately at RM 190, 31 river miles away.

Halfmoon's treatment facility, brought online in 2003, serves approximately 3,500 properties in the Town of Halfmoon. The system's average daily consumption is 1.5 MGD, with a peak usage of 3.0 MGD. Due to anticipated future development, the facility's capacity is scheduled to increase to 7.0 MGD, under an expansion project to be carried out later this year.

The town of Waterford's municipal water intake is located on the river's western shore at RM 157. The closest upstream dredge area to this intake is the East Griffin Island dredge area located approximately at RM 190, 33 river miles away.

Waterford's treatment facility serves approximately 17,000 people, and the system's average daily consumption is 1.7 MGD, with a peak usage of 3.0 MGD.

Both Halfmoon and Waterford water treatment plants treat and monitor their water supplies according to federal and state water quality regulations. As reported by plant personnel at each facility, water is periodically sampled at intakes and outlets for a wide variety of parameters, including minerals, metals, turbidity (cloudiness), pH, organic chemicals, pesticides, PCBs, and microbial pathogens. Data records from each town demonstrate that no detectable levels of PCBs have been or are currently present in the water supplies.

EPA informed Halfmoon and Waterford elected officials in 2003 that no adverse impacts to public water supplies were expected during the Phase 1 dredging projects (letter to Waterford dated October 20, 2003; letter to Halfmoon dated November 6, 2003). Specifically, EPA stated it "does not expect remedial dredging to prevent any municipalities from using the Upper Hudson River as a source of drinking water, even temporarily."

#### **9.3.1.1 Supplemental Public Water Supply Monitoring**

As described in Section 8.3, comprehensive water monitoring for PCBs and other constituents will be conducted daily during dredging activities both in close proximity to each dredge (near-field) and at several stations located at least one-mile downstream (far-field) of dredging. The performance standard, established action levels and required response actions, which are based on the federal drinking water standard, are designed to protect downstream public water supplies.

In addition to the extensive and unprecedented level of river monitoring that GE will perform to implement the resuspension monitoring standard, GE will provide the resources necessary for the Halfmoon and Waterford drinking water systems to supplement the plants' existing monitoring programs with the collection and analysis of raw and finished water samples once each week during dredging activities. GE will work with EPA and elected officials and water treatment plant operators from Halfmoon and Waterford to initiate the enhanced monitoring program at the beginning of dredging activities.

An additional level of public water supply monitoring will be performed by New York and EPA. NYSDOH, in consultation with EPA and NYSDEC has designed a monitoring program which further increases monitoring at public water supply intakes both prior to and during dredging. The proposed Public Water Supply Monitoring Program, to be implemented by NYSDOH, will supplement the in-river monitoring efforts associated with the resuspension standard and GE's enhanced water monitoring program for the upper river public water supplies described above. Details of this program will be provided by NYSDOH and EPA to the public. Future CHASP revisions will summarize the details of the program.

#### **9.3.1.2 Notification**

In the event monitoring results demonstrate an exceedance of the Resuspension Performance Standard or water quality requirements at a far-field monitoring station, GE will notify EPA, NYSDEC, NYSDOH, and public water supplies (*i.e.*, Halfmoon and Waterford) within three

hours after the data are received. GE will then evaluate the cause of the exceedance and propose potential mitigation measures to EPA, as described in Section 8.4.

### **9.3.1.3 Mitigation Measures**

Because the public water supply intakes are located significantly downstream of where dredging will occur during the Phase 1 project, adequate time should be available for the consideration and implementation of mitigation measures prior to the presence of elevated levels of PCBs near the public water supply intakes. Further, the upper river public water suppliers currently have the capability to remove PCBs from the raw water as part of their normal treatment.

In the unlikely event one of the public water supplies is compromised, additional treatment of raw water may be conducted at the water treatment plants or water treatment plant operators may be encouraged to temporarily purchase water elsewhere. The Town of Halfmoon has emergency connections with the Town of Waterford and the Clifton Park Water Authority. The Town of Waterford has agreements in place to purchase alternative or supplemental supplies from the City of Troy. EPA has informed the towns of Waterford and Halfmoon that should they have to use an alternate water supply under certain circumstances, EPA may reimburse the towns for the costs.

### **9.3.2 Private Water Intakes**

Thirteen private water intakes have been identified in or downstream of the project area at the time this CHASP was submitted to EPA (see Section 9.2). This list will be continuously updated, if additional private water users are identified before or during in-river water activities.

In the event monitoring results demonstrate an exceedance of the Resuspension Performance Standard or water quality requirements at a far-field monitoring station, GE will notify EPA within three hours after the data are received. GE also will promptly notify the identified private water users. GE will then evaluate the cause of the exceedance and propose potential mitigation measures to EPA, as described in Section 8.4.

## SECTION 10

### COMMUNITY EDUCATION AND NOTIFICATION PROGRAM AND COMPLAINT MANAGEMENT PROGRAM

#### 10.1 COMMUNITY EDUCATION AND NOTIFICATION PROGRAM

The goals of the CENP are to (1) provide timely and understandable project information to the public; (2) make project information easily accessible by the public; and (3) quickly disseminate information about project emergencies to the public so they can avoid needless interaction with emergency responders. Elected officials, local residents, and the public participated in the development of the CENP.

Non-emergency project information will be disseminated to the interested public via the CENP. This includes information on where and when dredging is occurring, in-river traffic patterns for loaded barges, safety and security information for non-project vessels, and monitoring results for QoLPS parameters. This information will be available to the public in a timely manner. Information will be updated frequently to reflect current conditions.

The following activities will be undertaken by GE and its contractors and are in addition to the activities that may be conducted by New York State or EPA.

##### 10.1.1 Methods of Disseminating Information

A number of communication methods will be used to provide project information to the public.

##### 10.1.1.1 Progress Reports

Progress reports on the Hudson dredging project will be issued each month during construction of the processing facility and associated rail yard, and during Phase 1 dredging and related remedial activities. These progress reports will, at a minimum, contain the following:

- Prior work activities;
- Future work activities;
- Upcoming project-related meetings, if any;
- Estimates of monthly production statistics (*e.g.*, number of cubic yards of sediment removed; gallons of water treated at processing facility; quantity of processed dredged material shipped for off-site disposal, etc.); and
- A summary of the results of the monitoring program addressing EPA's Performance Standards.

Progress Reports will be developed in a template format to facilitate public use. They will be distributed electronically, mailed to the project mailing list, made available to the public at

EPA's Hudson River Field Office and at lock stations in the vicinity of project activities, and will be posted on a project Web site.

#### **10.1.1.2 Project Web Site**

Information about the status of the project will be available via the Internet on the project Web site. This Web site will provide access to key technical documents, Progress Reports, project updates, and project schedule.

The Web site will provide references to additional sources of specific information for the project. Information will be posted about upcoming public meetings, EPA events, and announcements related to the project. In addition, answers will be provided to Frequently Asked Questions and contact information for key project personnel, as well as EPA representatives, will be provided.

The Web site will be updated and enhanced regularly so that the public can easily access accurate and timely information.

Links will be provided for the public to ask questions of the project team, report a problem or register a complaint (see Section 10.2.1). Links will also be provided to important project information posted on other sites.

Access to the project Web site will be available through personal computers, as well as computers at libraries throughout the local area.

#### **10.1.1.3 Toll-free Hotline**

A toll-free hotline will be established to provide the public with access to project information and enable the public to ask questions or register complaints. This toll-free number will be activated and staffed during construction of the processing facility and associated rail yard and Phase 1 dredging operations. The availability of the hotline will be reiterated in all project announcements, Progress Reports, and emails and will be clearly presented on the project Web site.

#### **10.1.1.4 Listserv/Mailing List**

An electronic listserv is the fastest way to get the most up-to-date information to a large number of interested parties. GE will establish a listserv for this project. Recognizing that many individuals do not have access to or do not use the Internet, the project team also will mail communications to interested members of the public (see Section 10.1.1.6). The names and addresses on the project listserv will not be available to the public, nor will it be used to disseminate non-project information.

#### **10.1.1.5 Email**

Email provides an opportunity for quick and direct communication. The public will be able to communicate with the Hudson project team via email. A link to this email address will be provided on the project Web site. The project team will respond to emails communicating questions or seeking project information. Emails reporting an emergency or complaint will be managed as part of the CMP (see Section 10.2).

#### **10.1.1.6 Public Meetings**

As requested by EPA, the project team will participate in project-related public meetings, including meetings of EPA's Community Advisory Group, to explain project activities. Copies of any Progress Reports, project updates, notifications or Notices to Mariners will be distributed at public meetings, as appropriate.

#### **10.1.1.7 Notice to Mariners**

Public awareness of the activities in the river will promote public safety and ensure that project activities proceed efficiently and without interruption. Notices will be placed at locks, marinas and public boat launch sites, and distributed to interested commercial and recreational user groups. Notices will also be broadcast on appropriate marine frequencies during in-river activities.

Notices will alert boaters of construction activities, and advise them to maintain a safe distance and a no-wake zone in the areas of construction. An anticipated schedule of upcoming work activities will be provided before project activities begin and during in-river work. Modifications to the schedule will be announced as well.

GE will work with the NYSCC, USCG and others (*e.g.*, New York State Tourism Office, media outlets and Web sites dedicated to mariners' interests and/or NYSCC issues) in advising boaters of project activities. GE will encourage the NYSCC and USCG to post any Notices to Mariners about project activities that GE issues on their Web sites and GE will post any Notices on the project Web site.

#### **10.1.1.8 Notice to Shoreline Property Owners**

Prior to the commencement of in-river work activities in a particular area, GE will attempt to contact nearby shoreline property owners to explain project activities and provide a schedule of and estimated duration for anticipated work activities in the vicinity of that location.

#### **10.1.1.9 Designated Community Liaison**

GE will designate a community liaison who will assist the public in receiving project information. This community liaison will be available during work activities to answer questions or address concerns. This project representative will also attend project-related meetings, as requested by EPA, to inform the public of project activities.

#### **10.1.2 Community Notification of Emergency Situations**

In the event of a project emergency requiring a call to 911 or a local emergency response station, information will be posted on the project Web site, and will be distributed via listserv, if appropriate, to keep the public adequately informed. Notification to public water suppliers and private water users will be handled separately according to the procedures in Section 9.3.

### **10.2 COMPLAINT MANAGEMENT PROGRAM**

A CMP has been developed to manage all project-related complaints, including those associated with air quality, odor, noise, lighting, navigation, and water quality. The goals of the CMP are to (1) enable the public to register project-related complaints 24 hours a day, seven

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days a week, and (2) provide complainants with timely and accurate notification of efforts to address the subject of their complaints.

The CMP will be activated and fully operational during construction of the processing facility and associated rail yard and during all remedial operations (*i.e.*, dredging and processing facility operations).

### **10.2.1 Methods for Registering a Complaint**

A number of communications tools may be used by the public to register complaints.

#### **10.2.1.1 Toll-free Hotline**

The same toll-free hotline established to provide the public with project information will be used to support the CMP. This toll-free number will be activated and continuously staffed during construction of the processing facility and associated rail yard and remedial operations. The availability of the hotline will be reiterated in all project announcements, Progress Reports, and emails and will be clearly presented on the project Web site.

#### **10.2.1.2 Email**

The public will be able to register complaints via email. A link to this email address will be provided on the project Web site.

#### **10.2.1.3 Mail**

Although not the most timely method for registering complaints, the public will be provided with a mailing address for the project team. This mailing address will be provided on the project Web site and will be reiterated in all project announcements, Progress Reports and emails.

#### **10.2.1.4 Mariner Complaint Form**

Recreational boaters traveling through the Upper Hudson may not have access to a cellular phone or radio to register a complaint regarding river navigation. Mariners will be encouraged to communicate complaints by completing a Mariner Complaint Form, which will be made available at locks and area marinas. The complaint form will be developed in consultation with NYSCC and be included in the revised CHASP.

### **10.2.2 Types of Complaint Communications**

The public is encouraged to use the toll-free project telephone line for a number of reasons, including to request information and/or ask questions, to notify the project team of emergency situations, and to register complaints.

#### **10.2.2.1 Inquiries and Requests for Information**

An inquiry is a public request for project information where corrective action is not requested. When inquiries are received by phone, email or mail, the communication will be documented in a log noting the time received, subject of the inquiry, the name of the individual submitting the inquiry, and any follow up required (*e.g.*, if any agencies need to be involved).

It is expected that most phone inquiries will be fully addressed during the initial communication (*i.e.*, question will be answered or requested information will be sent to individual making request). Mail and email inquiries will be answered within 24 hours of initial receipt. No regulatory notification or follow-up will be required for inquiries.

#### **10.2.2.2 Emergencies**

The public may report an emergency via the project telephone line. Regardless of the time of day an emergency communication is received, or whether the emergency is in fact project-related, a call will be immediately placed to 911 to request response to the reported emergency. A call will then be placed to personnel at the processing facility or on project vessels, as appropriate, to inform the project team of the reported emergency. If the emergency is project-related, GE will implement the emergency response plan, as described in Section 7 of this document.

#### **10.2.2.3 Complaints**

A complaint is a communication requesting that corrective action be taken regarding some aspect of the project, including those associated with a quality-of-life issue (*i.e.*, air quality, odor, noise, lighting, or navigation) or relating to water quality.

#### **Management of Complaints**

Complaints will be recorded in a log noting the time the complaint was received, the subject of the complaint, the name of the person registering the complaint, and complainant's contact information.

Once a complaint is received, the project team will conduct an investigation to determine whether the subject of the complaint is project-related.

If the complaint is project-related and EPA has established numerical standards or control levels for the particular subject of the complaint (*i.e.*, PCB concentrations in air, opacity, H<sub>2</sub>S concentrations in air, noise, lighting, navigation, surface water concentrations of constituents addressed by the Resuspension Performance Standard or other water quality requirements), GE will conduct monitoring and/or modeling and take the other actions specified for such complaints in Sections 4.2.7, 4.4.6, 4.5.5, 4.6.5, or 8.4. A flow diagram describing the process for responding to complaints is presented as Figure 10-1.

If the complaint is project-related but pertains to a subject for which EPA has not established numerical standards, the following actions will be taken:

- If the complaint relates to an odor that is not identified as H<sub>2</sub>S, the actions specified for such complaints in Section 4.3.5 will be followed.
- If the complaint relates to water quality impacts not addressed by the Resuspension Performance Standard or water quality requirements, or to other matters, GE will evaluate the complaint and the need for and type of mitigation measures, coordinate with EPA as appropriate, and if both parties agree that mitigation measures are warranted, implement such measures.

## **Reporting of Complaints**

If a complaint is critical (*i.e.*, the individual registering the complaint is claiming a severe impact), GE will inform the complainant within 24 hours, no matter when the initial complaint was received, of efforts to address the complaint. If the complaint is not critical (*i.e.*, the individual registering the complaint is not claiming a severe impact), GE will inform the complainant within 48 hours (or 72 hours if complaint is received over the weekend) of efforts to address the complaint.

Once GE has completed an investigation into the complaint - *i.e.*, the complaint has been evaluated, monitoring and/or modeling (if necessary) has been conducted, mitigation measures have been implemented (if warranted), etc. - GE will communicate with the complainant to report the conclusions of the investigation and any actions taken.

An overall summary of complaints received, related communications, and response actions, if any, will be provided to EPA on a monthly basis.

## SECTION 11

### REFERENCES

#### DOCUMENTS

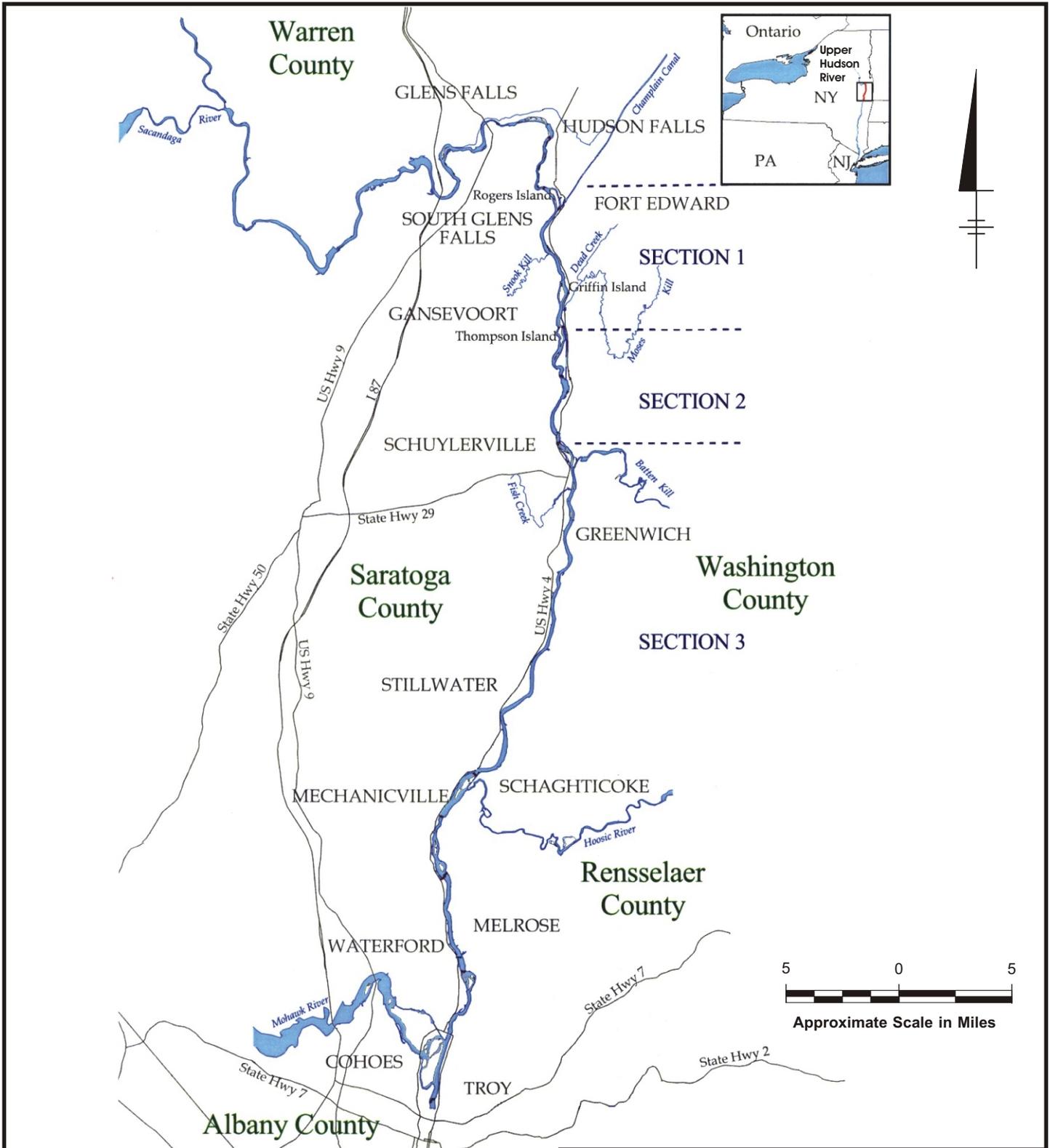
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#### CONSULTATIONS

- Fort Edward Firehouse. Meeting with Local Emergency Responders and Local Elected Officials. January 19, 2006.
- Meeting of Fort Edward Community Health and Safety Committee. Fort Edward Firehouse. January 25, 2006.
- Meeting of Fort Edward Community Health and Safety Committee. Fort Edward Firehouse. February 22, 2006.
- Meeting with Local Emergency Responders and Local Elected Officials. Fort Edward Firehouse. March 6, 2006.

## **FIGURES**





**NOTE:**

1. All locations are approximate.
2. Adapted from EPA Feasibility Study (December 2000)

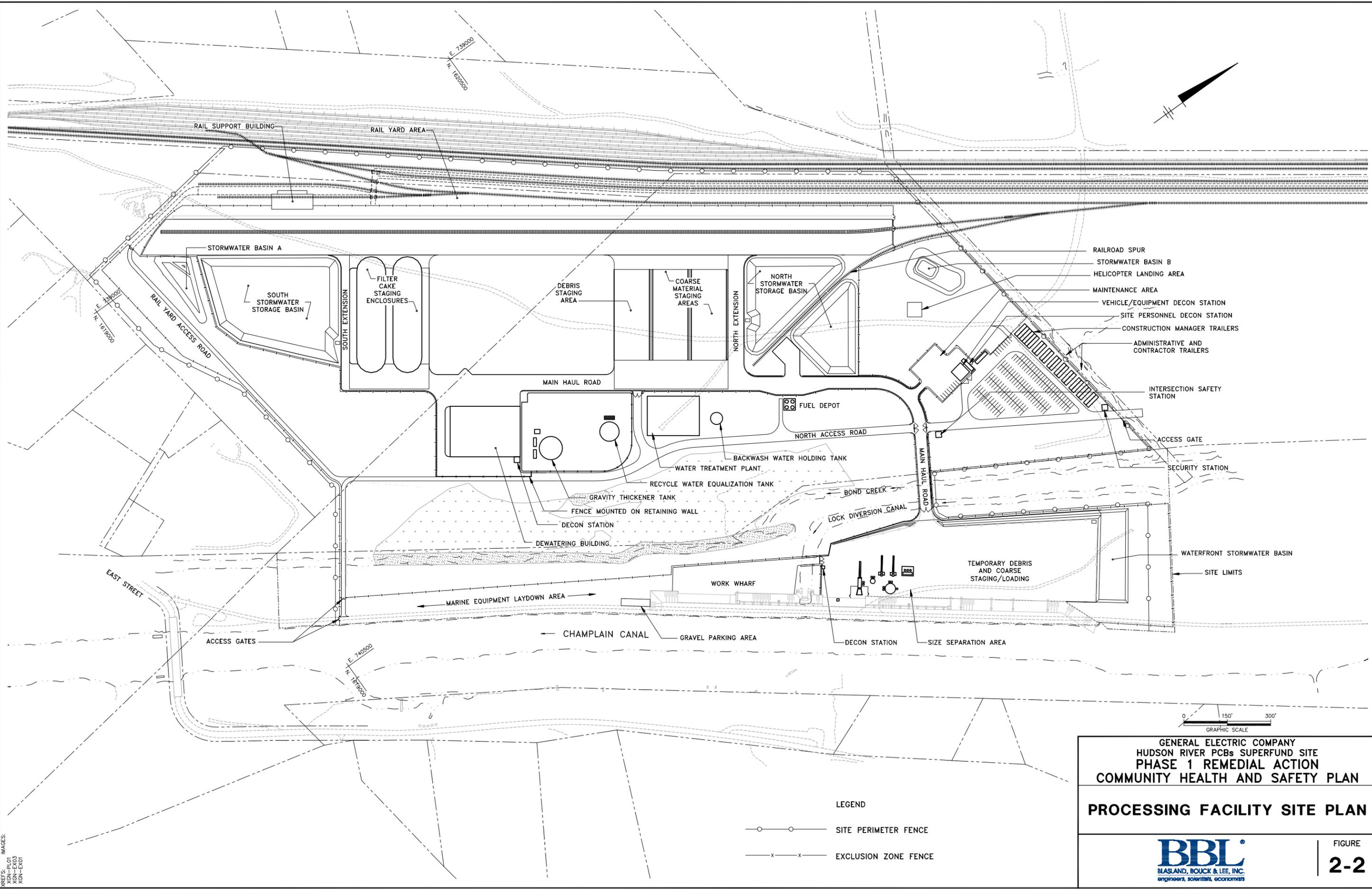
GENERAL ELECTRIC COMPANY  
 HUDSON RIVER PCBs SUPERFUND SITE  
**PHASE 1 REMEDIAL ACTION**  
**COMMUNITY HEALTH AND SAFETY PLAN**

**UPPER HUDSON RIVER**



FIGURE  
**2-1**

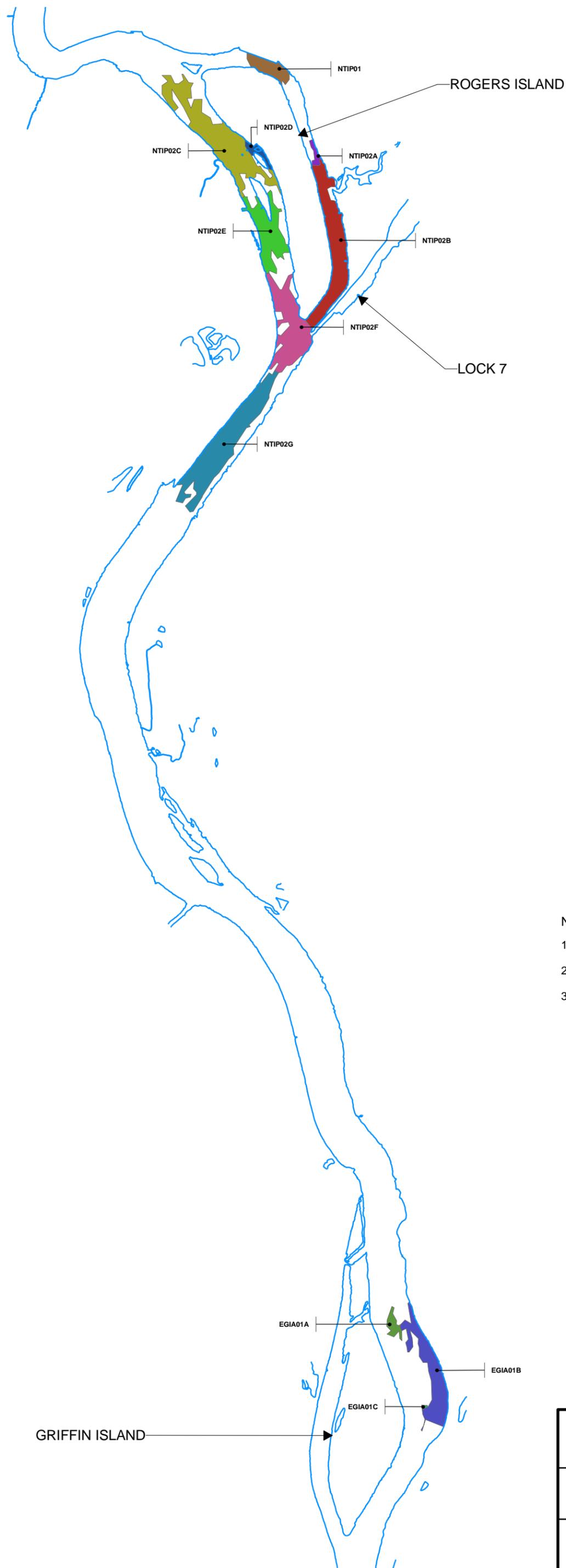
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 XGN-EX01



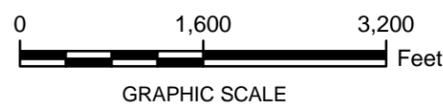
LEGEND

- ○ — SITE PERIMETER FENCE
- x — x — EXCLUSION ZONE FENCE

GENERAL ELECTRIC COMPANY HUDSON RIVER PCBs SUPERFUND SITE <b>PHASE 1 REMEDIAL ACTION</b> <b>COMMUNITY HEALTH AND SAFETY PLAN</b>	
<b>PROCESSING FACILITY SITE PLAN</b>	
	FIGURE <b>2-2</b>



- LEGEND**  
**DREDGE AREAS:**
- EGIA01A
  - EGIA01B
  - EGIA01C
  - NTIP01
  - NTIP02A
  - NTIP02B
  - NTIP02C
  - NTIP02D
  - NTIP02E
  - NTIP02F
  - NTIP02G



- NOTE:**
1. PREFIX EGIA = EAST GRIFFIN ISLAND AREA
  2. PREFIX NTIP = NORTHERN THOMPSON ISLAND POOL
  3. DREDGE AREAS ARE BASED ON FEBRUARY 28, 2005 DREDGE AREA DELINEATION (QEA, 2005).

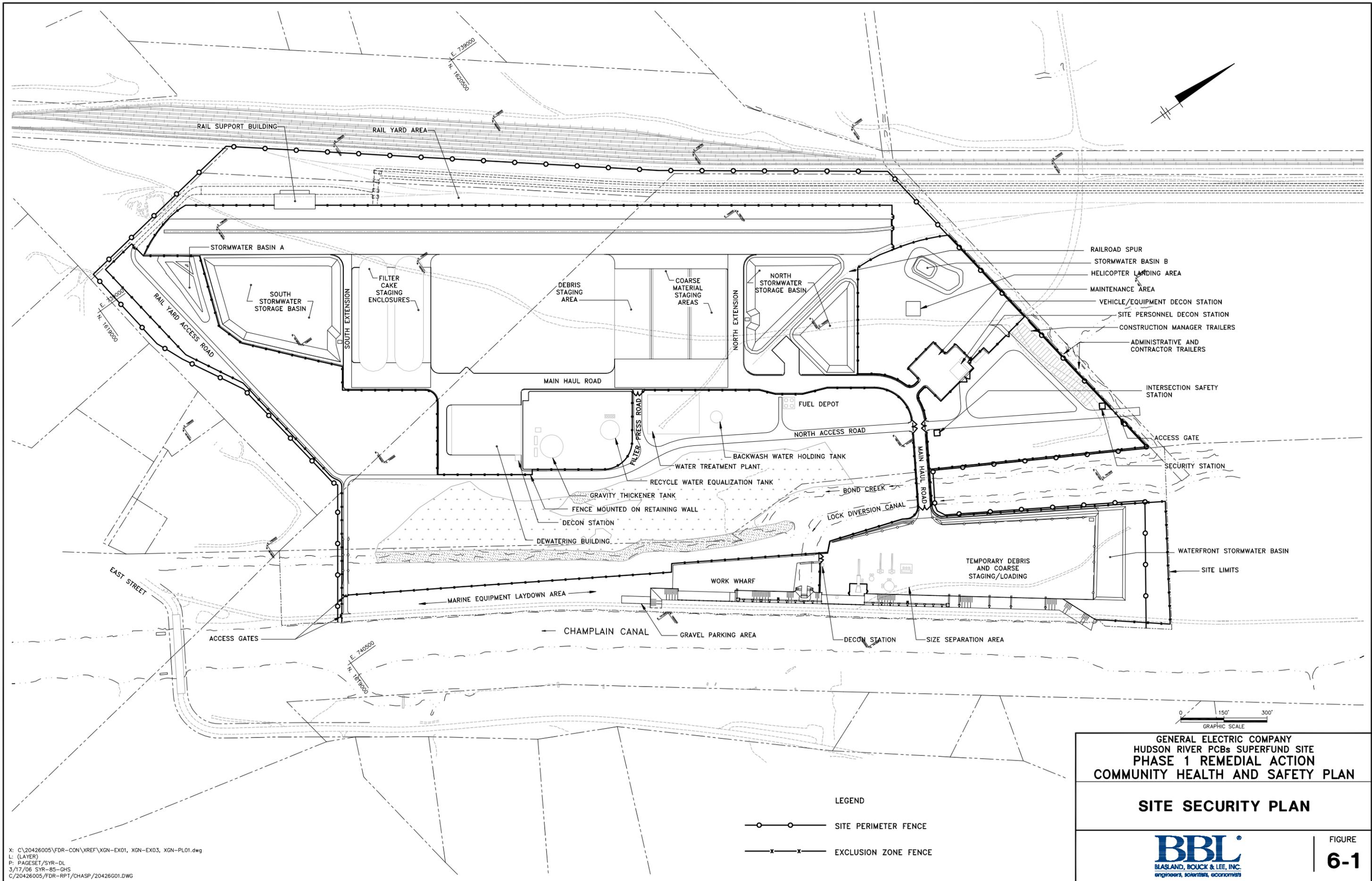
GENERAL ELECTRIC COMPANY  
 HUDSON RIVER PCBs SUPERFUND SITE  
**PHASE 1 REMEDIAL ACTION**  
**COMMUNITY HEALTH AND SAFETY PLAN**

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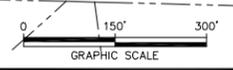
**PHASE 1 DREDGE AREAS**

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**FIGURE**  
**2-3**



- RAILROAD SPUR
- STORMWATER BASIN B
- HELICOPTER LANDING AREA
- MAINTENANCE AREA
- VEHICLE/EQUIPMENT DECON STATION
- SITE PERSONNEL DECON STATION
- CONSTRUCTION MANAGER TRAILERS
- ADMINISTRATIVE AND CONTRACTOR TRAILERS
- INTERSECTION SAFETY STATION
- ACCESS GATE
- SECURITY STATION
- WATERFRONT STORMWATER BASIN
- SITE LIMITS



GENERAL ELECTRIC COMPANY  
 HUDSON RIVER PCBs SUPERFUND SITE  
 PHASE 1 REMEDIAL ACTION  
 COMMUNITY HEALTH AND SAFETY PLAN

**SITE SECURITY PLAN**



LEGEND

- — ○ SITE PERIMETER FENCE
- x — x — EXCLUSION ZONE FENCE

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 P: PAGESET/SYR-DL  
 3/17/06 SYR-85-GHS  
 C:\20426005\FDR-RPT\CHASP\2042601.DWG

# Directions to Glens Falls Hospital

Figure 7-1



# Process for Responding to Complaints

Figure 10-1

