N00102.AR.002547
NSY PORTSMOUTH
5090.3a

HEALTH AND SAFETY PLAN FOR OFFSHORE SAMPLING AT OPERABLE UNIT 4 (OU 4)

NSY PORTSMOUTH ME

04/01/2011

TETRA TECH NUS

Health and Safety Plan
for
Offshore Sampling at OU4

Portsmouth Naval Shipyard
Kittery, Maine

Naval Facilities Engineering Command
Mid-Atlantic

Contract Number N62470-08-D-1001

Contract Task Order WE29

April 2011

HEALTH AND SAFETY PLAN

OFFSHORE SAMPLING AT OU4

PORTSMOUTH NAVAL SHIPYARD
KITTERY, MAINE

COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT

Submitted to:
Naval Facilities Engineering Command Mid-Atlantic
9742 Maryland Avenue
Norfolk, Virginia 23511-3095

Submitted by:
Tetra Tech NUS, Inc.
234 Mall Boulevard, Suite 260
King of Prussia, Pennsylvania 19406

CONTRACT NUMBER N62470-08-D-1001
CONTRACT TASK ORDER WE29

APRIL 2011

PREPARED UNDER THE SUPERVISION OF:

DANIEL WITT
PROJECT MANAGER
TETRA TECH NUS, INC.
PITTSBURGH, PENNSYLVANIA

APPROVED FOR SUBMISSION BY:

MATTHEW M. SOLTIS, CIH, CSP
CLEAN HEALTH AND SAFETY MANAGER
TETRA TECH NUS, INC.
PITTSBURGH, PENNSYLVANIA

TABLE OF CONTENTS

SECTION **PAGE**

1.0 INTRODUCTION 1-1
1.1 AUTHORITY 1-1
1.2 KEY PROJECT PERSONNEL AND ORGANIZATION 1-1
1.3 STOP WORK AUTHORIZATION 1-3
1.4 SITE INFORMATION AND PERSONNEL ASSIGNMENTS 1-4

2.0 EMERGENCY ACTION PLAN 2-1
2.1 INTRODUCTION 2-1
2.2 EMERGENCY PLANNING 2-1
2.3 EMERGENCY RECOGNITION AND PREVENTION 2-2
2.3.1 Recognition 2-3
2.4 EVACUATION ROUTES, PROCEDURES, AND PLACES OF REFUGE 2-3
2.5 EMERGENCY CONTACTS 2-4
2.6 EMERGENCY ROUTE TO HOSPITAL 2-6
2.7 EMERGENCY ALERTING AND ACTION/RESPONSE PROCEDURES 2-8
2.8 PPE AND EMERGENCY EQUIPMENT 2-8
2.9 DECONTAMINATION PROCEDURES / EMERGENCY MEDICAL TREATMENT 2-9
2.10 INJURY/ILLNESS REPORTING 2-9
2.10.1 TOTAL Incident Reporting System 2-9
2.10.2 Portsmouth Naval Shipyard Contractor Significant Incident Report 2-10
2.11 DRILL/INCIDENT AFTER ACTION CRITIQUE 2-10

3.0 SITE BACKGROUND 3-1
3.1 SITE DESCRIPTION AND HISTORY 3-1

4.0 SCOPE OF WORK 4-1

5.0 SUMMARY OF TASKS/HAZARDS/ASSOCIATED CONTROL MEASURES 5-1
5.1 GENERAL SAFE WORK PRACTICES 5-1
5.2 WATER HAZARDS 5-2
5.2.1 Planned Activities 5-2
5.2.2 U.S.C.G. Flotation Device Types 5-3
5.2.3 U.S.C.G Boat Regulations 5-4

6.0 CHEMICAL HAZARD INFORMATION/ASSESSMENT 6-1
6.1 SITE CONTAMINANTS 6-1
6.1.1 Metals 6-1
6.1.2 Polycyclic Aromatic Hydrocarbons (PAHs) 6-2
6.1.3 PCBs/Pesticides (Insecticides/Herbicides) 6-2
6.1.4 Exposure Potential 6-3
6.2 NATURAL HAZARDS 6-3
6.2.1 Inclement Weather 6-3

7.0 AIR MONITORING 7-1

TABLE OF CONTENTS

SECTION **PAGE**

8.0 TRAINING/MEDICAL SURVEILLANCE REQUIREMENTS 8-1
8.1 INTRODUCTORY/REFRESHER/SUPERVISORY TRAINING 8-1
8.1.1 Requirements for Tetra Tech, Inc. and Subcontractor Personnel 8-1
8.2 SITE-SPECIFIC TRAINING (1910.120) 8-1
8.2.1 Additional Specialty Training Requirements 8-2
8.3 MEDICAL SURVEILLANCE 8-2
8.3.1 Medical Surveillance Requirements for Tetra Tech and Subcontractor Personnel 8-2
8.3.2 Requirements for Field Personnel 8-3
8.4 SUBCONTRACTOR EXCEPTION 8-3

9.0 SPILL CONTAINMENT PROGRAM 9-1

10.0 SITE CONTROL 10-1
10.1 EXCLUSION ZONE 10-1
10.2 CONTAMINATION REDUCTION ZONE 10-1
10.3 SUPPORT ZONE 10-2
10.4 SITE VISITORS 10-2
10.5 SITE SECURITY 10-2
10.6 BUDDY SYSTEM 10-3
10.7 MATERIAL SAFETY DATA SHEET (MSDS) REQUIREMENTS 10-3
10.8 COMMUNICATION 10-3
10.9 ACTIVITY HAZARD ANALYSIS 10-3

11.0 CONFINED SPACE ENTRY 11-1

12.0 MATERIALS AND DOCUMENTATION 12-1
12.1 MATERIALS TO BE POSTED OR MAINTAINED AT THE SITE 12-1

13.0 GLOSSARY 13-1

ATTACHMENT I - INCIDENT REPORT FORM
ATTACHMENT II – MEDICAL DATA SHEET
ATTACHMENT III – CONTRACTOR SIGNIFICANT INCIDENT FORM
ATTACHMENT IV – ACTIVITY HAZARD ANALYSIS
ATTACHMENT V – AQUA SURVEY, INC SITE SPECIFIC HEALTH AND SAFETY PLAN
ATTACHMENT VI - SAFE BOATING CHECKLIST
ATTACHMENT VII – OSHA POSTER

TABLES

NUMBER **PAGE**

2-1 Emergency References 2-5

FIGURES

NUMBER **PAGE**

2-1 Hospital Route Map 2-6

8-1 Site Specific Training Documentation 8-4

1.0 INTRODUCTION

This Health and Safety Plan (HASP) has been developed to provide practices and procedures for Tetra Tech NUS, Inc. (Tetra Tech) and subcontractor personnel engaged in investigatory activities during the Offshore Sampling at OU4 at the Portsmouth Naval Shipyard (PNS), Kittery, Maine. This HASP must be used in conjunction with the Tetra Tech Health and Safety Guidance Manual. Both of these documents must be present at the site during the performance of all site activities to achieve compliance with the requirements stipulated in 29 CFR 1910.120 (OSHA's Hazardous Waste Operations and Emergency Response Standard), OSHA's Construction Industry Standards, 29 CFR 1926. Changes to the HASP will be made with the approval of the Tetra Tech Site Safety Officer (SSO) and the Tetra Tech Health and Safety Manager (HSM). Requests for modifications to the HASP will be directed to the SSO who will determine whether to make the changes. The SSO will notify the Project Manager (PM), who will notify the affected personnel of changes.

1.1 AUTHORITY

This work is authorized under the Comprehensive Long-term Environmental Action Navy (CLEAN) Contract Number N62470-08-D-1001, Contract Task Order (CTO) Number WE29.

1.2 KEY PROJECT PERSONNEL AND ORGANIZATION

This section defines the positions responsible for site safety and health for Tetra Tech and subcontractor employees engaged in onsite activities. These persons will be the primary points of contact for any questions regarding the safety and health procedures and the selected control measures that are to be implemented for onsite activities.

- The Tetra Tech PM is responsible for the overall direction of health and safety for this project.

- The Project Health and Safety Officer (PHSO) is responsible for developing this HASP in accordance with applicable OSHA regulations. Specific responsibilities include:

  i. Providing information regarding site contaminants and physical hazards associated with the site and tasks to be conducted.
  ii. Establishing air monitoring and decontamination procedures.
  iii. Assigning personal protective equipment based on task and potential hazards.
  iv. Determining emergency response procedures and emergency contacts.
  v. Stipulating training requirements and reviewing appropriate training and medical surveillance certificates.

vi. Providing standard work practices to minimize potential injuries and exposures associated with hazardous waste work.

vii. Modifying this HASP, as it becomes necessary.

- The Tetra Tech Field Operations Leader (FOL) is responsible for implementation of the HASP with the assistance of an appointed Site Safety Officer (SSO). The FOL manages field activities, executes the work plan, and enforces safety procedures as applicable to the work plan.

- The SSO supports site activities by advising the FOL on all aspects of health and safety on site. These duties may include:

i. Coordinating all health and safety activities with the FOL.

ii. Selecting, applying, inspecting, and maintaining personal protective equipment.

iii. Establishing work zones and control points in areas of operation.

iv. Implementing air monitoring program for onsite activities.

v. Verifying training and medical clearance of onsite personnel status in relation to site activities.

vi. Implementing Hazard Communication, Respiratory Protection Programs, and other associated health and safety programs as they may apply to site activities.

vii. Coordinating emergency services.

viii. Providing site-specific training for all onsite personnel.

ix. Investigating all accidents and injuries (see Attachment I Incident Report Form)

x. Providing input to the PHSO regarding the need to modify this HASP, or applicable health and safety associated documents as per site-specific requirements.

- Compliance with the requirements stipulated in this HASP are monitored by the HSM with the assistance of the SSO.

Note: In some cases one person may be designated responsibilities for more than one position. For example, for the PNS Interim Offshore Monitoring activities, the FOL may also be responsible for SSO duties. This action will be performed only as credentials, experience, or the tasks involved permits.

- The Boat Captain has the authority to suspend field operations if it is determined conditions in the field are unsafe. Furthermore, the Boat Captain is responsible for:

  i. Insuring the Boat is in safe operating condition meeting the minimum safe USCG Vessel Certification.

  ii. Providing the necessary safety equipment on the boat including
    - A sufficient number of Personal Floatation Devices.
    - Emergency rescue devices to extract persons from the water.
    - Emergency alerting/alarm devices to signal when in distress.
    - Fire Extinguishers/First Aid Kit/Back up Bilge pumps as appropriate for the vessel type.

  Tetra Tech, Inc. is relying on the Captain to operate the boat in a safe manner within the guidelines for operations in and around Portsmouth.

1.3 STOP WORK AUTHORIZATION

All employees are empowered, authorized, and responsible to stop work at any time when an imminent and uncontrolled safety or health hazard is perceived. In a Stop Work event (immediately after the involved task has been shut down and the work area has been secured in a safe manner) the employee shall contact the Project Manager and the Corporate HSM. Through observations and communication, all parties involved shall then develop, communicate, and implement corrective actions necessary and appropriate to modify the task and to resume work.

1.4 SITE INFORMATION AND PERSONNEL ASSIGNMENTS

Site Name: Portsmouth Naval Shipyard
Kittery, Maine

Navy RPM: Ms. Linda Cole
Phone Number: (757) 341-2011
Cell Phone:
Site Contact: Frederick Matthew "Matt" Thyng
Phone Number: (207) 438-6618
Cell Phone: (207) 210-4530
Eng. Tech: Joe Lavoie
Phone Number:
Cell Phone: (207) 252-0059

Proposed activities: Site activities off shore sediment sampling and will begin in spring 2011 and continue until project completion.

Project Team:

Tetra Tech Management Personnel:	Discipline/Tasks Assigned:	Contact Information
Daniel Witt	Project Manager (PM)	(412) 921-8433 Cell (412) 523-0634
Shannon Hill	Field Operations Leader (FOL)	(412) 921-8876
Shannon Hill	Site Safety Officer (SSO)	(412) 921-8876
Matthew M. Soltis, CIH, CSP	CLEAN Health and Safety Manager (HSM)	(412) 921-8912
Clyde Snyder	Project Health and Safety Officer (PHSO)	(412) 921-8904 Cell (724) 516-0907

Other Project Personnel	Affiliation/Discipline/Tasks Assigned	Contact Information
Tom Dolce	Boat Subcontractor (Aqua Survey, Inc.)	908-788-8700
Kelly Perkins	Analytical Laboratory (Katahdin Analytical Svs.)	207-874-2400

Hazard Assessment (for purpose of 29 CFR 1910.132) for HASP preparation has been conducted by:

Clyde Snyder

2.0 EMERGENCY ACTION PLAN

2.1 INTRODUCTION

This section has been developed to direct and guide field personnel in the event of an emergency. Site activities will be coordinated through the client contact, Mr. Matthew Thyng and Mr. Joe Lavoie. In the event of an emergency that cannot be mitigated using onsite resources, personnel will evacuate to a safe place of refuge and the appropriate emergency response agencies will be notified. It has been determined that the majority of potential emergency situations would be better supported by PNS emergency responders. Based on this determination, Tetra Tech and subcontractor personnel will not provide emergency response support beyond the capabilities of onsite response. Workers who are ill or who have suffered a non-serious injury may be transported by site personnel to nearby medical facilities, provided that such transport does not aggravate or further endanger the welfare of the injured/ill person.

The emergency response agencies listed in this plan are capable of providing the most effective response, and as such, will be designated as the primary responders. These agencies are located within a reasonable distance from the area of site operations, which ensures adequate emergency response time. PNS site contact Matt Thyng and Joe Lavoie will be notified when emergency response agencies are contacted. This Emergency Action Plan conforms to the requirements of 29 Code of Federal Regulations (CFR) 1910.38(a), as allowed in 29 CFR 1910.120(l)(1)(ii).

Tetra Tech will, through necessary services, include initial response measures for incidents such as:

- Initial fire-fighting support and prevention
- Initial spill control and containment measures and prevention
- Removal of personnel from emergency situations
- Provision of initial medical support for injury/illness requiring only first-aid level support
- Provision of site control and security measures as necessary

2.2 EMERGENCY PLANNING

Through the initial hazard/risk assessment effort, emergencies resulting from chemical, physical, or fire hazards are the types of emergencies that could be encountered during site activities.

To mitigate the potential for these emergency situations, emergency planning activities under the direction of the SSO and/or the FOL will include the following:

- Coordinating with PNS Emergency Response personnel to ensure that Tetra Tech emergency action activities are compatible with existing emergency response procedures. PNS Fire Protection and Emergency Services will be notified of scheduled events and activities. This is most imperative in situations where their services may be required.

- Establishing and maintaining information at the project staging area (Support Zone) for easy access in the event of an emergency. This information will include the following:

  - Chemical Inventory of chemicals used onsite, with Material Safety Data Sheets.
  - Onsite personnel medical records (Medical Data Sheets, Attachment II).
  - A log book identifying personnel onsite each day.
  - Hospital route maps with directions (these shall also be placed in each site vehicle).
  - Emergency Notification - phone numbers.

The Tetra Tech FOL will be responsible for the following tasks:

- Identifying a chain of command for emergency action. The FOL and/or the SSO will exercise primary responsibility for directing the actions of Tetra Tech and subcontractor personnel during emergency actions.

- Educating site workers to the hazards and control measures associated with planned activities at the site, and providing early recognition and prevention, where possible. This shall occur through site specific training and periodic safety briefings.

- Providing the necessary equipment to safely accomplish identified tasks.

- In coordination with the PNS Emergency Services this plan will be presented and exercised as deemed necessary by the Chief of the PNS Emergency Services.

2.3 EMERGENCY RECOGNITION AND PREVENTION

Site personnel should be constantly alert for indicators of potentially hazardous situations and for signs and symptoms of over exposure in themselves and others that warn of hazardous conditions. Early recognition of dangerous situations can prevent them from becoming emergency situations.

2.3.1 Recognition

Emergency situations that may be encountered during site activities will generally be recognized by visual observation. To adequately recognize chemical exposures, site personnel must have a clear knowledge of signs and symptoms of exposure associated with site contaminants (See Section 6.1 for more information on the general site contaminants). Tasks to be performed at the site, potential hazards associated with those tasks and the recommended control methods are discussed in detail in this HASP.

Additionally, early recognition of hazards will be supported by daily site surveys to eliminate any situation predisposed to an emergency. The FOL and/or the SSO will be responsible for performing surveys of work areas prior to initiating site operations and periodically while operations are being conducted. Survey findings will be documented by the FOL and/or the SSO in the Site Health and Safety logbook; however, site personnel will be responsible for reporting hazardous situations. Where potential hazards exist, Tetra Tech will initiate control measures to prevent adverse effects to human health and the environment.

The above actions will provide early recognition for potential emergency situations, and allow Tetra Tech to instigate necessary control measures. However, if the FOL and the SSO determine that control measures are not sufficient to eliminate the hazard; Tetra Tech will withdraw from the site and notify the appropriate response agencies listed in Table 2-1.

2.4 EVACUATION ROUTES, PROCEDURES, AND PLACES OF REFUGE

An evacuation will be initiated whenever recommended hazard controls are insufficient to protect the health, safety or welfare of site workers. Specific examples of conditions that may initiate an evacuation include, but are not limited to the following:

- Severe weather conditions
  - Boat will be pulled from water and taken off base.
- Fire or explosion
- Monitoring instrumentation readings indicating contamination level of greater than action level
- Evidence of personnel overexposure to potential site contaminants.

In the event of an emergency requiring evacuation, personnel will immediately stop activities and report to the designated safe place of refuge unless doing so would pose additional risks. This place of refuge will be determined by the FOL once on site and communicated to site personnel during the site specific training. The evacuation safe place of refuge will be off site. When evacuation to the primary place of

refuge is not possible, personnel will proceed to a designated alternate location and remain until further notification from the Tetra Tech FOL. Safe places of refuge will be identified prior to the commencement of site activities by the SSO and will be conveyed to personnel as part of the pre-activities training session. This information will be reiterated during daily safety meetings. Whenever possible, the safe place of refuge will also serve as the telephone communications point for that area. During an evacuation, personnel will remain at the refuge location until directed otherwise by the Tetra Tech FOL or the on-site Incident Commander of the Emergency Response Team. The FOL or the SSO will perform a head count at this location to account for and to confirm the location of site personnel. Emergency response personnel will be immediately notified of any unaccounted personnel. The SSO will document the names of personnel onsite (on a daily basis) in the site Health and Safety Logbook. This information will be utilized to perform the head count in the event of an emergency.

Evacuation procedures will be discussed during the pre-activities training session, prior to the initiation of project tasks. Evacuation routes from the site and safe places of refuge are dependent upon the location at which work is being performed and the circumstances under which an evacuation is required. Additionally, site location and meteorological conditions (i.e., wind speed and direction) may dictate evacuation routes. As a result, assembly points will be selected and communicated to the workers relative to the site location where work is being performed. Evacuation should always take place in an upwind direction from the site.

2.5 EMERGENCY CONTACTS

Prior to initiating field activities, personnel will be thoroughly briefed on the emergency procedures to be followed in the event of an accident. Table 2-1 provides a list of emergency contacts and their associated telephone numbers. This table must be posted where it is readily available to site personnel. Facility maps shall also be posted showing potential evacuation routes and designated meeting areas.

- Facility maps shall also be posted showing potential evacuation routes and designated meeting areas.

- As soon as possible, the Navy contact will be informed of any incident or accident that requires medical attention.

Any pertinent information regarding allergies to medications or other special conditions will be provided to medical services personnel. This information is listed on Medical Data Sheets filed onsite (Attachment II).

TABLE 2-1

EMERGENCY REFERENCES
PORTSMOUTH NAVAL SHIPYARD

AGENCY	TELEPHONE NUMBER
Police (Shipyard)	(207) 438-2444*
Fire Department (Shipyard) Ambulance (Shipyard)	(207) 438-2333*
Portsmouth Regional Hospital: Hospital Emergency Department Main Switchboard	 (603) 433-4042 (603) 436-5110
Poison Control Center	800-222-1222
Chemtrec	800-424-9300
National Response Center	800-424-8202
Dig Safe (Maine and New Hampshire)	888-344-7233
PNS Site Contact Matt Thyng	(207) 438-6618 – office (207) 210-4530 cell
Joe Lavoie Engineer Tech	(207) 252-0059 - cell
Navy RPM Linda Cole	(757) 341-2011 - office
Tetra Tech Project Manager Daniel Witt	(412) 921-8259 - office
Tetra Tech Project Health and Safety Officer Clyde Snyder	(412) 921-8904 - office (724) 516-0907 - cell
CLEAN Health and Safety Manager Matthew M. Soltis, CIH, CSP	(412) 921-8912- office

*Phone calls from Base phones use last 4 digits.

2.6 EMERGENCY ROUTE TO HOSPITAL

Portsmouth Regional Hospital

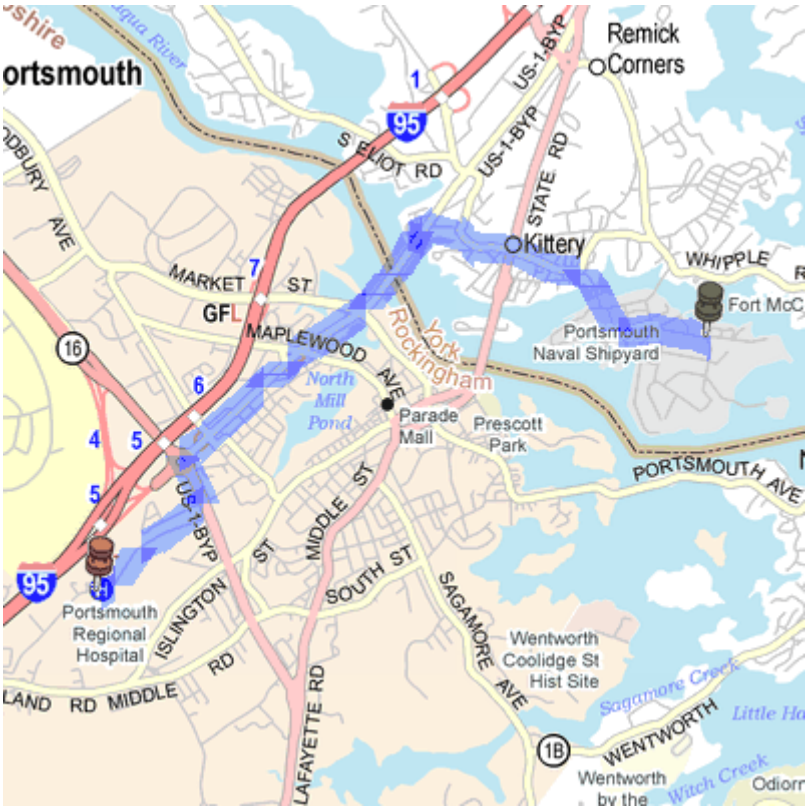
333 Borthwick Avenue

Portsmouth, NH 03801

FIGURE 2-1

ROUTE TO HOSPITAL

1) From the boat ramp head SW on Newton Street
2) Make right onto Goodrich Ave.
3) Make first right turn on to Winston St. Continue onto Sicard Street
4) Turn right at Wyman Ave.
5) Turn left at Whipple Road
6) Exit the Shipyard onto ME 236N
7) Enter underpass rotary on left side. Go under Route 1 Bypass and loop onto Route 1 Bypass South.
8) Cross bridge and continue straight to traffic circle. At traffic circle, go around to the right 270 degrees, 3/4 circle from entrance to traffic circle. Exit right.
9) At second set of traffic lights, turn right onto Borthwick Ave. Ext., precede 1/2 to 1 mile.
10) Portsmouth Regional Hospital will be on the right side.



HOSPITAL CAMPUS MAP

2.7 EMERGENCY ALERTING AND ACTION/RESPONSE PROCEDURES

Tetra Tech personnel will be working in close proximity to each other at OU4. As a result, hand signals, voice commands, and line of site communication will be sufficient to alert site personnel of an emergency. When project tasks are performed simultaneously on different sites, vehicle horns will be used to communicate emergency situations.

If an emergency warranting evacuation occurs, the following procedures are to be initiated:

- Initiate the evacuation via hand signals, voice commands, or two-way radio communication. Report to the designated refuge point.
- Once non-essential personnel are evacuated, appropriate response procedures will be enacted to control the situation.
- Describe to the FOL (FOL will serve as the Incident Coordinator) pertinent incident details.

In the event that site personnel cannot mitigate the hazardous situation, the FOL and SSO will enact emergency notification procedures by dialing the appropriate emergency number to report the incident and calling other emergency contacts listed in Table 2-1. Give the emergency operator the location of the emergency, the type of emergency, the number of injured, and a brief description of the incident. Stay on the phone and follow the instructions given by the operator. The operator will then notify and dispatch the proper emergency response agencies.

In the event that site personnel cannot mitigate the hazardous situation, the FOL and SSO will enact emergency notification procedures to secure additional assistance in the following manner:

- Call the appropriate emergency contacts (Table 2-1) and report the emergency.
- Give the emergency operator the location of the emergency, the type of emergency, the number of injured, and a brief description of what occurred.
- Stay on the phone and follow the instructions given by the operator.
- The operator will then notify and dispatch the proper emergency response agencies.

2.8 PPE AND EMERGENCY EQUIPMENT

A first-aid kit, eye wash units (or bottles of disposable eyewash solution) and fire extinguishers (strategically placed) will be maintained onsite and shall be immediately available for use in the event of an emergency. This equipment will be located in the field office as well as in each site vehicle. At least one first aid kit supplied with equipment to protect against bloodborne pathogens will also be available on

site. Personnel identified within the field crew with bloodborne pathogen and first-aid training will be the only personnel permitted to offer first-aid assistance.

2.9 DECONTAMINATION PROCEDURES / EMERGENCY MEDICAL TREATMENT

During any site evacuation, decontamination procedures will be performed only if doing so does not further jeopardize the welfare of site workers. Decontamination will be postponed if the incident warrants immediate evacuation. However, it is unlikely that an evacuation would occur which would require workers to evacuate the site without first performing the necessary decontamination procedures.

Tetra Tech personnel will perform rescue operations from emergency situations and may provide initial medical support for injury/illnesses requiring only "Basic First-Aid" level support, and only within the limits of training obtained by site personnel. One Tetra Tech field person will be required to possess First Aid training and be currently certified. Basic First-Aid is considered treatment that can be rendered by a trained first aid provider at the injury location and not requiring follow-up treatment or examination by a physician (for example; minor cuts, bruises, stings, scrapes, and burns). Not included as Basic First-Aid are second or third degree burns, cuts, lacerations requiring stitches or butterfly bandaging, heat exhaustion, severe poisonous plant or insect bite reactions. Personnel providing medical assistance are required to be trained in First-Aid. Medical attention above First-Aid level support will require assistance from the designated emergency response agencies. Attachment I provides the procedure to follow when reporting an injury/illness, and the form to be used for this purpose.

2.10 INJURY/ILLNESS REPORTING

If any Tetra Tech personnel are injured or develop an illness as a result of working on site, the Tetra Tech “Injury/Illness Procedure” (Attachment I) must be followed. Following this procedure is necessary for documenting of the information obtained at the time of the incident.

Any pertinent information regarding allergies to medications or other special conditions will be provided to medical services personnel. This information is listed on Medical Data Sheets filed onsite. If an exposure to hazardous materials has occurred, provide information on the chemical, physical, and toxicological properties of the subject chemical(s) to medical service personnel.

2.10.1 <u>TOTAL Incident Reporting System</u>

TOTAL is Tetra Tech’s new online incident reporting system. Use TOTAL to directly report health and safety incidents, notify key personnel, and initiate the process for properly investigating and addressing the causes of incidents, including near-miss events. An incident is considered any unplanned event. It

may include several types of near misses, events where no loss was incurred, or incidents that resulted in injuries or illness, property or equipment damage, chemical spills, fires, or damage to motor vehicles.

TOTAL looks like the incident reporting form in Attachment I. TOTAL is an intuitive system that will guide you through the necessary steps to report an incident within 24 hours of its occurrence. Behind the scenes, TOTAL is a powerful tool for H&S professionals, and will help Tetra Tech to better track incidents, analyze root causes, implement corrective action plans, and share lessons learned. The ultimate result is a more safe and healthy working environment for us all.

TOTAL is maintained on the Tetra Tech Intranet site at https://my.tetratech.com/

Once on the "My Tetratech" site, TOTAL can be found under the Health and Safety tab, Incident Reporting section, select "Report an Incident (TOTAL)". This will connect you directly to TOTAL. TOTAL can also be accessed directly from the internet using the following web address: http://totalhs.tetratech.com/

Note: When using the system outside the Tetra Tech intranet system or when operating in a wireless mode, a VPN connection will be required. The speed of the application may be affected dependent upon outside factors such as connection, signal strength, etc. Enter the system using your network user name and password. The user name should be in the following format - TT\nickname.lastname.

2.10.2 Portsmouth Naval Shipyard Contractor Significant Incident Report

The attached (Attachment III) Contractor Significant Incident Form (CSIR) is to be used by contractors to record the results of accident/incidents investigations and shall be provided to the contracting officer within the required timeframe.

2.11 DRILL/INCIDENT AFTER ACTION CRITIQUE

The FOL will conduct a drill or exercise to test the Emergency Action Plan. A critique with the site personnel after each drill or incident will be conducted. This critique provides a mechanism to review the incidents and exercises or drills to determine where improvements can be made. For incidents recorded in TOTAL, the FOL will utilize the Lessons Learned component for the critique.

3.0 SITE BACKGROUND

3.1 SITE DESCRIPTION AND HISTORY

Portsmouth Naval Shipyard (PNS) is a military facility with restricted access. PNS spans all of Seavey Island and is situated in a tidal estuary of the Piscataqua River, which forms a border between Maine and New Hampshire. PNS is located in the State of Maine about 1 mile north of Portsmouth, New Hampshire. The location of PNS places it at the mouth of the Great Bay Estuary (commonly referred to as Portsmouth Harbor). PNS is engaged in the conversion, overhaul, and repair of submarines for the Navy. PNS was established as a government facility in 1800, and it served as a repair and building facility for ships during the Civil War. PNS continues to service submarines as its primary military focus.

OU4 comprises areas offshore of PNS that were potentially affected by contamination from PNS onshore IR program sites. IR program sites include areas that are or have been scheduled for environmental investigations. OU4 consists of Site 5 (which is spread out over multiple locations) and six offshore areas referred to as Area of Concern (AOCs). In May 1999, an Interim Record of Decision (ROD) for OU4 (Navy, May 1999) was signed requiring the Navy to conduct monitoring in the offshore area of PNS in the interim period before completion of the offshore Feasibility Study (FS) (used to evaluate potential remedies for environmental problems) and implementation of the final remedy for OU4

These sites include discharge points (outfalls) along the Piscataqua River at the western end of PNS in the dry dock area. The outfalls are believed to have been used from 1945 to 1975 to discharge liquid industrial wastes before the current Industrial Waste Treatment Plant was constructed. The wastewaters may have contained heavy metals (mercury, lead, cadmium, chromium, copper, and zinc), oils [potentially containing polychlorinated biphenyls (PCBs)] and grease. One site consists of portable oil/water tanks used along the berths and dry docks of PNS. Before 1980, acidic and alkaline cleaning solutions may have been stored in the tanks. Before 1991, wastes from numerous spills during filling of the tanks reportedly discharged into the adjacent Piscataqua River near the dry docks. In August 2001, the Decision Document for Site 26 was signed indicating that no further action under CERCLA is necessary for Site 26; therefore, Site 26 is no longer included in OU4 (Navy, August 2001). However, previous releases from Site 26 to the offshore area are being included as part of the OU4 interim monitoring investigation.

A detailed discussion of the history and background of the Portsmouth Naval Shipyard, and of the individual site areas where work activities are planned to be performed under this project, is presented in the Interim Offshore Monitoring Program Work Plan for Operable Unit 4 Revision 1. Refer to this

document for additional information, proposed sampling locations, and AOCs for offshore and referenced site locations associated with the planned work activities.

4.0 SCOPE OF WORK

This section describes the project tasks that will be performed at PNS during the investigations. Each task has been evaluated and the associated hazards and recommended control measures are provided in the Activity Hazard Analysis provided in Attachment IV of this HASP.

Activities that will be performed as part of the scope of work include:

- Mobilization and demobilization
- Sediment sampling at various locations around PNS
  - Surface sediment sampling will employ Ponar or similar dredges
  - Sediment cores will be collected using sediment core samplers
- Decontamination of sampling equipment
- IDW Management

If any changes or additions/deletions are made from this list of task, the PHSO must be contacted and this HASP amended to include the new tasks.

5.0 SUMMARY OF TASKS/HAZARDS/ASSOCIATED CONTROL MEASURES

The anticipated hazards, recommended control measures, air monitoring recommendations, required Personal Protective Equipment (PPE), and decontamination measures for each site task are discussed in detail.

As discussed earlier, a Health and Safety Guidance Manual accompanies this HASP. The manual is designed to further explain supporting programs and elements for other site-specific aspects as required by 29 CFR 1910.120. The Guidance Manual should be referenced for additional information regarding decontamination activities, emergency response, hazard assessments, hazard communication program, medical surveillance, PPE, site control measures, standard work practices, and training requirements. Many of Tetra Tech' SOPs are also provided in this Guidance Manual.

Activity Hazard Analysis (AHA) issued for sampling, surveying and mapping, and decontamination activities (see Attachment IV) using elements defined in this section.

5.1 GENERAL SAFE WORK PRACTICES

In addition to the task-specific safe work practices may be identified in the Safe Work Permit issued for this task. These safe work practices establish a pattern of general precautions and measures for reducing risks associated with hazardous site operations.

- Refrain from eating, drinking, chewing gum or tobacco, taking medication, or smoking in contaminated or potentially contaminated areas or where the possibility for the transfer of contamination exists.

- Wash hands and face prior to breaks and prior to lunch and associated hand to mouth activities.

- Keep the work area clean. Clean up spills to avoid spreading sediment all over the boat.

- Be familiar with and adhere to all instructions provided within this site-specific HASP.

- Be aware of the location of the nearest telephone and all emergency telephone numbers. See Section 2.0, Table 2-1.

- Attend briefings on anticipated hazards, equipment requirements, Activity Hazard Analysis, emergency procedures, and communication methods before going on site.

- Use the “buddy system”.

- Observe coworkers for signs of heat or cold stress.

- Inform co-workers of potential symptoms of illness, such as headaches, dizziness, nausea, or blurred vision.

5.2 WATER HAZARDS

Some of the primary hazards associated with this project are:

- Potential for boating accident
- Persons in the water
  - Drowning
  - Hypothermia
  - Slips, trips, and falls on the deck of the boat or actually falling overboard. Working on a stationary object from a rocking boat increases the potential for loss of balance and potential falls. Working both in and out of the water increases the potential for getting the deck wet thereby increasing the potential for slips and falls. If someone falls in they could be accidentally struck by the workboat or strike a building component when falling into the water. This hazard can occur every time a sampling device brings water onto the deck.

5.2.1 Planned Activities

Planned activities are to be performed by Aqua Survey, Inc. from a work boat 22 to 26-feet in length. The FOL will coordinate with Joe Lavoie to leave and store the boat on site at night. In order to safely perform the sampling activities Aqua has developed a Site Specific Health and Safety Plan for their activities (Attachment V of this HASP).

In general to avoid potential hazards associated with working over water (drowning), the field team shall:

- Employ lifelines (tie-off procedure), safety harnesses, when working along Piers and docksides that are not guarded by suitable handrails (when sampling along these areas). This will be employed for operations within 6 feet of the pier.

- When working out of the boat, shall employ U.S. Coast Guard (USCG) approved personal flotation devices (PFDs).

- Wear slip resistant footwear when sampling on the boat. Deck shoes or similar footwear intended for aquatic purposes. Steel toed work boots are not required or recommended as these may be slippery on the boat deck and weigh you down if you go overboard.

5.2.2 U.S.C.G. Flotation Device Types

Use the following information to determine the proper type of U.S.C.G. PFD.

Off Shore Life Jacket (Type I, 22lbs buoyancy)

Type I life jacket is the best choice for rough or open waters. This type will float you the best and is favorable if rescue may be long in coming. This type will turn an unconscious person upright in the water. Though it is bulky it does have a highly visible color for easier detection.

Near Shore Buoyant Vest (Type II, 15.5lbs buoyancy)

Type II is a good choice for calmer waters. It will turn most unconscious persons face-up in the water. Though it is less bulky than Type I, it is not intended for long hours in calm or rough water.

Flotation Aid (Type III, 15.5lbs buoyancy)

Type III is probably the most comfortable device offering more freedom of movement, such as water skiing or fishing, but is not intended for rough water. Also, an unconscious person may end up face-down in the water.

Throwable Devices (Type IV)

Throwable devices are intended for calm waters with heavy boat traffic where help is always close. It is not intended for unconscious persons or non-swimmers or long hours in the water. They are good backups for the other devices.

All personnel shall wear Type III personal flotation devices at a minimum in the event someone falls overboard, boats sinks or capsizes. Type IIIs were selected as they offer the most flexibility for working while still meeting minimum requirements for buoyancy. In situations where personal flotation devices cannot be worn due to the task to be conducted, the flotation devices shall be immediately available/accessible. It is recommended that personal flotation devices be worn at all times during colder months due to the potential for hypothermia to restrict muscle movement and therefore, self rescue and maintaining buoyancy.

In addition, a single Type IV Throwable Flotation Device shall be maintained on board (as back up and as a means to extract someone who has fallen in the water) the boat with at least 90 feet of 3/8 polypropylene line.

All personnel working on waters edge (Piers and Docks) will do so using the buddy system to assist in rescue efforts, if needed.

5.2.3 U.S.C.G Boat Regulations

The Navy Dockmaster and Joe Lavoie are the ultimate authority within the boundaries of US Navy property. Access to these waters, hours of operation, when docks and Piers will be open, where the work boat can and should dock will be coordinated through him/her. In addition, the Dockmaster will inform us of any additional local restrictions. The boat will be pulled from the water each night and placed on the trailer and removed from the shipyard.

The U.S.C.G. require all boats to have the following equipment on board:

- One personal flotation device per person
- A sound producing device such as an air horn or whistle which can be heard one half mile.
- Navigation Lights - Tetra Tech, Inc. will require in addition, activity hazards lights (flashing lights) to increase visual recognition.
- Global Marine Radio
- Fire Extinguisher (At least a 3A:40B:C is recommended) Inspection must be current
  - Is the extinguisher accessible and in the location where it will be needed?
  - Is the extinguisher fully charged?
  - Have any of the tamper indicator devices missing or broken?
  - Are all personnel trained in its use (**P**ull pin. **A**im at the base of the fire. **S**queeze the lever. **S**weep side to side)
- Flash light
- Conduct man overboard drill
- At least one buoyant heaving line (minimum 15-feet in length)
- An anchor with at least 50-feet of cable/rope.
- A device (knife or axe) to cut the anchor line.

A Safe Boating Checklist is included in Attachment VI of this HASP. It must be completed prior to beginning work on the water. The completion of this attachment is not required if the Boat Operator has a Safe Vessel Certification provided by the USCG.

Security Clearance

Prior to work being performed from a water borne craft it must undergo a security clearance by PSNY Security. The craft will enter the shipyard thru the main gate and the security clearance check will be performed at that time. The vessel is not permitted to enter the shipyard by water.

Vessel Registration

All vessels, whether commercial or recreational, must be registered if it is equipped with any kind of primary or auxiliary mechanical propulsion; and currently documented with the U. S. Coast Guard.

Reckless and Negligent Operation

Negligent or grossly negligent operation of a vessel which endangers lives and/or property is prohibited by law. A civil penalty may be imposed by the Coast Guard for this offense under federal laws. An operator may be subjected to a fine of up to $5,000 and or imprisonment for up to one year, or both.

Some examples of actions that may constitute negligent or grossly negligent operation include but are not limited to:

- Operating under the influence of alcohol or drugs.
- Excessive speed in the vicinity of other boats or in dangerous waters.
- Bowriding, also riding on seatback, gunwale or transom.

Termination of Use

A Coast Guard official observing a boat being operated in an unsafe condition and who determines that an especially hazardous condition exists may direct the operator to take immediate steps to correct the condition, including returning to port. Termination for unsafe use may be imposed for, but is not limited to:

- Insufficient number of USCG approved Personal Flotation Devices.
- Insufficient fire extinguishers.
- Overloading beyond manufacturer's recommended safe loading capacity.
- Improper navigation light display.

- Ventilation requirements for tank and engine spaces not met.
- Fuel leakage.
- Fuel in bilges.
- Improper backfire flame control.

Boating Accident Reports

The operator of any boat involved in an accident must stop, render assistance, and offer identification. An accident report must be made within 48 hours if:

- A person dies within 24 hours;
- A person loses consciousness or receives medical treatment beyond first aid or is disabled more than 24 hours;
- A person disappears from the vessel under circumstances that indicate death or injury.

Accidents must be reported within 10 days if damage to all vessels and other property totals more than $500.00 or an earlier report is not required. Running aground or hitting a fixed or floating object is considered a boating accident.

Rendering Assistance

Federal law requires the operator of a vessel to provide assistance that can be safely provided to any individual in danger on the water. Persons who fail to provide assistance may be subject to fine or imprisonment.

<u>Safe Boating Practices:</u>

The following are recommended safe boating practices to be employed prior to the commencement of sediment sampling. Ensure that:

- Fuel tanks are full
  - Boat will not be re-fueled on shipyard property
- The fuel line and gas tanks are not leaking
- Battery is charged
- If it is an enclosed engine compartment make sure it is free of fumes
- Motor in good operating condition
- Lights and horn are in working order

- Boat is checked for leaks
- Weather and water conditions suitable for the planned activity
- All gear and supplies properly stowed and secure
- Propeller in good condition, lower unit free of weeds and debris
- Passengers are briefed on emergency procedures--their PFDs should be checked for fit
- Operator alert, sober and ready
- The float plan is filed with the Navy Dockmaster or at a minimum verbal notification as to the area of operation for that day.
- Someone else knows how to operate the boat
- Be observant for other boats and/or subsurface obstacles.
- You do not moor to a navigation aid or regulatory marker is illegal.
- You understand the rules that describe who has the "right of way" for specific situations. When in doubt, "give way."

6.0 CHEMICAL HAZARD INFORMATION/ASSESSMENT

6.1 SITE CONTAMINANTS

A wide range of chemicals were identified during previous sampling on the site, including:

- Various Metals
- PAHs
- Pesticides and PCBs

Previous investigations indicate that these chemical contaminants are in relatively low concentrations. While theses concentrations may threaten marine ecosystems, exposure of site personnel via inhalation is considered negligible to non-existent. This assumption is based on the concentration as well as the fact that the samples will be collected in a wet condition, it is not anticipated that any airborne particulates will be generated during these activities.

It should be well understood that ingestion and dermal contact are still possible routes of exposure.

6.1.1 Metals

Metals within the sediments will be indistinguishable from the sediments. Specific toxicities and hence symptoms vary to somewhat extent between individual metal compounds and associated isomers. However, general toxicities exist that can be applied to the general category of metals. For instance the metals are considered kidney toxins. Other generalized effects have shown demonstrated impacts on the peripheral and central nervous systems, blood forming mechanisms, gastrointestinal disturbances, cardio and vascular toxicities and some are cancer causing agents. Generally, in a particulate form, metals will cause respiratory, dermal, and eye irritation. Acute symptoms associated with ingestion include stomach pain, cramps, headaches, possibly diarrhea and vomiting. These conditions are typically symptomatic of chronic exposure or acute exposure to high concentrations which are not anticipated at this site.

Overexposure to these substances as indicated above typically occurs through ingestion or inhalation of particulates and/or fumes found within some industrial settings. The majority of the available toxicological information has been derived from such settings. In this investigation, potential exposure to these compounds are greatly reduced if not eliminated based on the media in which the contaminants exist. The mobility of these substances are greatly reduced as they are commingled and bound with soil particulates, sediments, as well as underwater. This aspect greatly reduces the mobility of the metals and thereby has a direct impact on the exposure through inhalation. Ingestion possibilities still exist. Exposure

via this route is generally facilitated through contaminated hand or glove to mouth contact or to some media which eventually contacts the mouth. This exposure route can also be controlled and thereby minimize exposure potential. Actions include the use of gloves, good work hygiene practices, and through the employment of a suitable decontamination procedure.

These compounds will not have a distinct look, odor, or other physical characteristic.

6.1.2 Polycyclic Aromatic Hydrocarbons (PAHs)

These substances include anthracene, benzo[a]anthracene, benzo[a]pyrene, chrysene, fluroanthene Acute exposures may result in difficulty breathing, respiratory failure and skin and eye burns. Chronic exposure may damage the liver, kidneys, lungs and skin. Many of these substances are recognized for their cancer causing properties. Overexposure to these substances has shown to be a skin, eye, and mucous membrane irritant. Some of these substances are considered a photosensitizer and mild allergen and considered mildly to moderately toxic by ingestion. The majority of these substances are petroleum based pitch which is considered insoluble. These substances will commingle with soils and sediments which minimizes mobility and exposure potential. Ingestion exposure routes still exist. But this route can be controlled through use of PPE, good work hygiene practices, and diligent application of decontamination procedures.

6.1.3 PCBs/Pesticides (Insecticides/Herbicides)

These substances exercise general toxicities on the Central Nervous Systems, Liver, Kidneys, and skin. The function of pesticides and herbicides are typically to disrupt operations on a molecular level through enzyme inhibition or binding. PCBs are typically employed as dielectric fluids to control heat within transformers and capacitors (typical in a location where welding is performed). Due to the bioaccumulative properties and persistance within the environment these substances were eventually discontinued from use. Acute signs and symptoms are:

- Skin eruptions – chloroacne (yellow pustules similar to acne) associated with PCBs and some herbicides
- CNS/Neuromuscular symptoms include headaches, fatigue, dizziness, muscle twitching, tremors, convulsions, weakness or numbness of the arms or legs, as well as, disturbed equilibrium.

These signs and symptoms are associated with acute poisoning and are not anticipated within this environmental setting. PCBs have been implicated as a potential carcinogen.

As with metals and PAHs, the exposure mechanism and route of exposure are adversely impacted. Many of these substance bind to soil and sediment particulates. Ingestion is the primary concern and can be minimized if not eliminated following the precautions stated below.

6.1.4 Exposure Potential

None of the potential contaminants listed above present a reasonable occupational exposure concern via inhalation when collected from the water. In this case, potential dust evolution is minimized and exposure is not anticipated, provided good work hygiene practices are employed including:

- Changing out gloves regularly.
- Minimizing the potential for splash when collecting the sample media. Cleaning up incidental splashes.
- Keeping sample media contained within secondary containment tubs.
- Minimizing hand to mouth activities with dirty hands or gloved hands. Washing hands and face before breaks and lunch when hand to mouth activities are conducted.
- Employing diligent decontamination practices for persons and equipment.
- General housekeeping

6.2 NATURAL HAZARDS

6.2.1 Inclement Weather

All of the project tasks under this Scope of Work will be performed outdoors. As a result, inclement weather (electrical storms, tornadoes, hurricanes, etc.) may be encountered. In the event that adverse weather conditions arise, the FOL and/or the SSO will be responsible for temporarily suspending or terminating activities until hazardous conditions no longer exist. In the event of severe weather conditions, the boat will be directed to shore so that all may disembark and report to a safe location within suitable shelter (preferably in a facility building). In the event of an electrical storm, immediate stop site activities and report to a safe location such as a building.

These are examples of these practices. Diligent employment of these practices will minimize the potential exposure concern through ingestion.

7.0 AIR MONITORING

The contaminants of concern previously detected at the site are not readily detected using direct read air monitoring instruments. Contaminants of concern were previously detected at low concentrations that are unlikely to pose a significant exposure threat to site personnel via inhalation, negating the need to monitor airborne concentration.

Additionally, several site activities will involve collecting samples that will be wet and/or saturated with water which will further minimize the exposure potential. Therefore, air monitoring **will not** be performed as part of the activities being performed under this HASP.

The FOL will have the authority to implement the use of monitoring instruments if situations dictate or sampling analysis indicates the presence of volatile contaminants. Changes in the air monitoring strategy shall be coordinated with the PHSO.

8.0 TRAINING/MEDICAL SURVEILLANCE REQUIREMENTS

8.1 INTRODUCTORY/REFRESHER/SUPERVISORY TRAINING

This section specifies health and safety training and medical surveillance requirements for both Tetra Tech and subcontractor personnel participating in on site activities.

8.1.1 Requirements for Tetra Tech, Inc. and Subcontractor Personnel

Tetra Tech and subcontractor personnel who will engage in field associated activities as described in this HASP must have:

- Completed 40 Hours of introductory hazardous waste site training 24-Hours Occasional Site Worker without respiratory protection or equivalent work experience as defined in OSHA Standard 29 CFR 1910.120(e). If the recipient has recently had 40-Hours of training documented 3-days of on-site supervision (OJT) is required.
- Completed 8-Hour Refresher Training, if the identified persons had introductory training more than 12 months prior to site work.
- Completed 8-Hour Supervisory training in accordance with 29 CFR 1910.120(e)(4), if their assigned function will involve the supervision of subordinate personnel.

Documentation of introductory training or equivalent work experience, supervisory, and refresher training as well as site-specific training will be maintained at the site. Copies of certificates or other official documentation will be used to fulfill this requirement.

These training requirements will be required unless subcontractors meet and are granted the exception requirements as stated in Section 8.4.

8.2 SITE-SPECIFIC TRAINING (1910.120)

Tetra Tech will provide site-specific training to Tetra Tech employees and subcontractor personnel who will perform work on this project.

Figure 8-1 will be used to document the provision and content of the project-specific and associated training. Site personnel will be required to sign this form prior to commencement of site activities.

Tetra Tech will conduct a pre-activities training session prior to initiating site work. Additionally, a brief meeting will be held daily to discuss operations planned for that day. At the end of the workday, a short meeting may be held to discuss the operations completed and any problems encountered. This activity will be supported through the use of a Safe Work Permit System (See Section 10.2).

8.2.1 Additional Specialty Training Requirements

In addition to the aforementioned requirements, the Subcontractor personnel as it pertains to the identified field tasks will provide the boat and a boat operator to support the sediment sampling. These individuals will provide

- Licensed Boat Operator (For any boats offered for charter)
- Certified Boating Safety Course or Equivalent
- Provide a Safe Vessel Certification from the USCG or complete Attachment VI (Safe Boating Checklist) to insure the vessel is safe to operate.
- Elements specified in Section 8.2.

8.3 MEDICAL SURVEILLANCE

8.3.1 Medical Surveillance Requirements for Tetra Tech and Subcontractor Personnel

Tetra Tech and subcontractor personnel participating in project field activities will have had a physical examination. Physical examinations shall meet the minimum requirements of paragraph (f) of OSHA 29 CFR 1910.120. The physical examinations will be performed to ensure that personnel are medically qualified to perform hazardous waste site work using respiratory protection (with the exception of the 24-Hour Occasional Site Worker Training).

Documentation for medical clearances will be maintained at the job site and made available, as necessary. Subcontractor personnel may use an alternative documentation for this purpose. The "Subcontractor Medical Approval Form" can be used to satisfy this requirement, or a letter from an officer of the company. The letter should state that the persons listed in the letter participate in a medical surveillance program meeting the requirements contained in paragraph (f) of Title 29 of the Code of Federal Regulations (CFR), Part 1910.120, entitled "Hazardous Waste Operations and Emergency Response." The letter should further state the following:

- The persons listed have had physical examinations under this program within the frequency as determined sufficient by their occupational health care provider

- Date of the exam

- The persons identified have been cleared, by a licensed physician, to perform hazardous waste site work. In the case of 40-Hour trained personnel the additional provision will be identified that they will also be able to perform this work wearing positive- and negative- pressure respiratory protection.

A sample Subcontractor Medical Approval Form and form letter have been provided to eligible subcontractors in the Bid Specification package.

These medical surveillance requirements will be required unless subcontractors meet and are granted the exception requirements as stated in Section 8.4.

8.3.2 Requirements for Field Personnel

Each field team member, including subcontractors and visitors, entering the exclusion zone(s) shall be required to complete and submit a copy of the Medical Data Sheet that is available in Attachment II of this HASP. This shall be provided to the SSO, prior to participating in site activities. The purpose of this document is to provide site personnel and emergency responders with additional information that may be necessary in order to administer medical attention.

8.4 SUBCONTRACTOR EXCEPTION

If through the execution of their contract elements the subcontractor will not enter the exclusion zone and there is no potential for exposure to site contaminants, subcontractor personnel may be exempt from the training and medical surveillance requirements with the exception of Section 8.2. Examples of subcontractors who may qualify as exempt from training and medical surveillance requirements may include surveyors who perform surveying activities in site perimeter areas or areas were there is no potential for exposure to site contaminants and support or restoration services or boat operators and deckhands who by way of their duties will not come in contact with contaminated media. **Use of this Subcontractor Exception is strictly limited to the authority of the CLEAN Health and Safety Manager.**

FIGURE 8-1

SITE-SPECIFIC TRAINING DOCUMENTATION

My signature below indicates that I am aware of the potential hazardous nature of performing field investigation activities at Portsmouth Naval Ship Yard, Operating Unit 4, Kittery Maine and that I have received site-specific training that included the elements presented below:

- Names of designated personnel and alternates responsible for site safety and health
- Safety, health, and other hazards present on site
- Use of personal protective equipment
- Safe use of engineering controls and equipment
- Medical surveillance requirements
- Signs and symptoms of overexposure
- Contents of the Health and Safety Plan
- Emergency response procedures (evacuation and assembly points)
- Incipient response procedures
- Review of the contents of relevant Material Safety Data Sheets
- Review of the use of Activity Hazard Analysis
- Stop Work Procedures

I have been given the opportunity to ask questions and that my questions have been answered to my satisfaction and that the date of my training and my medical surveillance requirements indicated below are accurate.

Name (Printed and Signature)	Site-Specific Training Date	40-Hour Training (Date)	8-Hour Refresher Training (Date)	8-Hour Supervisory Training (Date)	Medical Exam

Instructor(s):_____

_____

9.0 SPILL CONTAINMENT PROGRAM

Project activities will not require significant quantities of potentially hazardous materials to be handled. Sampling media to be collected will include small quantities of decontamination fluids, which do not constitute a spill hazard which could potentially harm human health or the environment. As a result, a Spill Containment Program will not be necessary for planned site activities.

General refuse (including PPE) will be collected in garbage bags and disposed of in a PNS approved dumpster.

Note: The Aqua Survey, Inc boat will be required to be equipped with booming equipment in the event of an accidental spill such as a ruptured fuel tank.

10.0 SITE CONTROL

This section outlines the means by which Tetra Tech will delineate work zones and use these work zones in conjunction with decontamination procedures to prevent the spread of contaminants into previously unaffected areas of the site. Planned work will be conducted on or near water, and will involve minimal potential for exposure to site contaminants. The "concept" of a three-zone approach (routinely used in hazardous waste activities conducted on-shore) will not be used during work at this site due to a somewhat cramped working area.

10.1 EXCLUSION ZONE

For all intensive purposes the sampling area within a designated portion of the boat shall serve as the exclusion zone.

- Sediment sampling. The exclusion zone for this activity will be set at immediately surrounding the sample processing point.

- Decontamination operation. This operation will be conducted on the boat. The exclusion zone for this activity will be set at the location employed for this purpose.

As sampling and decontamination is conducted, dedicated sampling devices and PPE will be washed of gross contamination, removed, separated, and bagged. Reusable equipment will be rinsed of sediment within the water (over the side of the boat). Proper decontamination will then proceed as discussed in Section 5.6. Personnel will use hygienic wipes, such as Handy Wipes. At the first available opportunity personnel will wash their face and hands. This is critical prior to breaks and lunch when contamination can be transferred to the mouth through hand to mouth contact.

10.2 CONTAMINATION REDUCTION ZONE

The CRZ is the buffer area between the Exclusion Zone and any area of a site where contamination is not suspected. Given the nature of planned site activities, all decontamination will occur immediately adjacent to sampling points (i.e., in the boat at the time of sample acquisition). The establishment of a formal CRZ, therefore, is not necessary. Personnel will take every reasonable precaution to contain any media or biota potentially contaminated to prevent further spread of contamination.

10.3 SUPPORT ZONE

The Support Zone is the staging area where site vehicles will be parked, equipment will be unloaded, and where food and drink containers will be maintained. For this project the Support Zone will be considered the on-shore areas where exposure to site contaminants would not be expected during normal working conditions or foreseeable emergencies. A formal Support Zone will not be established given the nature of site activities.

10.4 SITE VISITORS

Site visitors for the purpose of this document are identified as representing the following groups of individuals:

- Personnel invited to observe or participate in operations by Tetra Tech
- Regulatory personnel (EPA, OSHA, etc.)
- PNS and other authorized personnel

All site visitors will be routed to the FOL, who will sign them into the field logbook. Information to be recorded in the logbook will include the individual's name (proper identification required), the entity which they represent, and the purpose of the visit. Once the above items have been documented for each visitor, he/she will be permitted to enter the operational zone. All visitors are required to observe the protective equipment and site restrictions in effect at the site at the time of their visit. Any and all visitors not meeting the requirements stipulated in this plan will not be permitted to enter the site operational zones during planned activities. Any incidence of unauthorized site visitation will cause the termination of all onsite activities until the unauthorized visitor is removed from the premises. Removal of unauthorized visitors will be accomplished with support from the FOL or on-site security personnel.

10.5 SITE SECURITY

Site security will be accomplished using existing base security resources and procedures, supplemented by Tetra Tech or subcontractor personnel, if necessary. Tetra Tech will retain control over active operational areas. The first line of security will take place at the base boundaries restricting the general public. The second line of security will take place at the work site referring interested parties to the FOL. The FOL will serve as a focal point for site personnel, and will serve and the final line of security and the primary enforcement contact.

10.6 BUDDY SYSTEM

Personnel engaged in onsite activities will practice the "buddy system" to ensure the safety during this operation.

10.7 MATERIAL SAFETY DATA SHEET (MSDS) REQUIREMENTS

Tetra Tech and subcontractor personnel will provide MSDSs for all chemicals brought on site. The contents of these documents will be reviewed by the FOL with the user(s) of the chemical substances prior to any actual use or application of the substances on site. A chemical inventory of all chemicals used on site will be developed using Section 5.0 of the Health and Safety Guidance Manual. The MSDSs will then be maintained in a central location and will be available for anyone to review upon request.

10.8 COMMUNICATION

Site personnel will be working in close proximity (in the same boat) during proposed field activities. In the event that site personnel are in isolated areas or are separated by significant distances, a supported means of communication between field crews will be utilized.

The boat employed for sampling will be equipped with a Global Marine Radio/Equivalent to maintain communication with the Navy Dockmaster or applicable authority. Cellular phones will be used to contact emergency services as necessary. Prior to the commencement of site activities, the FOL will determine and arrange for telephone communications, if it is determined a cellular means will not be used.

10.9 ACTIVITY HAZARD ANALYSIS

Work conducted in support of this project will be performed using AHAs to guide and direct field crews on a task by task basis. It is the SSO's responsibility review the AHA with the field personnel.

11.0 CONFINED SPACE ENTRY

It is not anticipated, under the proposed scope of work, that confined space and permit-required confined space activities will be conducted. **Therefore, personnel under the provisions of this HASP are not allowed, under any circumstances, to enter confined spaces**.

A confined space is a space that:

- Is large enough and so configured that an employee can bodily enter and perform assigned work,
- Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry), and
- Is not designed for continuous employee occupancy.

A Permit-Required Confined Space is a confined space that:

- Contains or has a potential to contain a hazardous atmosphere, or
- Contains a material that has the potential to engulf an entrant, or
- Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section, or
- Contains any other recognized, serious, safety or health hazard.

For further information on confined space, consult the Health and Safety Guidance Manual or call the PHSO. If confined space operations are to be performed as part of the scope of work, detailed procedures and training requirements will have to be addressed.

12.0 MATERIALS AND DOCUMENTATION

The Tetra Tech FOL shall ensure the following materials/documents are taken to the project site and used when required.

- A complete copy of this HASP (Signed)
- Health and Safety Guidance Manual
- Incident Reports
- Medical Data Sheets (multiple copies)
- Material Safety Data Sheets for all chemicals brought on site, including decon solutions, fuels, lime, sample preservatives, calibration gases, etc.
- A full-size OSHA Job Safety and Health Poster (see Attachment VII)
- Training/Medical Surveillance Documentation Form (Blank) (multiple copies)
- Emergency Reference Information (Section 2.0, extra copy for posting)

12.1 MATERIALS TO BE POSTED OR MAINTAINED AT THE SITE

The following documentation is to be posted or maintained at the site for quick reference purposes. In situations where posting of these documents is not feasible (such as no office trailer), these documents should be filed in a transportable file container and immediately accessible. The file should remain in the FOL's possession.

Chemical Inventory Listing (posted) - This list represents all chemicals brought on site, including decontamination solutions, sample preservatives, fuel, calibration gases, etc.. This list should be posted in a central area.

Material Safety Data Sheets (MSDSs) (maintained) - The MSDSs should also be in a central area accessible to all site personnel. These documents should match all the listings on the chemical inventory list for all substances employed on site. It is acceptable to have these documents within a central folder and the chemical inventory as the table of contents.

The OSHA Job Safety & Health Protection Poster (posted) - This poster, as directed by 29 CFR 1903.2 (a)(1), should be conspicuously posted in places where notices to employees are normally posted. Each FOL shall ensure that this poster is not defaced, altered, or covered by other material.

Site Clearance (maintained) - This is found within the training section of the HASP (See Figure 8-1). This list identifies all site personnel, dates of training (including site-specific training), and medical surveillance and indicates not only clearance but also status. If personnel do not meet these requirements, they do not enter the site while site personnel are engaged in activities.

Emergency Phone Numbers and Directions to the Hospital(s) (maintained) - This list of emergency numbers and hospital directions will be maintained at all phone communications points and in each site vehicle.

Medical Data Sheets/Cards (maintained) - Medical Data Sheets will be filled out by all onsite personnel and filed in a central location. The Medical Data Sheet will accompany any injury or illness requiring medical attention to the medical facility. A copy of this sheet or a wallet card will be given to all personnel to be carried on their person.

13.0 GLOSSARY

ACGIH	American Conference of Governmental Industrial Hygienists
CFR	Code of Federal Regulations
CNS	Central Nervous System
CRZ	Contamination Reduction Zone
DOD	Department of Defense
EPA	Environmental Protection Agency
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations and Emergency Response
N/A	Not Available
NIOSH	National Institute Occupational Safety and Health
OSHA	Occupational Safety and Health Administration (U.S. Department of Labor)
PEL	Permissible Exposure Limit
PHSO	Project Health and Safety Officer
PM	Project Manager
PPE	Personal Protective Equipment
SSO	Site Safety Officer
STEL	Short Term Exposure Limit

ATTACHMENT I

INCIDENT REPORT FORM

TETRA TECH, INC.
Safety Excellence

TETRA TECH, INC.
INCIDENT REPORT

Report Date	Report Prepared By	Incident Report Number

INSTRUCTIONS:

All incidents (including those involving subcontractors under direct supervision of Tetra Tech personnel) must be documented on the IR Form.

Complete any additional parts to this form as indicated below for the type of incident selected.

TYPE OF INCIDENT (Check all that apply)	Additional Form(s) Required for this type of incident
Near Miss (No losses, but could have resulted in injury, illness, or damage)	☐ Complete IR Form Only
Injury or Illness	☐ Complete Form IR-A; Injury or Illness
Property or Equipment Damage, Fire, Spill or Release	☐ Complete Form IR-B; Damage, Fire, Spill or Release
Motor Vehicle	☐ Complete Form IR-C; Motor Vehicle

INFORMATION ABOUT THE INCIDENT

Description of Incident

_____

_____

_____

_____

Date of Incident	Time of Incident
	_____ AM ☐ PM ☐ *OR* Cannot be determined ☐
Weather conditions at the time of the incident	**Was there adequate lighting?**
	_____ Yes ☐ No ☐

Location of Incident

_____ Was location of incident within the employer's work environment? Yes ☐ No ☐

Street Address	City, State, Zip Code and Country
Project Name	**Client:**
Tt Supervisor or Project Manager	**Was supervisor on the scene?**
	Yes ☐ No ☐

WITNESS INFORMATION (attach additional sheets if necessary)

Name	Company
Street Address	**City, State and Zip Code**

Telephone Number(s)

CORRECTIVE ACTIONS

Corrective action(s) immediately taken by unit reporting the incident:

_____

_____

_____

_____

Corrective action(s) still to be taken (by whom and when):

_____

_____

_____

_____

ROOT CAUSE ANALYSIS LEVEL REQUIRED

Root Cause Analysis Level Required: Level - 1 ☐ Level - 2 ☐ None ☐

Root Cause Analysis Level Definitions

Level - 1	**Definition:** A Level 1 RCA is conducted by an individual(s) with experience or training in root cause analysis techniques and will conduct or direct documentation reviews, site investigation, witness and affected employee interviews, and identify corrective actions. Activating a Level 1 RCA and identifying RCA team members will be at the discretion of the Corporate Administration office. The following events may trigger a Level 1 RCA: ▪ Work related fatality ▪ Hospitalization of one or more employee where injuries result in total or partial permanent disability ▪ Property damage in excess of $75,000 ▪ When requested by senior management
Level - 2	**Definition:** A Level 2 RCA is self performed within the operating unit by supervisory personnel with assistance of the operating unit HSR. Level 2 RCA will utilize the 5 Why RCA methodology and document the findings on the tools provided. The following events will require a Level 2 RCA: ▪ OSHA recordable lost time incident ▪ Near miss incident that could have triggered a Level 1 RCA ▪ When requested by senior management

Complete the Root Cause Analysis Worksheet and Corrective Action form. Identify a corrective action(s) for each root cause identified within each area of inquiry.

NOTIFICATIONS

Title	Printed Name	Signature	Telephone Number	Date
Project Manager or Supervisor				
Site Safety Coordinator or Office H&S Representative				
Operating Unit H&S Representative				
Other: _____				

The signatures provided above indicate that appropriate personnel have been notified of the incident.

INSTRUCTIONS:

Complete all sections below for incidents involving injury or illness.
Do NOT leave any blanks.
Attach this form to the IR FORM completed for this incident.

Incident Report Number: (From the IR Form)	

EMPLOYEE INFORMATION

Company Affiliation

Tetra Tech Employee? ☐ TetraTech subcontractor employee (directly supervised by Tt personnel)? ☐

Full Name	**Company (if not Tt employee)**
Street Address, City, State and Zip Code	**Address Type**
_____	Home address (for Tt employees) ☐
_____	Business address (for subcontractors) ☐

Telephone Numbers

Work: _____	Home: _____	Cell: _____

Occupation (regular job title)	**Department**
Was the individual performing regular job duties?	**Time individual began work**
Yes ☐ No ☐	_____ AM ☐ PM ☐ *OR* Cannot be determined ☐

Safety equipment

Provided? Yes ☐ No ☐

Used? Yes ☐ No ☐ If no, explain why

_____

_____

_____

Type(s) provided:
- ☐ Hard hat
- ☐ Protective clothing
- ☐ Gloves
- ☐ High visibility vest
- ☐ Eye protection
- ☐ Fall protection
- ☐ Safety shoes
- ☐ Machine guarding
- ☐ Respirator
- ☐ Other (list)

_____

NOTIFICATIONS

Name of Tt employee to whom the injury or illness was first reported	**Was H&S notified within one hour of injury or illness?**
	Yes ☐ No ☐
Date of report	**H&S Personnel Notified**
Time of report	**Time of Report**

If subcontractor injury, did subcontractor's firm perform their own incident investigation?

Yes ☐ No ☐ If yes, request a copy of their completed investigation form/report and attach it to this report.

INJURY / ILLNESS DETAILS

What was the individual doing just before the incident occurred? Describe the activity as well as the tools, equipment, or material the individual was using. Be specific. Examples: “Climbing a ladder while carrying roofing materials”; “Spraying chlorine from a hand sprayer”; “Daily computer key-entry”

_____

_____

_____

What Happened? Describe how the injury occurred. Examples: “When ladder slipped on wet floor and worker fell 20 feet”; “Worker was sprayed with chlorine when gasket broke during replacement”; Worker developed soreness in wrist over time”

_____

_____

_____

_____

Describe the object or substance that directly harmed the individual: Examples: “Concrete floor”; “Chlorine”; “Radial Arm Saw”. If this question does not apply to the incident, write “Not Applicable”.

_____

_____

MEDICAL CARE PROVIDED

Was first aid provided at the site: Yes ☐ No ☐ If yes, describe the type of first aid administered and by whom?

_____

Was treatment provided away from the site: Yes ☐ No ☐ If yes, provide the information below.

Name of physician or health care professional	**Facility Name**
Street Address, City State and Zip Code	**Type of Care?**
_____ _____	Was individual treated in emergency room? Yes ☐ No ☐ Was individual hospitalized overnight as an in-patient? Yes ☐ No ☐ Did the individual die? Yes ☐ No ☐ If yes, date: _____ Will a worker’s compensation claim be filed? Yes ☐ No ☐
Telephone Number	

NOTE: Attach any police reports or related diagrams to this report.

SIGNATURES

I have reviewed this report and agree that all the supplied information is accurate

Affected individual (print)	**Affected individual (signature)**	**Telephone Number**	**Date**

This form contains information relating to employee health and must be used in a manner that protects the confidentiality of the employee to the extent possible while the information is being used for occupational safety and health purposes.

INSTRUCTIONS:

Complete all sections below for incidents involving property/equipment damage, fire, spill or release.
Do NOT leave any blanks.
Attach this form to the IR FORM completed for this incident.

Incident Report Number: (From the IR Form)	

TYPE OF INCIDENT (Check all that apply)

Property Damage ☐ Equipment Damage ☐ Fire or Explosion ☐ Spill or Release ☐

INCIDENT DETAILS

Results of Incident: Fully describe damages, losses, etc.

_____

_____

_____

Response Actions Taken:

_____

_____

_____

Responding Agency(s) (i.e. police, fire department, etc.)	**Agency(s) Contact Name(s)**

DAMAGED ITEMS (List all damaged items, extent of damage and estimated repair cost)

Item:	**Extent of damage:**	**Estimated repair cost**

SPILLS / RELEASES (Provide information for spilled/released materials)

Substance	**Estimated quantity and duration**	**Specify Reportable Quantity (RQ)**
		_____ Exceeded? Yes ☐ No ☐ NA ☐

FIRES / EXPLOSIONS (Provide information related to fires/explosions)

Fire fighting equipment used? Yes ☐ No ☐ If yes, type of equipment: _____

NOTIFICATIONS

Required notifications	**Name of person notified**	**By whom**	**Date / Time**
Client: _____ Yes ☐ No ☐			
Agency: _____ Yes ☐ No ☐			
Other: _____ Yes ☐ No ☐			

Who is responsible for reporting incident to outside agency(s)? Tt ☐ Client ☐ Other ☐ Name: _____

Was an additional written report on this incident generated? Yes ☐ No ☐ If yes, place in project file.

INSTRUCTIONS:

Complete all sections below for incidents involving motor vehicle accidents. Do NOT leave any blanks. Attach this form to the IR FORM completed for this incident.

Incident Report Number: (From the IR Form)	

INCIDENT DETAILS

Name of road, street, highway or location where accident occurred	**Name of intersecting road, street or highway if applicable**

County	**City**	**State**

Did police respond to the accident?	**Did ambulance respond to the accident?**
Yes ☐ No ☐	Yes ☐ No ☐
Name and location of responding police department	**Ambulance company name and location**
Officer's name/badge #	

Did police complete an incident report? Yes ☐ No ☐ If yes, police report number: _____

Request a copy of completed investigation report and attach to this form.

VEHICLE INFORMATION

How many vehicles were involved in the accident? _____ (Attach additional sheets as applicable for accidents involving more than 2 vehicles.)

Vehicle Number 1 – Tetra Tech Vehicle		**Vehicle Number 2 – Other Vehicle**	
Vehicle Owner / Contact Information		**Vehicle Owner / Contact Information**	
Color		**Color**	
Make		**Make**	
Model		**Model**	
Year		**Year**	
License Plate #		**License Plate #**	
Identification #		**Identification #**	
Describe damage to vehicle number 1		**Describe damage to vehicle number 2**	
Insurance Company Name and Address		**Insurance Company Name and Address**	
Agent Name		**Agent Name**	
Agent Phone No.		**Agent Phone No.**	
Policy Number		**Policy Number**	

DRIVER INFORMATION

Vehicle Number 1 – Tetra Tech Vehicle		Vehicle Number 2 – Other Vehicle	
Driver's Name		**Driver's Name**	
Driver's Address		**Driver's Address**	
Phone Number		**Phone Number**	
Date of Birth		**Date of Birth**	
Driver's License #		**Driver's License #**	
Licensing State		**Licensing State**	
Gender	Male ☐ Female ☐	**Gender**	Male ☐ Female ☐
Was traffic citation issued to Tetra Tech driver? Yes ☐ No ☐		Was traffic citation issued to driver of other vehicle? Yes ☐ No ☐	
Citation #		**Citation #**	
Citation Description		**Citation Description**	

PASSENGERS IN VEHICLES (NON-INJURED)

List all non-injured passengers (excluding driver) in each vehicle.
Driver information is captured in the preceding section.
Information related to persons injured in the accident (non-Tt employees) is captured in the section below on this form.
Injured Tt employee information is captured on FORM IR-A

Vehicle Number 1 – Tetra Tech Vehicle		Vehicle Number 2 – Other Vehicle	
How many passengers (excluding driver) in the vehicle? ____		How many passengers (excluding driver) in the vehicle? ____	
Non-Injured Passenger Name and Address		**Non-Injured Passenger Name and Address**	
Non-Injured Passenger Name and Address		**Non-Injured Passenger Name and Address**	
Non-Injured Passenger Name and Address		**Non-Injured Passenger Name and Address**	

INJURIES TO NON-TETRATECH EMPLOYEES

Name of injured person 1				Address of injured person 1		
Age	**Gender**	**Car No.**	**Location in Car**	**Seat Belt Used?**	**Ejected from car?**	**Injury or Fatality?**
	Male ☐ Female ☐			Yes ☐ No ☐	Yes ☐ No ☐	Injured ☐ Died ☐
Name of injured person 2				**Address of injured person 2**		
Age	**Gender**	**Car No.**	**Location in Car**	**Seat Belt Used?**	**Ejected from car?**	**Injury or Fatality?**
	Male ☐ Female ☐			Yes ☐ No ☐	Yes ☐ No ☐	Injured ☐ Died ☐

OTHER PROPERTY DAMAGE

Describe damage to property other than motor vehicles	
Property Owner's Name	**Property Owner's Address**

COMPLETE AND SUBMIT DIAGRAM DEPICTING WHAT HAPPENED

ATTACHMENT II

MEDICAL DATA SHEET

MEDICAL DATA SHEET

This Medical Data Sheet must be completed by on-site personnel and kept in the command post during the conduct of site operations. This data sheet will accompany any personnel when medical assistance is needed or if transport to hospital facilities is required.

Project _____

Name _____ Home Telephone _____

Address _____

Age _____ Height _____ Weight _____

Person to notify in the event of an emergency: Name: _____

Phone: _____

Drug or other Allergies: _____

Particular Sensitivities : _____

Do You Wear Contacts?_____

What medications are you presently using? _____

_____

Name, Address, and Phone Number of personal physician: _____

_____

_____

Note: Health Insurance Portability and Accountability Act (HIPAA) Requirements

HIPAA took effect April 14, 2003. Loosely interpreted, HIPAA regulates the disclosure of Protected Health Information (PHI) by the entity collecting that information. PHI is any information about health status (such as that you may report on this Medical Data Sheet), provision of health care, or other information. HIPAA also requires Tetra Tech to ensure the confidentiality of PHI. This Act can affect the ability of the Medical Data Sheet to contain and convey information you would want a Doctor to know if you were incapacitated. So before you complete the Medical Data Sheet understand that this form will not be maintained in a secure location. It will be maintained in a file box or binder accessible to other members of the field crew so that they can accompany an injured party to the hospital.

DO NOT include information that you do not wish others to know, only information that may be pertinent in an emergency situation or treatment.

_____ _____ _____

Name (Print clearly) Signature Date

ATTACHMENT III

CONTRACTOR SIGNIFICANT INCIDENT FORM

☐ Initial Report
☐ Follow-up Report
☐ Final Report

Contractor Significant Incident Report (CSIR)

1. General Information

Contracting Activity/ROICC Office:

Accident Classification:

☐ Injury ☐ Fatality ☐ Environment ☐ Procedural Issues ☐ Lessons Learned
☐ Illness ☐ Property Damage ☐ Other_____

Involving:

☐ Confined Space ☐ Equip/Mrt Ver/Mat Handling (Heavy Construction Equip.) ☐ Hazardous Material
☐ Crane and Rigging ☐ Equip/Mrt Ver/Mat Handling (Material Handling) ☐ Trenching/Excavation
☐ Diving ☐ Equip/Mrt Ver/Mat Handling (Man-Lift/Elevated Platform) ☐ Waterfront/Marine
☐ Demolition/Renovation ☐ Fall from Ladder ☐ Fall from Scaffold ☐ Other_____
☐ Electrical ☐ Fall from Roof ☐ Fire

2. Personal Information

Name (Last, First, MI):	**Age:**	**Sex:**

Job Title/Description:	**Employed By:**
Supervisor Name (Last, First, MI) & Title:	**Was the person trained to perform this activity/task?** ☐ **Yes** ☐ **No**
What type of training was received (OJT, classroom, etc)?	**Date of the most recent formal training and topics discussed?**

3. Witness Information

Witness #1: Name (Last, First, MI):	**Job Title/Description:**
Employed By:	**Supervisor Name (Last, First, MI):**
Witness #2: Name (Last, First, MI):	**Job Title/Description:**
Employed By:	**Supervisor Name (Last, First, MI):**

Additional Witnesses: ☐ **Yes** ☐ **No**
(List any additional witnesses on a separate sheet and attach.)

4. Contract Information

Type of Contract:

☐ A/E ☐ BOS ☐ CLEAN ☐ Construction ☐ Design Build ☐ FSCC ☐ FSSC

☐ JOC ☐ RAC ☐ Service ☐ Other_____

Contract Number & Title:	**Industrial Group & Industrial Type:**
Prime Contractor Name/Address/Phone & Fax No:	**Sub Contractor Name/Address/Phone & FAX No:**
Safety Manager (Last, First, MI):	**Safety Manager (Last, First, MI):**
Insurance Carrier:	**Insurance Carrier:**

5. Accident Description

Date of Accident:	**Time of Accident:**	**Exact Location of Accident:**

Describe the accident in detail in your words: ***(Use the back of page if you need additional space)***

Direct Cause(s) of Accident:

Indirect Cause(s) of Accident:

Action(s) taken to prevent re-occurrence or provide on-going corrective actions:

Corrective Action Beginning Date:	**Anticipated Completion Date:**

Personal Protective Equipment:

☐ Available and used ☐ Available and not used ☐ Not Required

☐ Not related to Mishap ☐ Wrong PPE for job

List PPE Used:

Type of Construction Equipment (Make, Model, Serial #, VIN#) Involved:

Was Hazardous Material Spilled/Released? ☐ **Yes** ☐ **No**

Please List Hazardous Material(s) Involved:

Who provided first aid or cleanup of mishap site?

Any blood-borne pathogen exposure, other than EMTs? ☐ **Yes** ☐ **No**

Who?

List OSHA and WM-385-1-1 standards that were violated:

Was site secured and witness statements taken immediately? ☐ **Yes** ☐ **No**

By Whom?

6. Injury Illness/Fatality Information

Severity of Injury/Illness:

- ☐ Fatality
- ☐ Lost Workday Case Involving Days Away From Work
- ☐ Temporary Disabillity
- ☐ Recordable Workday Case Involving Restricted Duty
- ☐ Permanent Total Disability
- ☐ Other Recordable Case
- ☐ Recordable First Aid Case
- ☐ Permanent Partial Disability
- ☐ Non-Recordable Case
- ☐ No Injury

Estimated Days Lost:	**Estimated Days Hospitalized:**	**Estimated Days Restricted Duty:**

List Primary Body Part Affected:	**List Other Body Part(s) Affected:**

Nature of Injury/Illness for Primary Body Part (Examples: Amputation, Burn, Hernia):

Type of Accident (Examples: Fall same level, Lifting, Bitten, Exerted):

Source of Accident (Examples: Crane, Carbon Monoxide, Ladder, Welding Equipment):

7. Casual Factors *(Explain answers on supplementary sheet)*

• **Design – Design of facility, workplace, or equipment was a factor?**	☐ **Yes** ☐ **No**
• **Inspection/Maintenance – Inspection & Maintenance procedures were a factor?**	☐ **Yes** ☐ **No**
• **Persons Physical Condition – In your opinion, the physical condition of the person was a factor?**	☐ **Yes** ☐ **No**
• **Operation Procedures – Operating procedures were a factor?**	☐ **Yes** ☐ **No**
• **Job Practices – One or more job safety/health practices not being followed when the accident occurred contributed to the accident?**	☐ **Yes** ☐ **No**
• **Human Factors – One or more human factors, such as a person's size or strength contributed to the accident?**	☐ **Yes** ☐ **No**
• **Environmental Factors – Heat, cold, dust, sun, glare, etc., contributed to the accident?**	☐ **Yes** ☐ **No**
• **Chemical and Physical Agent Factors – Exposure to chemical agents, such as dust, fumes, mist, vapors, or physical agents such as noise, radiation, etc., contributed to the accident?**	☐ **Yes** ☐ **No**
• **Office Factors – Office setting such as lifting office furniture, carrying, stooping, contributed to the accident?**	☐ **Yes** ☐ **No**
• **Support Factors – Inappropriate tools/resources were provided to perform the task?**	☐ **Yes** ☐ **No**
• **PPE – Improper selection, use or maintenance of PPE contributed to the accident?**	☐ **Yes** ☐ **No**
• **Drugs/Alcohol – In your opinion, were drugs or alcohol a factor?**	☐ **Yes** ☐ **No**
• **Job Hazard Analysis – The lack of an adequate (IAW-EM-385-1-1 Sec 01.A) activity hazard analysis was a contributing factor.**	☐ **Yes** ☐ **No**
• **Job Hazard Analysis – JHA was not site specific and/or did not address the type of work/operations performed when the mishap occurred.**	☐ **Yes** ☐ **No**
• **Management – A lack of adequate supervision contributed to the accident.**	☐ **Yes** ☐ **No**
• **Management – Inadequate information was provided at pre con meeting.**	☐ **Yes** ☐ **No**

8. OSHA Information			
Date OSHA was Notified:	**Date(s) of Investigation:**	**Date of citation:** ***(Attach Copy)***	**Dollar amount of Penalties:**

9. Report Preparer	
Name (Last, First, MI):	**Date of Report:**
Title: **Employer:** **Phone #:**	**Signature:**

CONTRACTOR SIGNIFICANT INCIDENT REPORT (CSIR) INSTRUCTIONS

Complete Sections Appropriate to Incident (Rev. 06/02).

NOTE: THE ATTACHED CSIR FORM IS TO BE USED BY CONTRACTORS TO RECORD THE RESULTS OF THEIR ACCIDENT/INCIDENTS INVESTIGATIONS AND SHALL BE PROVIDED TO THE CONTRACTING OFFICER WITHIN THE REQUIRED TIMEFRAMES.

GENERAL. Complete a separate report for each person who was injured in the accident. A report needs to be completed for all OSHA recordable accidents, property damage in excess of $2000.00 (This amount is for record purposes only. GOV is not required to enter property damage reports into FAIR database if it is less than $10,000.00.), WHE accidents, or near miss/high visibility mishaps. Please type or print legibly. Appropriate items shall be marked with an "X" in box(es), non-applicable sections shall be marked "N/A". If additional space is needed, provide the information on a separate sheet of paper and attach to the completed form.

Mark the report:
INITIAL – If this form is being used as initial notification of a Fatality or High Visibility Mishap. The initial form is due within 4 hours of a serious accident. A form marked 'Follow-up' or 'Final' is required within 5 days.
FOLLOW-UP – If you are providing additional information on a report previously submitted.
FINAL – If you are providing a completed report and expect no changes.

SECTION 1 – GENERAL INFORMATION

CONTRACTING ACTIVITY/ROICC OFFICE - Enter the name and address of the Contracting Office administering the contract under which the mishap took place (e.g. ROICC MCBH, ROICC NORFOLK, PWC GUAM, etc.).

ACCIDENT CLASSIFICATION - INJURY/ILLNESS/FATALITY/PROPERTY DAMAGE/-PROCEDURAL ISSUES/-ENVIRONMENTAL/LESSONS LEARNED/OTHER – Mark the appropriate block(s) if the incident resulted in any of these conditions.

INVOLVING - If the mishap involved any of the conditions listed under "Involving" mark the appropriate box(es). Specific questions associated with each of these conditions are available from the Contracting Officer to assist you in your investigation. When these questions are used they shall be attached as part of this report.

SECTION 2 - PERSONAL INFORMATION

NAME - Enter last name, first name, middle initial of person involved.
AGE - Enter age.
SEX - Enter M for Male and F for Female.
JOB TITLE/DESCRIPTION - Enter the job title/description assigned to the injured person (e.g. carpenter, laborer, surveyor, etc.).
EMPLOYED BY - Enter employment company name of the person involved.
SUPERVISOR'S NAME & TITLE - Enter name and title of the immediate supervisor.
WAS PERSON TRAINED TO PERFORM ACTIVITY/TASK? - For the purpose of this section "trained" means the person has been provided the necessary information (either formal and/or on-the-job (OJT) training) to competently perform the activity/task in a safe and healthful manner.
TYPE OF TRAINING - Indicate the specific type of training (classroom or on-the-job) that the injured person received before the accident happened.
DATE OF MOST RECENT FORMAL TRAINING/TOPICS DISCUSSED - Enter the month, day, and year of the last *formal* training completed that covered the activity/task being performed at the time of the accident. List topics that were discussed at the training identified above.

SECTION 3 - WITNESS INFORMATION

The following applies to Witness #1 and Witness #2:
WITNESS NAME - Enter last name, first name, middle initial of the witness.
JOB DESCRIPTION/TITLE - Enter the job title/description assigned to the witness (e.g. carpenter, laborer, surveyor, etc.).
EMPLOYED BY - Enter the name of the employment company of the witness.
SUPERVISORS NAME - Enter name of immediate supervisor of the witness.
ADDITIONAL WITNESSES - Provide same information, as above, for each witnesses. Use additional pages if necessary.

SECTION 4 - CONTRACTOR INFORMATION

TYPE OF CONTRACT - Mark appropriate box. A/E means architect/engineer. If "OTHER" is marked, specify type of contract on line provided.
CONTRACT NUMBER/TITLE - Enter complete contract number and tile of prime contract (e.g. N62477-85-C-0100, 184 Pearl City Hsg. Revitalization).
CONSTRUCTION INDUSTRIAL GROUP AND INDUSTRIAL TYPE – This is the type of construction that will be done at this project.

1. First, you must choose the Industrial Group. You have 4 choices to choose from: (**NOTE**! Review of the Industrial Types below and knowing what the projects scope of work is will assist you in deciding what the Industrial Group should be.)

a. Buildings
b. Heavy Industrial
c. Infrastructure
d. Light Industrial

2. Once you have chosen the Industrial Group, you now select the Industrial Type. You have multiple choices under each Group, chose the one you feel fits the project most closely because on most projects there won't be an exact match:

a. Buildings:
   (1) Communications Ctr.
   (2) Dormitory/Hotel
   (3) High-rise Office
   (4) Hospital
   (5) Housing
   (6) Laboratory
   (7) Low-rise Office
   (8) Maintenance Facility
   (9) Parking Garage
   (10) Physical Fitness Ctr.
   (11) Restaurant/Nightclub
   (12) School
   (13) Warehouse
b. Heavy Industrial:
   (1) Chemical Mfg.
   (2) Electrical (Generating)
   (3) Environmental
   (4) Metals Refining/Processing
   (5) Mining
   (6) Natural Gas Processing
   (7) Oil Exploration/Production
   (8) Oil Refining
   (9) Pulp and Paper
c. Infrastructure:
   (1) Airport
   (2) Electrical Distribution
   (3) Flood Control
   (4) Highway
   (5) Marine Facilities
   (6) Navigation
   (7) Rail
   (8) Tunneling
   (9) Water/Wastewater
d. Light Industrial:
   (1) Automotive Assembly/Mfg.
   (2) Consumer Products Mfg.
   (3) Foods
   (4) Microelectronics Mfg.
   (5) Office Products Mfg.
   (6) Pharmaceuticals Mfg.

CONTRACTOR'S NAME/ADDRESS/PHONE NUMBER

(1) PRIME - Enter the exact name (title of firm), address, phone and fax numbers of the prime contractor.
(2) SUBCONTRACTOR - Enter the exact name, address, phone and fax numbers of any subcontractor involved in the accident.

SAFETY MANAGER'S NAME

(1) PRIME - Enter the name of the prime contractor safety manager.
(2) SUBCONTRACTOR - Enter the name of the subcontractors safety manager.

INSURANCE CARRIER

(1) PRIME - Enter the exact name/title of the prime's insurance company. Policy number not required.
(2) SUBCONTRACTOR - Enter the exact name of the subcontractor's insurance company. Policy number not required.

SECTION 5 - ACCIDENT DESCRIPTION

DATE OF ACCIDENT - Enter the month, day, and year of accident.
TIME OF ACCIDENT - Enter the local time of accident in military time. Example: 14:30 hrs (not 2:30 p.m.).
EXACT LOCATION OF ACCIDENT - Enter facts needed to locate the accident scene (installation/project name, building/room number, street, direction and distance from closest landmark, etc.).
DESCRIBE THE ACCIDENT IN DETAIL. Fully describe the accident in the space provided. If property damage involved, give estimated dollar amount of damage and/or repair costs involved. If additional space is needed continue on a separate sheet and attach to this report. Give the sequence of events that describe what happened leading up to and including the accident. Fully identify personnel and equipment involved and their role(s) in the accident. Ensure that relationships between personnel and

equipment are clearly specified. Ensure questions below regarding direct cause(s), indirect cause(s), and actions taken are answered. **NOTE!** Review questions in Section 7 below before completing.
DIRECT CAUSE(S) - The direct cause is that single factor which most directly lead to the accident. See examples below.
INDIRECT CAUSE(S) - Indirect cause are those factors, which contributed to, but did not directly initiate the occurrence of the accident.

Examples for Direct and Indirect Cause:
1. Employee was dismantling scaffold and fell 12 feet from unguarded opening.
Direct cause: Failure to provide fall protection at elevation
Indirect causes: Failure to enforce safety requirements: improper training/motivation of employee (possibility that employee was not knowledgeable of fall protection requirements or was lax in his attitude toward safety); failure to ensure provision of positive fall protection whenever elevated; failure to address fall protection during scaffold dismantling in phase hazard analysis.

2. Private citizen had stopped his vehicle at intersection for red light when vehicle was struck in rear by contractor vehicle. (note contractor vehicles was in proper safe working condition.)
Direct cause: Failure of contractor driver to maintain control of and stop contractor vehicle within safe distance.
Indirect cause: Failure of employee to pay attention to driving (defensive driving).

ACTION(S) TAKEN TO PREVENT RE-OCCURRENCE OR PROVIDE ON-GOING CORRECTIVE ACTIONS. Fully describe all the actions taken, anticipated, and recommended to eliminate the cause(s) and prevent reoccurrence of similar accidents/illnesses. Continue on back or additional sheets of paper if necessary to fully explain and attach to the complete report form.
CORRECTIVE ACTION DATES -
(1) Beginning - Enter the date when the corrective action(s) identified above will begin.
(2) Anticipated Completion - Enter the date when the corrective action(s) identified above will be completed.
PERSONAL PROTECTIVE EQUIPMENT (PPE) - Mark appropriate box(es) and list PPE which was being used by the injured person at the time of the accident (e.g. protective clothing, shoes, glasses, goggles, respirator, safety belt, harness, etc.)
TYPE OF CONTRACTOR EQUIPMENT - Enter the Serial Number, Model Number and specific type of equipment involved in the mishap (e.g. dump truck (off highway), crane (rubber tire), pump truck (concrete), etc.).
WAS HAZARDOUS MATERIAL SPILLED/RELEASED? - Mark appropriate block and list name(s) of any reportable quantities of hazardous materials spilled/released during the mishap.
WHO PROVIDED FIRST AID OR CLEAN-UP OF MISHAP SITE? - List name(s) of individual(s) and employer, if known.
ANY BLOOD-BORNE PATHOGEN EXPOSURE, OTHER THAN EMT? - Mark appropriate block and list name(s) of individual(s) and employer, if known.
LIST OSHA AND/OR EM 385-1-1 STANDARDS THAT WERE VIOLATED. - Self explanatory.
WAS SITE SECURED AND WITNESS STATEMENT TAKEN IMMEDIATELY? - Mark appropriate block and list by whom.

SECTION 6 - INJURY/ILLNESS/FATALITY INFORMATION

SERVERITY OF INJURY/ILLNESS – Mark appropriate box.
ESTIMATED DAYS LOST - Enter the estimated number of workdays the person will lose from work. Update when final data is known.
ESTIMATED DAYS HOSPITALIZED - Enter the estimated number of workdays the person will be hospitalized. Update when final data is known.
ESTIMATED DAYS RESTRICTED DUTY - Enter the estimated number of workdays the person, as a result of the accident, will not be able to perform all of their regular duties. Update when final data is known.
BODY PART(S) AFFECTED - Enter the most appropriate primary and when applicable, secondary, etc. body part(s) affected (e.g. arm: wrist: abdomen: single eye; jaw : both elbows: second finger: great toe: collar bone: kidney, etc.).
NATURE OF INJURY/ILLNESS FOR PRIMARY BODY PART - Enter the most appropriate nature of injury/illness (e.g. amputation, back strain, dislocation, laceration, strain, asbestosis, food poisoning, heart conditions, etc.).
TYPE AND SOURCE OF INJURY/ILLNESS - Type and Source Codes are used to describe what caused the incident.
(1) TYPE Code stands for an "Action" (Example: Worker, installing conduit, lost his balance and fell five feet from a ladder. Type Code: Fell different levels".) Select the most appropriate Type of injury from the list below:

TYPE OF INJURY/ILLNESS

STRUCK BY/AGAINST	CONTACTED CONTACTED WITH (INJURED PERSON MOVING) CONTACTED BY (OBJECT WAS MOVING)
FELL, SLIPPED, TRIPPED SAME LEVEL/DIFFERENT LEVEL/NO FALL	EXERTED LIFTED, STRAINED BY (SINGLE ACTION) STRESSED BY (REPEATED ACTION)
CAUGHT ON/IN/BETWEEN	EXPOSED INHALED/INGESTED/ABSORBED/EXPOSED TO
PUNCTURED, LACERATED PUNCTURED BY/CUT BY/STUNG BY/BITTEN BY	TRAVELING IN

(2) SOURCE Code stands for an "object or substance." (Example: Worker, installing conduit, lost his balance and fell five feet from a ladder. Source Code: "Ladder".) Select the most appropriate Source of injury from the list below:

SOURCE OF INJURY/ILLNESS

BUILDING OR WORKING AREA WALKING/WORKING AREA STAIRS/STEPS LADDER FURNITURE BOILER/PRESSURE VESSEL EQUIPMENT LAYOUT WINDOWS/DOORS ELECTRICITY	DUST, VAPOR, ETC. DUST (SILICA, COAT, ETC.) FIBERS ASBESTOS GASES CARBON MONOXIDE MIST, STEAM, VAPOR, FUME WELDING FUMES PARTICLES (UNIDENTIFIED)
ENVIRONMENT CONDITION TEMPERATURE EXTREME (INDOOR) WEATHER (ICE, RAIN, HEAT, ETC.) FIRE, FLAME, SMOTE (NOT TABACCO) NOISE RADIATION LIGHT VENTILATION TOBACCO SMOKE STRESS (EMOTIONAL) CONFINED SPACE	CHEMICAL, PLASTIC, ETC. DRY CHEMICAL - CORROSIVE DRY CHEMICAL - TOXIC DRY CHEMICAL - EXPLOSIVE DRY CHEMICAL - FLAMMABLE LIQUID CHEMICAL - CORROSIVE LIQUID CHEMICAL - TOXIC LIQUID CHEMICAL - EXPLOSIVE LIQUID CHEMICAL - FLAMMABLE PLASTIC WATER MEDICINE
MACHINE OR TOOL HAND TOOL (POWERED: SAW, GRINDER, ETC.) HAND TOOL (NON POWERED) MECHANCIAL POWER TRANSMISSION APPARATUS GUARD, SHIELD (FIXED, MOVEABLE, INTERLOCK) VIDEO DISPLAY TERMINAL PUMP, COMPRESSOR, AIR PRESSURE TOOL HEATING EQUIPMENT WELDING EQUIPMENT	INANIMATE OBJECT BOX, BARREL, ETC. PAPER METAL ITEM, MINERAL NEEDLE GLASS SCRAP, TRASH, WOOD FOOD CLOTHING, APPAREL, SHOES
MACHINE OR TOOL HAND TOOL (POWERED: SAW, GRINDER, ETC.) HAND TOOL (NON POWERED) MECHANCIAL POWER TRANSMISSION APPARATUS GUARD, SHIELD (FIXED, MOVEABLE, INTERLOCK) VIDEO DISPLAY TERMINAL PUMP, COMPRESSOR, AIR PRESSURE TOOL HEATING EQUIPMENT WELDING EQUIPMENT	INANIMATE OBJECT BOX, BARREL, ETC. PAPER METAL ITEM, MINERAL NEEDLE GLASS SCRAP, TRASH, WOOD FOOD CLOTHING, APPAREL, SHOES
VEHICLE AS DRIVER OF PRIVATELY OWNED, RENTAL VEH. AS PASSENGER OF PRIVATELY OWNED, RENTAL VEH. DRIVER OF GOVERNMENT VEHICLE PASSENGER OF GOVERNMENT VEHICLE COMMON CARRIER (AIRLINE, BUS, ETC.) AIRCRAFT (NOT COMMERCIAL) BOAT, SHIP, BARGE	ANIMATE OBJECT DOG OTHER ANIMAL PLANT INSECT HUMAN (VIOLENCE) HUMAN (COMMUNICABLE DISEASE) BACTERIA, VIRUS (NOT HUMAN CONTACT)
MATERIAL HANDLING EQUIPMENT EARTHMOVER (TRACTOR, BACKHOE, ETC.) CONVEYOR (FOR MATERIAL AND EQUIPMENT) ELEVATOR, ESCALATOR, PERSONNEL HOIST HOIST, SLING CHAIN, JACK CRANE FORKLIFT HANDTRUCK , DOLLY	PERSONAL PROTECTIVE EQUIPMENT PROTECTIVE CLOTHING, SHOES, GLASSES, GOGGLES RESPIRATOR, MASK DIVING EQUIPMENT SAFETY BELT, HARNESS PARACHUTE

SECTION 7 - CAUSAL FACTORS

Review thoroughly. Answer each question by marking the appropriate block. **NOTE!** If any answer is yes, explain in section 5 above.

(1) **DESIGN** - Did inadequacies associated with the building or work site play a role? Would an improved design or layout of the equipment or facilities reduce the likelihood of similar accidents? Were the tools or other equipment designed and intended for the task at hand?

(2) **INSPECTION/MAINTENANCE** - Did inadequately or improperly maintained equipment, tools, workplace, etc., create or worsen any hazards that contributed to the accident? Would better equipment, facility, work site or work activity inspections have helped avoid the accident?
(3) **PERSONS PHYSICAL CONDITION** - Do you feel that the accident would probably not have occurred if the employee was in "good" physical condition? If the person involved in the accident had been in better physical condition, would the accident have been less severe or avoided altogether? Was overexertion a factor?
(4) **OPERATION PROCEDURES** - Did lack of or inadequacy within established operating procedures contribute to the accident? Did any aspect of the procedures introduce any hazard to, or increase the risk associated with the work process? Would establishment or improvement of operating procedures reduce the likelihood of similar accidents?
(5) **JOB PRACTICES** - Were any of the provision of the Safety and Health Requirements Manual (EM 385-1-1) violated? Was the task being accomplished in a manner which was not in compliance with an established job hazard analysis or activity hazard analysis? Did any established job practice (including EM 385-1-1) fail to adequately address the task or work process? Would better job practices improve the safety of the task?
(6) **HUMAN FACTORS** - Was the person under undue stress (either internal or external to the job)? Did the task tend toward overloading the capabilities of the person: i.e., did the job require tracking and reacting to many external inputs such as displays, alarms, or signals? Did the arrangement of the workplace tend to interfere with efficient task performance? Did the task require reach strengths, endurance, agility, etc., at or beyond the capabilities of the employee? Was the work environment ill-adapted to the person? Did the person need more training, experience, or practice in doing the task? Was the person inadequately rested to perform safely?
(7) **ENVIRONMENTAL FACTORS** - Did any factors such as moisture, humidity, rain, snow, sleet, hail, ice, fog, cold, heat, sun temperature changes, wind, tides, floods, currents, terrain; dust, mud, glare, pressure changes, lighting, etc., play a part in the accident?
(8) **CHEMICAL AND PHYSICAL AGENT FACTORS** - Did exposure to chemical agents (either single shift exposure or long-term exposure such as dusts, fibers, (asbestos, etc.), silica, gases (carbon, monoxide, chlorine, etc.), mists, steam, vapors, fumes, smoke, other particulates, liquid or dry chemicals that are corrosive, toxic, explosive or flammable, by-products of combustion or physical agents such as noise, ionizing radiation, non-ionizing radiation (UV radiation created during welding, etc.) contribute to the accident/incident?
(9) **OFFICE FACTORS** - Did the fact that the accident occurred in an office setting or to an office worker have a bearing on its cause? For example, office workers tend to have less experience and training in performing tasks such as lifting office furniture. Did physical hazards within the office environment contribute to the hazard?
(10) **SUPPORT FACTORS** - Was the person using an improper tool for the job? Was inadequate time available or utilized to safely accomplish the task? Were less than adequate personnel resources (in terms of employee skills, number of workers, and adequate supervision) available to get the job done properly? Was funding available, utilized and adequate to provide proper tools, equipment, personnel, site preparation, etc.
(11) **PERSONAL PROTECTIVE EQUIPMENT** - Did the person fail to use appropriate personal protective equipment (gloves, eye protection, hard-toed shoes, respirator, etc) for the task or environment? Did protective equipment provided or worn fail to provide adequate protection from the hazard(s)? Did lack of or inadequate maintenance of protective gear contribute to the accident?
(12) **DRUGS/ALCOHOL** - Is there any reason to believe the person's mental or physical capabilities, judgment, etc., were impaired or altered by the use of drugs or alcohol? Consider the effects of prescription medicine and over the counter medications as well as illicit drug use. Consider the effect of drug or alcohol induced "hangovers".
(13) **JOB/ACTIVITY HAZARD ANALYSIS** - Was a written Job/Activity Analysis completed for the task being performed at the time of the accident? If one was made, did it address the hazard adequately or does it need to be updated? If none made, will one be made? These may also need to be addressed in the Corrective Actions Taken section. Mark the appropriate box. If one was made, attach a copy of the analysis to the report.
(14) **MANAGEMENT** - Did the lack of supervisor or management support play a part in the mishap? Mark the appropriate box.

SECTION - 8 OSHA INFORMATION - Complete this section if applicable

SECTION 9 - REPORT PREPARER

Providing a completed CSIR to the Contracting Officer is the PRIME CONTRACTOR'S RESPONSIBILITY. Enter the name, date of report, title, employer, phone number and signature of person completing the accident report and provide it to the Contracting Officer, or his representative, responsible for oversight of that contractor activity. **NOTE!** If prepared by other than the Prime Contractor, a person employed by the Prime Contractor must sign that they have reviewed and concur with the report and it's findings (e.g. company owner, project supervisor/foreman, Safety Officer, etc.).

ATTACHMENT IV

ACTIVITY HAZARD ANALYSIS

ACTIVITY HAZARD ANALYSIS

Activity/Work Task: Site Mobilization/Demobilization	**Notes:**
Project Location: Portsmouth Naval Shipyard, Kittery, Maine Offshore Sampling at OU4	
Contract Number: N62470-08-D-1001	
Date Prepared: 4/2011	
Prepared by: Clyde Snyder	
Reviewed by: J. Carothers	
Competent Person: Matt Shappell Aqua Survey for marine operations Shannon Hill On shore operations	

JOB STEPS	HAZARDS	CONTROLS
Mobilization / Demobilization • Assembling equipment and supplies • Performing initial/exit inspections of the intended work areas • Arranging for utilities, site access, notifying appropriate client contacts • Performing equipment inspections of vehicles and equipment arriving/preparing to depart the site • Collecting and confirming applicable worker training and medical compliance documentation	1. Water Hazards on boat 2. Minor cuts, abrasions or contusions 3. Heavy lifting (muscle strains and pulls) 4. Vehicular traffic when moving boating equipment to the support or boat ramp area	1. Conduct safe boat inspection. This must be completed prior to performing any work at this site. Use the equipment safe boating checklist for watercraft in Attachment VI. Once the equipment passes inspection the AHA for the expected task will be followed. 2. Wear cut-resistant gloves when handling items with sharp or rough edges. 3. Practice safe lifting techniques (use mechanical lifting devices such as a dolly whenever possible, ensure clear path of travel, good grasp on object, perform "test lift" to gauge ability to safely make the lift, lift with legs not back, obtain help when needed to lift large, bulky, or heavy items). 4. Designate/demarcate vehicle and equipment staging areas. Inform all site personnel of boating equipment areas and of their responsibility to stay clear of moving vehicles. In high traffic areas, wear high-visibility vests when deploying or removing boat.

ACTIVITY HAZARD ANALYSIS

JOB STEPS	HAZARDS	CONTROLS
	5. Intermittent high noise levels	5. Operators/nearby personnel are to wear hearing protection if noise levels are such that they must raise their voice in order to communicate with someone who is within arm's reach (approx. 2') of them. SSO is responsible for determining and designating when hearing protection is required. Hearing protection is to consist of either ear muffs or plugs that have a noise reduction rating (NRR) of at least 25 dB.
	6. Equipment moving parts	6. Ensure that workers are thoroughly trained and competent to perform their assigned task with the equipment used in investigation. Ensure that back-up alarms are functional on equipment. The equipment operators and on-site Supervisors responsible for the equipment are to ensure that the equipment has been inspected and accepted for onsite use. Check/test all emergency stop controls.

EQUIPMENT TO BE USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
Hand tools (dollies, hand carts, hand knives, etc.)	Visual inspection prior to use by user.	Review of AHA during pre-task tailgate safety briefing with all intended task participants.
Personal Protective Equipment: **Minimum**: Safety toe boots, safety glasses. Optional items: Hardhat, hearing protection. **HTRW**: None anticipated for this task.	Initial PPE inspection performed by SSO. Ongoing (prior to each use) inspections responsibilities of PPE users.	PPE training in proper use, care, storage, and limitations. It is anticipated that this has been covered in employees' 40 hour HAZWOPER training, which is to be verified by the SSO through initial training documentation and review prior to permitting personnel to participate in any onsite activities, and will be confirmed by visual observations of worker activities.

ACTIVITY HAZARD ANALYSIS

Activity/Work Task: Sediment sampling	**Notes:**
Project Location: Portsmouth Naval Shipyard, Kittery, Maine Offshore Sampling at OU4	
Contract Number: N62470-08-D-1001	
Date Prepared: 4/2011	
Prepared by: Clyde Snyder	
Reviewed by: J. Laffey	
Competent Person: Matt Shappell Aqua Survey marine operations Shannon Hill, On shore operations	

JOB STEPS	HAZARDS	CONTROLS
Working from a boat.	1. Minor cuts, abrasions or contusions handling equipment and tools	1. Wear cut-resistant gloves when handling items with sharp or rough edges.
	2. Weather	1. Obtain the weather forecast and marine conditions prior to departure. If conditions are poor, then the sampling trip should be postponed.
	3. Safety and Boating Hazards	1. A Safe Boating Checklist is included in Attachment VI of this HASP. It must be completed prior to beginning work on the water. The completion of this attachment is not required if the Boat Operator has a Safe Vessel Certification provided by the U.S. Coast Guard (USCG). 2. Wear approved personal flotation devices (PFDs) U.S.C.G. See Flotation Device Types see Section 5.2. 3. Wear slip resistant footwear when sampling on the boat. Deck shoes or similar footwear intended for aquatic purposes. 4. Steel toed work boots are not required or recommended as these may be slippery on the boat deck and weigh you down if you go overboard.
Sediment Coring and Ponar/Petersen Sampling	1. Muscle strain and pinch points.	1. Stretching before physically taxing activities. 2. Take breaks when needed. This is especially needed the activities place you in a position where stress and strain maybe experienced over time such as leaning over the boat pulling or driving sediment samples. 3. Use multiple persons to switch on and off when heavy labor is being conducted. 4. The lifting of dredges without mechanical assistance also puts sample personnel at risk for muscle strain.

ACTIVITY HAZARD ANALYSIS

JOB STEPS	HAZARDS	CONTROLS
	2. Accidental closure can cause serious injuries.	1. Set the (ponar) grab sampling device with the jaws cocked open. Ensure that the rope is securely fastened to the sampler and that the other end is tied to the boat. 2. Lower the sampler until it is resting on the sediment (its own weight is adequate to penetrate soft sediments). At this point the slackening of the line activates the mechanism to close the jaws of the Ponar/Petersen grabs. 3. For a sampler with a trip release, send the messenger down to `trip' the release mechanism. 4. Retrieve the sampler slowly to minimize the effect of turbulence (that might result in loss/disturbance of surface sediments). 5. Place a container (i.e., a shallow pan) beneath the sampler just as it breaks the surface of the water.
	4. Pinch/Compression Points During Hammering	1. Wear gloves to minimize this potential. 2. Hammering places two hard surfaces in contact with one another with significant force. 3. War safety glasses in the event of chips and flying projectiles caused by this action. 4. When it is necessary to lift free floating slide hammers above the head, hardhats should be worn.
	5. Pinches and Compressions During Dredge Sampling	1. Wear gloves to minimize this potential. 2. Keep hands away from pinch points when unloading or setting the trigger.
Mechanical extraction using a winch.	1. Entanglement Hazard	1. Ensure all operators adequately comprehend the operation of the winch before using it. 2. Never leave wired remote control plugged into winch when free spooling, rigging, or when the winch is not being used. 3. Alert all bystanders when engaging the winch. 4. Always keep wired remote control lead clear of the drum, rope, and rigging. Inspect for cracks, pinches, frayed wires or loose connections. Replace remote control if damaged. 5. Exercise care when working near the drum with gloves on that could become entangled. 6. Never leave remote control where it can be activated during free spooling, rigging, or when the winch is not being used.

ACTIVITY HAZARD ANALYSIS

JOB STEPS	HAZARDS	CONTROLS
	2. Pinch And Compression Hazards	1. Never hook rope back onto itself. This damages the rope. 2. Always use a choker chain, choker rope, or lifting attachment on the piece to be lifted. Engage the winch slowly with hands and fingers away from any pinch points. Once under tension step away from stress points of the rope. 3. Always remove any element or obstacle that may interfere with safe operation of the winch. 4. Always take time to use appropriate rigging techniques for a winch pull. 5. Always be certain the anchor you select will withstand the load and the strap or chain will not slip. 6. Never touch rope or hook while in tension or under load. 7. Never touch rope or hook while someone else is at the control switch or during winching operation.
	3. Crushing Hazards	1. Never exceed winch or rope capacity listed on product data sheet. 2. Always choose a mounting location that is sufficiently strong to withstand the maximum pulling capacity of your winch. 3. Always use factory approved mounting hardware, components, and accessories. 4. Ensure grade 5 or better hardware. 5. Always spool the rope onto the drum in the direction specified by the winch warning label on the winch and/or documentation. This is required for the automatic brake to function properly. 6. Tightly wound rope reduces chances of "binding", which can damage the rope. Always use a hook with a latch
Taking sediment samples and placing into sample containers	1. Chemical exposure to low concentrations of metals.	1. Wear surgeons gloves when handling potentially-contaminated media and samples, avoid contact with potentially-contaminated media to the extent possible, follow good decontamination and practice good personal hygiene (hands and face washing) when exiting work area, hand-to-mouth activities in the work area will be prohibited (eating, drinking, smoking, etc.). 2. Exposure via dermal contact and ingestion represent some limited concern during this task. 3. PPE will be used to control this hazard. 4. Due to the nature of this operation and contaminants monitoring instruments will not be required for this activity.

ACTIVITY HAZARD ANALYSIS

EQUIPMENT	INSPECTION	TRAINING
Personal Protective Equipment: **Minimum**: nitrile surgeon's type gloves, safety toe boots, PFD's, safety glasses **Optional items**: Hardhat, hearing protection. **HTRW**: Nitrile gloves	Initial PPE inspection performed by SSO. Ongoing (prior to each use) inspections responsibilities of PPE users. PID to be subjected to calibration and operational checks in accordance with manufacturer's recommendations (but not less than daily).	OSHA 40 Hazardous Waste Operations and Emergency Response (HAZWOPER) training, plus appropriate 8-hour annual refresher training for all task participants. Supervisors must have completed additional 8 hours of HAZWOPER training. ALSO: Review of AHA during pre-task tailgate safety briefing with all intended task participants. PPE training in proper use, care, storage, and limitations. It is anticipated that this has been covered in employees' 40 hour HAZWOPER training, which is to be verified by the SSO through initial training documentation and review prior to permitting personnel to participate in site activities, and will be confirmed by visual observations of worker activities.

ACTIVITY HAZARD ANALYSIS

Activity/Work Task: Decontamination	**Notes:**
Project Location: Portsmouth Naval Shipyard, Kittery, Maine Offshore Sampling at OU4	
Contract Number: N62470-08-D-1001	
Date Prepared: 4/2011	
Prepared by: Clyde Snyder	
Reviewed by: J. Laffey	
Competent Person: Shannon Hill, FOL	

JOB STEPS	HAZARDS	CONTROLS
Personal Decontamination • Equipment drop • Segregated removal of PPE (wash and rinse reusable items, dispose of non-reusable items)	1. Slips, Trips, Falls 2. Exposure to contaminated media	1. Clear intended decon area location of ground hazards. Practice good housekeeping to keep the site clear of obstructions, materials, equipment and other tripping hazards. Wear appropriate foot protection to prevent slips and trips. Use caution when working on uneven and wet surfaces. 2. Follow good decontamination practices (work from top down and outside in). Nitrile gloves are to be the last item of PPE removed. Wash hands and face following personal decontamination and prior to performing any hand-to-mouth activity.
Decontamination of boating equipment and large tooling (e.g., vehicles, etc.) using pressure washer	1. Noise 2. Flying projectiles	1. Pressure washer operator must wear hearing protection (muffs or plugs with NRR of at least 25 dB) 2. Restrict other personnel from decon pad during pressure washing operations. Pressure washer operator must exercise care when directing the wand so that it is not pointing at himself/herself or at any other worker. Pressure washer operator must wear full face shield over safety glasses with side shields and brow protection. At SSO discretion, additional PPE consisting of hardhat, rainsuit, apron, and or boot covers may be required during decon operations - depending on observations indicating that significant contact with decon overspray and/or windy conditions during washing activities.

ACTIVITY HAZARD ANALYSIS

JOB STEPS	HAZARDS	CONTROLS
	3. Falling objects	3. Place items to be decontaminated on ground or on washing/drying racks in a manner that they are secure and will not fall. Wear safety toe safety footwear.
	4. Strains/sprains from heavy lifting	4. Practice safe lifting techniques (use mechanical lifting devices such as a dolly whenever possible, ensure clear path of travel, good grasp on object, perform "test lift" to gauge ability to safely make the lift, lift with legs not back, obtain help when needed to lift large, bulky, or heavy items).
	5. Slips/trips/falls	5. Keep decon areas orderly, maintain good housekeeping, spread light coating of sand on decon pad liner to increase traction.
	6. Exposure to contaminated media	6. Follow good decontamination practices (work from top down and outside in). Surgeon's gloves are to be the last item of PPE removed. Wash hands and face following personal decontamination and prior to performing any hand-to-mouth activity.

EQUIPMENT	INSPECTION	TRAINING
Hand tools (hand brushes, garden sprayers, etc.)	Visual inspection prior to use by user. Check wooden handles for cracks or splinters.	None required.
Pressure washer	Inspect pressure washer prior to putting into service to ensure that it is in good working order, and ensure that fittings are secure.	Review manufacturer's instructions and safety guidelines prior to use.
PID for screening to ensure effective decontamination	PID to be calibrated and operated in accordance with manufacturer's recommendations (daily)	SSO trained in proper calibration, use, and care of air monitoring devices used (PID). This is a general component of 40 hour HAZWOPER training, and SSO must become very familiar with the Operator's Manual for any instrument used. Review manufacturers operating and maintenance manual for monitoring instruments used.

ACTIVITY HAZARD ANALYSIS

EQUIPMENT	INSPECTION	TRAINING
Personal Protective Equipment: <u>Minimum</u>: Safety toe boots, safety glasses **<u>Optional items</u>**: Hardhat, hearing protection. **<u>HTRW</u>**: Decontamination pad pressure washer operators are to wear full face shield over safety glasses with side shields and brow protection, hearing protection, and nitrile gloves. If contact with overspray cannot be avoided, rain suit or moisture-repellant disposable coveralls may be specified by the SSO.	Initial PPE inspection performed by SSO. Ongoing (prior to each use) inspections responsibilities of PPE users.	OSHA 40 Hazardous Waste Operations and Emergency Response (HAZWOPER) training, plus appropriate 8-hour annual refresher training for all task participants. Supervisors must have completed additional 8 hours of HAZWOPER training. Also Review of AHA during tailgate safety briefing with the intended task participants. PPE training in proper use, care, storage, and limitations. It is anticipated that this has been covered in employees' 40 hour HAZWOPER training, which is to be verified by the SSO through initial training documentation and review prior to permitting personnel to participate in site activities, and will be confirmed by visual observations of worker activities.

ACTIVITY HAZARD ANALYSIS

Activity/Work Task: IDW Management	**Notes:**
Project Location: Portsmouth Naval Shipyard, Kittery, Maine Offshore Sampling at OU4	
Contract Number: N62470-08-D-1001	
Date Prepared: 4/2011	
Prepared by: Clyde Snyder	
Reviewed by: J. Laffey	
Competent Person: Shannon Hill, FOL	

JOB STEPS	HAZARDS	CONTROLS
Filling, moving 55-gallon drums of IDW	1. Heavy lifting	1. Practice safe lifting techniques (use mechanical lifting devices such as a dolly whenever possible, ensure clear path of travel, good grasp on object, perform "test lift" to gauge ability to safely make the lift, lift with legs not back, obtain help when needed to lift large, bulky, or heavy items).
	2. Struck by/pinches compressions	2. Exercise caution when handling drums. Position drums so that there is adequate room between them for placement and repositioning.
	3. Falling objects (drums)	3. Do not stack drums on top of each other. Do not place more than 4 drums to a pallet. Leave at least 4 ft. of clearance between pallets for clear access.
	4. Slips, Trips, Falls	4. Maintain good housekeeping in IDW storage areas, keeping it clear of loose debris and other potential tripping hazards. Wear appropriate foot protection to prevent slips and trips. Use caution when working on uneven and wet ground surfaces.
	5. Foot hazards	5. Safety toe foot protection will be required for IDW container handling activities.
	6. Strains/sprains due to heavy lifting	6. Practice safe lifting techniques (use mechanical lifting devices such as a dolly whenever possible, ensure clear path of travel, good grasp on object, lift with legs not back, and obtain help when needed to lift large, bulky, or heavy items).
	7. Minor contusions, abrasions, cuts	7. Wear cut-resistant gloves when handling items with sharp or rough edges.

ACTIVITY HAZARD ANALYSIS

EQUIPMENT	INSPECTION	TRAINING
Hand tools (drum dollies, wrenches, etc.)	Visual inspection prior to use by user. Check wooden handles for cracks or splinters.	All personnel participating in this activity must be current with HAZWOPER training requirements.
Personal Protective Equipment: Minimum: Safety toe boots, safety glasses **Optional items**: Hardhat, cotton or leather work gloves. **HTRW**: If contact with IDW is likely, wear chemical-resistant coveralls (e.g., Tyvek) or aprons and surgeon's nitrile gloves under leather/cotton work gloves.	Initial PPE inspection performed by SSO. Ongoing (prior to each use) inspections responsibilities of PPE users.	PPE training in proper use, care, storage, and limitations. It is anticipated that this has been covered in employees 40 hour HAZWOPER training, which is to be verified by the SSO through initial training documentation and review prior to permitting personnel to participate in site activities, and will be confirmed by visual observations of worker activities.

ATTACHMENT V

AQUA SURVEY, INC

SITE SPECIFIC HEALTH AND SAFETY PLAN

Aqua Survey, Inc.

Field Operations
Health & Safety Plan

Tetra Tech NUS, Inc.

Operable Unit 4
Sediment Sampling At
Portsmouth Naval Shipyard
Kittery, ME

469 Point Breeze Road
Flemington, NJ 08822

(Ph.) 908/788-8700 (Fax) 908/788-9165
mail@aquasurvey.com www.aquasurvey.com

Rev. 4/4/11

Table of Contents

Section **Page**

1.0 Introduction 3

1.1 Key Project Personnel and Organization 3
1.2 Site/Project Background 3
1.3 Scope of Work 4

2.0 Hazard Assessment 4

2.1 Tasks and Physical Hazards 4
2.1.1 Hazard Description & Hazard Prevention 5
2.2 Buddy System/Site Communications 8

3.0 Personal Protective Equipment (PPE) 9

3.1 Anticipated Levels of Protection 9
3.1.1 Sediment Sampling Operations-Push Coring 9
3.1.2 Sediment Sampling Operations-Ponar Dredge 10

4.0 Standard Work Practices 11

4.1 General Requirements (All Tasks) 11
4.2 Survey Vessel 11

5.0 Decontamination 12

5.1 Sampling Equipment Decontamination 12
5.2 Heavy Equipment Decontamination 12

6.0 Training 13

6.1 Introductory and Refresher Training 13
6.1.1 Requirements for ASI Personnel 13
6.2 Site-Specific Training 13
6.2.1. ASI Site Specific Training 13
6.2.2. Tetra Tech Site Specific Training 13

7.0 Medical Surveillance 15

7.1 Requirements for ASI and Tetra Tech Personnel 15

8.0 Other Miscellaneous Requirements 15

8.1 Spill Containment Program 15
8.2 Materials and Documents 15
8.3 Confined Space Entry 15

Section **Page**

9.0 Emergency Response Plan 16

9.1 Introduction..... 16
9.2 Pre-Emergency Planning 17
9.3 Emergency Recognition and Prevention..... 17
9.3.1 Recognition..... 17
9.3.2 Prevention 17
9.4 Safe Distances and Places of Refuge 18
9.5 Evacuation Routes and Procedures..... 18
9.6 Decontamination Procedures/Emergency Medical Treatment..... 18
9.7 Emergency Alerting and Response procedures 19
9.8 PPE and Emergency Equipment 19

Attachments

1 Vessel and Sampling Equipment Inspection 21
2 Heat Stress Monitoring.....22

Figures

Number

6-2 Site-Specific Health and Safety Training Form.....14
9.1 Emergency Reference 19
9.2 Site Location Map 25
9.3 Route to Hospital Map 26
9.4 Hospital Campus Maps and Emergency Room Location.....27

1.0 Introduction

This Health and Safety Plan (HASP), subtitled Float Plan, is designed to provide practices and procedures for Aqua Survey, Inc. (ASI) personnel engaged in sediment sampling at Portsmouth Naval Shipyard, Kittery, ME. This plan has been developed to conform to the requirements of OSHA Standard 29 CFR 1910.120 – Hazardous Waste Operations and Emergency Response. The plan is based on information made available by Tetra Tech NUS, Inc. (Tetra Tech) regarding possible contaminants and physical hazards that may exist on site. Should additional information concerning the nature and/or concentrations of contaminants or hazards become available, Tetra Tech will notify ASI, and modifications to this plan will be made. It will be the responsibility of Tetra Tech's Project Manager to communicate any such information to ASI, who will, in turn, with the full guidance of Tetra Tech, determine the need for modifying the HASP.

1.1 Key Project Personnel and Organization

The table below presents Key Project Personnel and Responsibilities and established responsibility for site safety and health.

Name	Project Role	Phone Number
Tetra Tech NUS		
Daniel Witt	Project Manager FOL	(412) 921-8259
ASI, Inc.		
Tom Dolce	ASI Project Manager	(908) 788-8700
Matt Shappell	Field Team Leader	(908) 892-1191
Steve Hornberger	Safety Manager	(908) 788-8700

1.2 Site/Project Background

The purpose of this sampling is to support sediment sampling for the Operable Unit 4 (OU4) Interim Offshore Monitoring at Portsmouth Naval Shipyard (PNS), Kittery, ME.

1.3 Scope of Work

The sampling activities outlined in this scope of work are limited to the activities being conducted by ASI and include onwater sediment sampling activities.

A 24-foot pontoon vessel or equivalent will be used as the main work platform for supporting sediment grab sampling.

2.0 Hazard Assessment

This section presents information regarding known physical hazards associated with the work areas, tasks, and operations described in Section 1.3 of this Plan. Any additional activities by ASI will be communicated to Tetra Tech's Project Manager. This evaluation is based solely on the information provided to ASI by Tetra Tech. As new data becomes available, this HASP may need to be modified accordingly. Measures to control the hazards, presented below, can be found in Sections 3.0, 4.0, and 5.0 of this Plan. Tasks to be undertaken and associated hazards:

Ponar Dredge Grab Sampling – Working over water, manual lifting, slips, trips, falls, entanglement and general hazards: See section 2.1.1.

Push Coring – Working over water, manual lifting, slips, trips, falls and general hazards: See section 2.1.1.

2.1 Tasks and Physical Hazards

Certain physical hazards may be encountered. The most significant of these hazards include:

- Working over water - hazards associated with sampling on the survey vessel
  - capsizing
  - person overboard/drowning hazard
  - water traffic
  - rough seas
- Fire
- The potential for a worker to become entangled in deployment cable on board
- Manual lifting
- Buried underwater utilities
- Slip/trip/fall puncture hazards
- Uneven or unstable terrain including the beach area work site
- Heat/cold stress
- Insects/rodents/marine organisms
- Lightning/inclement weather conditions

2.1.1 Hazard Description & Hazard Prevention

Water Hazards

A primary physical hazard during the sampling is the potential for a person falling overboard/drowning hazard. Much of the work will require use of a survey vessel. Personnel working on the survey vessel must observe the following:

- Decks and work area shall remain clear of tools and supplies, to minimize the chance of slips/trips/falls.
- Wear a Coast Guard approved personal flotation device, when near or on the water.
- Have immediately available a minimum of one coast Guard approved throwable flotation device.
- Do not tape PPE (i.e., wrists and ankles)
- Operate the barge and support boat in compliance with applicable safe boating regulations/rules
- Stay informed of the current weather advisory
- All rigging shall not approach within 20 feet of any overhead lines, and use of hardhat is required.
- Use of a VHF radio/hand held or fixed radio
- A ring buoy with at least 90 feet of line will be onboard the vessel

Fire Hazard

Two U.S. Coast Guard approved B-I fire extinguishers must be on board and accessible.

Rotating Tools

Entanglement within the winch system, can occur any time a worker or his clothing contacts the moving apparatus. This hazard can result in a worker being fatally injured and/or dismembered.
To control this hazard, the following measures will be taken: Ensure all guards are in place and properly adjusted to avoid contact and entanglement.
Secure or remove loose clothing articles and/or PPE and jewelry to minimize entanglement hazards. Ensure all emergency stop devices are working properly. A person will be at the controls at all time. This person will announce hoist up or similar warning to warn persons to step away from the hoisting mechanism.

Overhead Energized Sources

Overhead utility wires, i.e., electrical and telephone, can be hazardous when the winch rigging or any other such projecting items are in the upright position.

- Overhead utilities should be considered "live," until determined otherwise.
- No coring boom/mast or any other such projecting items shall be erected within 20 feet of an overhead/electrical line until the line is deenergized, grounded, or shielded and an electrician has certified that arcing cannot occur.
- Work is not anticipated to take place in these conditions.

Heavy Equipment/Vehicles

Operation of, and proximity to, on-water, heavy equipment pose a threat of serious injury to operators and workers; operators of the sampling equipment and vehicles could have decreased visibility and hearing as a result of vehicle/equipment operation.

- Only qualified/licensed people are to operate heavy equipment.
- Never walk directly in back of, or to the side of, heavy equipment without the operators' knowledge.
- Steel-toe/shank work boots shall be worn when working around, or with, heavy equipment, except when on-board sampling vessels, where overboard/drowning poses a greater risk and heavy work boots could make floating or swimming more difficult.
- Heavy equipment vehicles will have back-up alarms or will only back-up when assisted by a flag person.
- All chains, lines, cables, etc., should be inspected daily for weak spots, frays, etc.

Manual Lifting

Back strain may occur, as a result of lifting or handling heavy equipment.

- Employing proper lifting techniques may prevent back strain.
- During any manual handling tasks, personnel are to lift with the force of the load supported by their legs -- not their backs. The correct number of personnel must be used to lift or handle heavy equipment.

Noise Exposure

Elevated sound levels may be present as a result of onsite activities that may cause hearing damage and/or be a hindrance to communication.

- Noise levels are not to exceed the 8-hour time-weighted average OSHA PEL of 90 dBA, without the use of hearing protection. As a general rule-of-thumb, hearing protection is required, if personnel standing approximately two feet apart cannot converse without raising their voices to be heard. The use of hearing protection, either earmuffs or earplugs, will be worn to effectively reduce noise levels.

Heat Stress

Heat stress shall be monitored and controlled, in accordance with the guidelines presented in *Attachment 2.*

Slip/Trip/Fall/Entanglement/Puncture Hazards

Due to wet, slick, uneven or steep terrain in the vessel, on docks or land, or cumbersome protective equipment, injury (strained muscles, sprained ligaments, cuts, and/or abrasions) or exposure could result, due to a fall or puncture.

- Slipping on wet surfaces can be prevented by wearing boots with good treads and by being aware of where personnel are walking to decrease the chance of slipping.
- Tripping caused by wearing disposable footwear can be reduced when properly sized disposable boots are selected.
- To reduce potential puncture hazards, steel-shank work boots should be worn, again with good tread.
- All work areas must be kept free of ground clutter.
- On the vessel deck a slip resistant covering should be used to provide better traction under wet conditions.
- Entanglement – be aware of ropes and wires lying across the deck to avoid entanglement. Do not allow wires or ropes to be lying haphazardly on the deck.

In General

- Hardhats shall be worn at all times, when working around an overhead sampling apparatus or when the potential for overhead hazards exist.
- Select the best route to sample locations. Carry all fragile glassware inside hardsided containers (such as coolers) to avoid breakage and potential puncture and laceration due to falls against glassware.
- Loose clothing and straps should be secured when working around coring equipment.
- Eye protection should be worn where there is potential for injury from flying objects or exposure from chemicals or contaminated media may occur.
- Inclement weather (i.e., lightning, heavy rain, unsafe sea conditions) should be evaluated as a condition to stop work.
- The Tetra Tech Health and Safety Plan for this project will outline the chemical hazard information in greater detail, however, a wide range of chemicals were identified in previous sampling, including various metals, PAHs, Pesticides and PCBs. The Tetra Tech Health and Safety Plan for Operable Unit 4 (Tetra Tech 2010), states that previous investigations indicate that these chemical contaminants are in relatively low

concentrations. While these concentrations may threaten marine ecosystems, exposure of site personnel via inhalation is considered negligible to non-existent. This assumption is based on their concentration as well as the fact that the samples will be collected in a wet condition, and it is not anticipated that any airborne particulates will be generated during these activities. It should be understood that ingestion and dermal contact are still viable routes of exposure.

Confined Space

- Confined space entry work will not be performed as part of this scope of work.

2.2 Buddy System/Site Communications

The activities conducted and the equipment utilized during the site work demand competency, coordination, and concentration. To prevent accidents and injuries from occurring on-site, and in order to provide rapid assistance of employees in the event of an emergency, implementing the "buddy system" or organizing employees to support "line-of-site" is required.

The buddy system will be implemented in all work areas proximal to vehicle traffic, heavy equipment and other machinery or equipment that pose a threat of serious injury to on-site workers. Line-of-site or a communication system can be via visual, voice, or regular radio contact and must be maintained at all times.

In order to control these hazards, the measures previously discussed, and the Standard Work Practices specified in Section 5.0 of this HASP (as well as the other requirements stated in this document) will be implemented and enforced throughout site operations.

At the beginning of each day there will be a short "tailgate" meeting that will reinforce the potential hazards that could be encountered and go over the safety and inspections of the equipment to be used during the sampling activities. The Tetra Tech field representative will communicate any concerns at this time so any actions that need to be addressed can happen immediately.

3.0 Personal Protective Equipment (PPE)

This section presents requirements for the use of personal protective equipment for each of the activities being conducted, as defined in Section 1.3 of this HASP. This section includes anticipated levels of protection for each of the activities, the criteria

used for selecting various levels of protection, and criteria for modifying levels of protection, based on personal observations.

3.1 Anticipated Levels of Protection

All work is anticipated to be performed in a Level D Protection, as defined in *Appendix B* 29 CFR 1910.120. Many activities will require the use of chemical resistant coveralls, gloves, and boot covers, as presented in the task breakdown, which follows. Where activities overlap, more protective requirements will be applied.

3.1.1 Sediment Sampling Operations – Push Coring

Level D Respiratory Protection (No respiratory protection)

Minimum requirements include safety glasses with side shields or goggles, slip resistant footwear, Tyvek coveralls over work clothes, and nitrile or neoprene gloves over latex inner gloves. All loose clothing will be secured. If activities present the potential for Tyvek to become saturated, PVC coveralls will be substituted.

The personal protective equipment to be worn for barge work includes the following:

- Level D Respiratory Protection – (No respiratory protection)
- U.S. Coast Guard approved personal flotation device*
- Footwear with slip resistant soles
- Disposable boot covers (applicable if potential for contamination of work boots)
- Tyvek (applicable if potential for contamination of work clothes)
- Nitrile/Neoprene outer gloves over disposable inner gloves
- Hardhat
- Eye protection (as applicable if potential for injury exists)

* A personal flotation device must be worn; unless it is determined that wearing it is outweighed by an increased risk of injury when performing a particular activity. If a worker does not wear a flotation device, it must be approved by the site safety officer, and there must be a flotation device available and in close proximity to the worker.

3.1.2 Sediment Sampling Operations – Ponar Dredge

Level D Respiratory Protection (No respiratory protection)

Minimum requirements include hard hat if deploying from tetrapod or davit, safety glasses with side shields or goggles, steel-toe/shank work boots with slip resistant soles, Tyvek coveralls over work clothes, and nitrile or

neoprene gloves over latex inner gloves. All loose clothing will be secured. If activities present the potential for Tyvek to become saturated, PVC coveralls will be substituted.

The personal protective equipment to be worn for barge work includes the following:

- Level D Respiratory Protection – (No respiratory protection)
- U.S. Coast Guard approved personal flotation device*
- Footwear with slip resistant soles, and also steel toes when using ponar dredge
- Disposable boot covers (applicable if potential for contamination of work boots)
- Tyvek (applicable if potential for contamination of work clothes)
- Nitrile/Neoprene outer gloves over disposable inner gloves
- Hardhat
- Eye protection (as applicable if potential for injury exists)

* A personal flotation device must be worn; unless it is determined that wearing it is outweighed by an increased risk of injury when performing a particular activity. If a worker does not wear a flotation device, it must be approved by the site safety officer, and there must be a flotation device available and in close proximity to the worker.

4.0 Standard Work Practices

4.1 General Requirements (All Tasks)

- Objects that cannot be manually handled comfortably shall either be handled by more than one person or with mechanical lifting devices.
- Eating, drinking, chewing gum or tobacco, taking medication, and smoking are prohibited in the exclusion or decontamination zones, or any location where there is a possibility for contact with site contamination exists.
- Upon leaving the exclusion zone, hands and face must be thoroughly washed with soap and potable water. Any protective outer clothing is to be decontaminated and removed, as specified in this HASP, and left at a designated area, prior to entering the clean area.
- Contact with potentially contaminated substances must be avoided. Contact with potentially contaminated sediments or with contaminated equipment must also be avoided.
- ASI personnel will have, at all times, an immediately available copy of this Plan for reference. All ASI personnel must read and understand all components of this Plan.
- All personnel must satisfy medical monitoring procedures.
- All work areas must be kept free of ground clutter.

- Site personnel must immediately notify Tetra Tech's Project Manager of all incidents for OSHA recordkeeping purposes.
- Should personnel note any warning properties of chemicals (irritation, odors, symptoms, etc.) or even remotely suspect the occurrence of exposure, they must immediately notify Tetra Tech's Project Manager.
- ASI site personnel are not permitted to undertake or assist others in any type of confined space entry or work.

4.2 Survey Vessel

Attachment 1 contains a vessel and equipment inspection checklist and an Operator Training Record form. This type of routine inspection and document serves to comply with the U.S. ACE, Safety and Health Requirements manual. Because of the work being done in and over water, a slip resistant deck covering should be used to minimize slippage by personnel.
The survey vessel will serve as the site control boundaries. The exclusion zone is the area where the sample is collected from; decontamination will be in the river water; and the support zone will be a segregated area of the boat intended for water consumption and break area.

5.0 Decontamination

The decontamination of personnel and their protective clothing will be performed in the following three stages if necessary.

Stage 1 - includes removing contamination from reusable protective clothing and/or disposable clothing. These efforts will involve washing and rinsing these items in a sequence that begins at the highest level to the lowest level (i.e., from the head down towards the feet).

Stage 2 - will include removal of protective clothing*, discarding disposable clothing into sealable plastic bags that will be disposed of in drums at an ASI facility offsite. Stage 2 efforts involve a structured, segregated process, carefully removing PPE items beginning with the outermost item and progressing inward.

Stage 3 - will consist of workers washing their hands and face with potable water and soap or anti-bacterial solution each time they leave the exclusion zone (the work barge) before performing any type of hand-to-mouth activity.

All generated decontamination fluids will be contained, as described in the site work plan. The decontamination area will be physically identified with rope or flagging

and well equipped to be conducive for completion of proper decontamination activities.

* Removal of PPE on board the work platform and bagging it appropriately in a sealable plastic bag are considered an acceptable alternative method. The bagged materials will immediately be containerized at ASI's laboratory.

5.1 Sampling Equipment Decontamination

Decontamination of sampling tools may involve the use of deionized water, detergents (Alconox), and/or methanol. Most of these activities are expected to be done on board the work platform by ASI and/or Tetra Tech personnel, with the collection for washings containerized and moved to the shore side disposal drum or HDPE buckets.

5.2 Heavy Equipment Decontamination

Gross contamination will be removed from equipment prior to leaving the vessel; this will be done by flushing off the gross contamination using river water. Based upon the permission of Tetra Tech's Project Manager, the small volume of gross contamination may be sprayed off and allowed to drain back into the surrounding waters, prior to lifting the entire sediment sampling unit on board. Decontamination of the sampling tools and other heavy equipment will be accomplished through the use of a spray nozzle system onboard the vessel if necessary. The Field Team Leader (FTL), or designee, will inspect all heavy equipment, prior to being released from the site. All decontamination fluids generated, except as noted for the river water, will be contained and disposed of, as described in the site work plan.

6.0 Training

6.1 Introductory and Refresher Training

6.1.1 Requirements for ASI Personnel

All ASI field personnel must complete 40 hours of introductory hazardous waste site training, prior to performing work at the PNS facility. Additionally, ASI personnel who have had introductory training more than 12 months prior to site work must have completed eight hours of refresher training within the past 12 months before being cleared for site work.

Documentation of ASI's introductory and refresher training can be furnished upon request. Other training and documentation forms are contained in this section.

6.2 Site-Specific Training

6.2.1 ASI's Site-Specific Training

- ASI will provide site-specific training regarding the contents of this HASP.

6.2.2 Tetra Tech's Site-Specific Training

- Tetra Tech will provide site-specific training concerning chemical hazards and the work objectives to all field personnel performing work at the site.

Figure 6-2

Site-Specific Health and Safety Training Form

My signature below indicates that I am aware of the potential hazardous nature of working at the Portsmouth Naval Station (PNS), Kittery, ME and that I have reviewed the Health and Safety Plan prepared for the sampling activities. I have also received site-specific training, which included the items presented below:

- Names of personnel and alternates responsible for site safety and health
- Safety, health and other hazards present on site
- Use of personal protective equipment
- Work practices to minimize risks form hazards, safe use of engineering controls and equipment
- Safe use of engineering controls and equipment
- Medical surveillance requirements
- Signs and symptoms of overexposure
- The contents of the Health and Safety Plan
- Review of relevant MSDSs.

I further state that I have been given the opportunity to ask questions and that all of my questions have been answered to my satisfaction.

Name (Print Clearly)	Signature	Date

Training conducted by: _____

Date: _____

7.0 Medical Surveillance

7.1 Requirements for ASI and Tetra Tech Personnel

All ASI and Tetra Tech personnel participating in project field activities will have had physical examinations meeting the requirements of their respective medical surveillance programs and will be medically qualified to perform hazardous waste site work.

Documentation for medical clearances can be obtained from the ASI Health and Safety Officer.

8.0 Other Miscellaneous Requirements

8.1 Spill Containment Program

The procedures defined in this section comprise the spill containment program in place for activities at the site.

8.1.1 Spill Control

It is not anticipated that bulk hazardous materials will be handled as part of this scope of work, such that spillage would constitute a danger to human health or the environment.

8.2 Materials and Documents

The ASI field team leader shall ensure the following materials/documents are taken to the project site and utilized as required.

- Incident Reports
- Follow-up reports (to be completed by the field team leader)
- First Aid Supply Usage Form
- Emergency Reference Posting (Figure 9-1)

8.3 Confined Space Entry

Confined Space or Permit Required Confined Space entry will not be conducted as part of this scope of work. One of the first measures necessary to prevent inadvertent entry into a confined space or permit confined space is the ability to recognize a confined space or a permit required confined space.

A confined space is defined as a space that: Is large enough and so configured that an employee can bodily enter and perform assigned work. Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry). Is not designed for continuous employee occupancy.

A Permit-Required Confined Space is a confined space that has one or more of the following characteristics: Contains or has a potential to contain a hazardous atmosphere. Contains a material that has the potential to engulf an entrant. Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section. Contains any other recognized, serious, safety or health hazard.

It is recognized that Confined space entry activities may be conducted through the course of an environmental investigation or construction remediation. In these cases, provisions for program implementation, training requirements, rescue support services, coordination with the space or host owner will be required. These items will be addressed when appropriate. Therefore, personnel under the provisions of this HASP are not allowed, under any circumstances, to enter confined spaces such as frac tanks, storm sewers, excavations, etc. For further information on confined space entry activities, consult the the ASI SSO.

9.0 Emergency Response Plan

9.1 Introduction

ASI, through their hazard assessment approach will work towards preventing potential emergencies. These potential emergencies include fire and personal injury. Initial efforts to control these potential emergencies will include the placement of a suitably sized fire extinguisher in which everyone is trained in its use. Good work hygiene practices and good housekeeping will further minimize this potential. Through machine guarding and safe work practices the potential for injury will also be reduced. If all attempts to preempt a potential emergency fail, then the local fire department will be utilized to control the situation.

In the event of any on-site emergencies, site personnel will immediately be evacuated to a safe place of refuge, and the appropriate off-site response agencies will be notified. In the event of an emergency on the survey vessel, crews are to immediately make way to the Support Zone and implement/comply with the procedures presented in this section of the existing HASP. In the case of serious injury while on the vessel you should call 911, perform preliminary first aid and get the person to shore to meet the emergency/ambulance services. This approach has been selected based on the types of emergencies most likely to be encountered during performance of this work and the fact that off-site emergency response

organizations will provide the most effective response to these emergencies. Specifically, fire/explosion are the emergencies most likely to be encountered. The local fire department will be best suited for handling these emergencies and is located within a reasonable distance from the site to ensure adequate response time.
In light of this approach, this emergency response plan has been prepared to conform to the requirements of OSHA Standard 29 1910.38(a), as permitted by OSHA 29 CFR 1910.120 (l)(1)(ii).

9.2 Pre-emergency Planning

Pre-emergency planning activities associated with this project, include the following:

- Coordinating with Tetra Tech and base personnel to ensure that ASI's emergency response activities are compatible with Tetra Tech emergency response procedures.
- Establishing and maintaining information at the project staging area (support zone) for easy access in the event of an emergency
  - Site personnel records regarding medical treatment concerns (medical data sheets).
  - A logbook identifying personnel present on site each day.

- Identifying a chain-of-command for emergency response: The ASI vessel Captain (ASI Field Team Leader) (FTL) will serve as the primary Emergency Incident Coordinator until reporting to the support zone where the Site Safety Officer (SSO) will take over emergency coordination. The SSO should then take roll call at this location, using the logbook, to confirm the location of all site personnel

9.3 Emergency Recognition and Prevention

9.3.1 Recognition

These situations will generally be recognizable by visual observation. An injury or illness will be considered an emergency if it requires treatment other than first-aid (i.e., requires treatment by a medical professional).
Fire would be recognizable by smoke and/or flames and/or unexpected heat coming from the vessel or equipment.
Sinking would be recognizable by being aware of the height of the waterline on the side of the vessel or seeing water rising in the bottom of the boat.

9.3.2 Prevention

ASI will prevent emergencies by ensuring compliance with the site-specific health and safety plan.

9.4 Safe Distances and Places of Refuge

In the event the site must be evacuated, all personnel will immediately stop activities and report to the support zone. Upon reporting to the refuge location, personnel will remain there until directed otherwise by the ASI FTL. The SSO will take roll call at this location, using the logbook, to confirm the location of all site personnel.

9.5 Evacuation Routes and Procedures

An evacuation must be initiated whenever personnel show signs or symptoms of overexposure to potential site contaminants. In the event of an evacuation, personnel will proceed immediately to the support zone, unless doing so would further jeopardize the welfare of workers. Personnel will proceed to an alternate location until instructed otherwise by the ASI FTL.

Evacuation procedures will be discussed, prior to the initiation of any work at the site. Evacuation from the site is dependent upon the location at which work is being performed. In the event an emergency evacuation is effected during the course of work at any of the areas, personnel shall immediately report to the designated refuge location, and remain there. The Site Health and Safety Officer shall conduct a roll call (using the site log book) to account for all personnel to ensure that a total work site evacuation has taken place.

9.6 Decontamination Procedures/Emergency Medical Treatment

Decontamination procedures will be performed only if doing so does not further jeopardize the welfare of site workers. Decontamination will not be performed if the action that initiates an evacuation would further endanger the lives of workers, if workers were to perform decontamination procedures. However, it is unlikely that such an event could occur at this site where workers would be required to evacuate the site without first performing decontamination procedures.

Emergency Medical Treatment:

Scene Safety – prior to rendering emergency medical assistance personnel are directed to evaluate the scene around them. The very situation that may have caused the emergency may still exist and threaten the responder. If you were there when the incident happened you will be the best to make this determination.

Protect Yourself – Emergency medical treatment will be initiated under the following guarded restrictions:

Take the necessary precautions to prevent direct contact with the injured person's body fluids. This may be accomplished through the employment of the following measures: Use surgeons gloves when handling cuts, abrasions, bites, punctures, etc. or any part of the injured person. The use of safety glasses and surgeons masks is recommended, if there is the potential for uncontrolled spread of body fluids.

Should Cardio-Pulmonary Resuscitation (CPR) be required, use a CPR Micro-Shield mouthpiece when administering CPR to prevent contact with the injured person's body fluids. In order to engage these protective measures the FOL shall insure that these items are part of their first-aid kit.

9.7 Emergency Alerting and Response Procedures

Since ASI personnel will be working in close proximity to each other, hand signals and voice commands will be sufficient to alert site personnel of an emergency. Onsite Tetra Tech Management and police should be informed immediately of any accident or spill. By the end of the day there will be a preliminary report, with a final investigation report submitted within 24 hours.

9.8 PPE and Emergency Equipment

A first-aid kit equipped with a CPR mouth shield will be maintained on the boat during all on-water operations.

Figure 9-1

Emergency Reference

Emergency resources are as follows:

Local Police Department:	Kittery PD	207-439-1638 or 911
Local Fire Department:	Kittery FD	207-439-1638 or 911
Local Hospital:	**Portsmouth Regional Hosp.**	**(603) 436-5110**
	333 Borthwick Ave. Portsmouth, ME	
	York Hospital 15 Hospital Dr. York, ME 03909	877-363-4321
Local Ambulance Service:	207-363-4403, 2041	
Statewide Poison Control Center:	1-800-222-1222	
Poison Control Hotline:	1-800-222-1222	
USEPA National Response Center:	1-800-424-8802	
Regional National Response Center	1-888-372-7341 (in region 1 only)	

Tetra Tech Contacts:

Operations Manager:
Project Manager:

Emergency Route to Hospital:

From the boat ramp head SW on Newton St. Take right at Goodrich Ave. Take 1st right onto Winston St. Continue onto Sicard St. Turn right at Wyman Ave. and turn left at Whipple Rd. Continue onto Shapleigh Rd. and continue onto ME 236 N. At circle stay on ME 236 and get off onto US 1 Bypass. At circle take 3rd exit and continue on US1. Then take right onto Borthwick Ave. and take a right into the Hospital.

Attachment 1

Vessel and Equipment Inspection

Check equipment to be inspected: Vessel _____ Vibracore _____ Benthic Sampler___
Generator _____ Communication Instrumentation _____

Equipment Identification Number: _____

Items	Condition			Remarks
	Good	Rejected	N/A	
Vessel				
1. Hull				
2. Engine and Controls				
3. Fuel System				
4. Electrical System				
5. Safety and Emergency (Items per USGC Requirements)				
6. Anchoring Gear				
7. Lines				
8. Navigation Systems				
9. Communication Systems				
10. Wash Down Pump(s)				
11. Mast and Boom Assembly				
12. Winches				
13. On-Board Tools/Supplies				
14. Floatation Devices (PFD)				
15. Bilge Pump				
16. Foul Weather/Cold Water Protection				
17. Running Lights				
Benthic Sediment Sampling Equipment				
1. Housing Assembly				
2. Bolts				
3. Tools				
4. Lifting Harness				
5. Cables				

_____ _____

Inspected by Date

Attachment 2

Heat Stress Monitoring

The heat stress-monitoring program will be managed on-site by the SSO. Monitoring will be based on heat stress monitoring.

Heat Stress Symptoms

Heat stroke is always life threatening; it occurs when the person's temperature control system that causes sweating, stops working correctly. The body temperature rises so high that brain damage and death will result if the person is not cooled quickly. The main signs of heat stroke are red or flushed skin; hot, dry skin, although the person may have been sweating earlier; and extremely high body temperature, often to 41°C (106° F). There may be dizziness, nausea, headache, rapid pulse and unconsciousness.

Heat exhaustion is much less dangerous than heat stroke. The major signs of heat exhaustion are pale, clammy skin, profuse perspiration, and extreme tiredness or weakness. The body temperature is approximately normal. The person may have a headache and may vomit.

Cool a victim of heat stroke immediately. If the body temperature is not brought down quickly, permanent brain damage or death may result. Soak the person in cool, but not cold water, sponge the body with rubbing alcohol or cool water, or pour water on the body to reduce the temperature to a safe level, about 39°C (102° F). Then stop cooling and observe the victim for 10 minutes. Call an ambulance as soon as possible. If the temperature starts to rise again, cool the victim again. Do not give coffee, tea or alcoholic beverages.

For mild heat exhaustion, stop work, remove the protective coveralls, and get out of the sun. Give the person water, juice, or Gatorade. Medical care is needed for severe heat exhaustion.

Of particular importance is heat stress resulting when protective clothing decreases natural body ventilation. One or more of the following will help reduce heat stress:

- Drinking water shall be made available to workers in such a way that they are stimulated to frequently drink small amounts, i.e., one cup, every 15-20 minutes (about 150 ml or ½ pint).

- Water shall be kept reasonably cool (55-60°F) and shall be placed close to the workplace so that the worker can reach it without abandoning the work area. However, where contaminants are suspected or known to exist that may pose an ingestion toxicity hazard potential, workers shall not be permitted to consume any fluids without first being decontaminated and going to a non-contaminated area.

- If PPE coveralls need to be worn, which is unlikely, then long cotton underwear acts as a wick to help absorb moisture and protect the skin from direct contact with heat-absorbing protective clothing; it should be the minimum undergarment worn.

- When necessary/applicable, install mobile showers and/or hose-down facilities to reduce body temperature and cool protective clothing.

- In extremely hot weather, conduct non-emergency response operations in the early morning or evening.

- In hot weather, rotate shifts of workers wearing impervious clothing.

- Good hygienic standards must be maintained by frequent changes of clothing and daily showering. Clothing should be permitted to dry during rest periods. Persons noticing skin problems should immediately consult medical personnel.

- Acclimatization to heat involves a series of physiological and psychological adjustments that occur in an individual during their first week of exposure to hot environmental conditions. The work-rest regimen in this procedure is valid for acclimated workers who are physically fit. Extra caution must be employed when unacclimated or physically unfit workers must be exposed to heat stress conditions.

- Provide a shaded rest area.

Heat Stress Monitoring

In the event that heat stress/heat exhaustion is observed during work activities, the on-site Tetra Tech representative determines that the type of work may require careful monitoring, or environmental conditions dictate careful monitoring (e.g., respirators, plastic Tyvek, and heavy workload), the following procedures could be implemented.

Work Rest Regimen

Establishment of a proper work-rest regimen may be used, in conjunction with the workload required to perform each task. Light work examples include sitting or standing to control machines or performing light hand or arm work. Moderate work includes walking about with moderate lifting and pushing or use of coated overalls and respirators. Heavy work corresponds to pick and shovel-type work or the use of full body protective clothing. It must be assumed that any activity involving this type of clothing will be considered heavy work.

The work-rest regimen selected will be utilized as a baseline. The actual or adjusted period of work will be determined based on the biological monitoring outlined in the biological monitoring section.

Biological Monitoring

One of the following procedures shall be followed when the workplace temperature is 70° F or above, and/or upon this site HSO's discretion, in order to make sure the work-rest regime is providing proper personal protection and to document exposure.

- Heart rate (HR) shall be measured by the pulse for 30 seconds, as early as possible, in the resting period. The HR at the beginning of the rest period should not exceed 110 beats/min. If the HR is higher, the next work period should be shortened by 10 minutes (or 33 percent), while the length of rest period stays the same. If the pulse rate is 100 beats/min at the beginning of the next rest period, the following work cycle should be shortened by 33 percent.

- Body temperature shall be measured, orally, with a clinical thermometer, as early as possible, in the resting period. Oral temperature (OT) at the beginning of the rest period should not exceed 99°F. If it does, the next work period should be shortened by 10 minutes (or 33 percent), while the length of the rest period stays the same. However if the OT exceeds 99.7^{o}F at the beginning of the next rest period, the following work cycle should be further shortened by 33 percent. The worker's OT should be measured at the end of the rest period to make sure that it has dropped below 99°F. At no time shall work begin with OT above 99°F.

Heat Stress Prevention Work-Rest Regiment Guidelines

(Values are Given in 0°F WBGT)

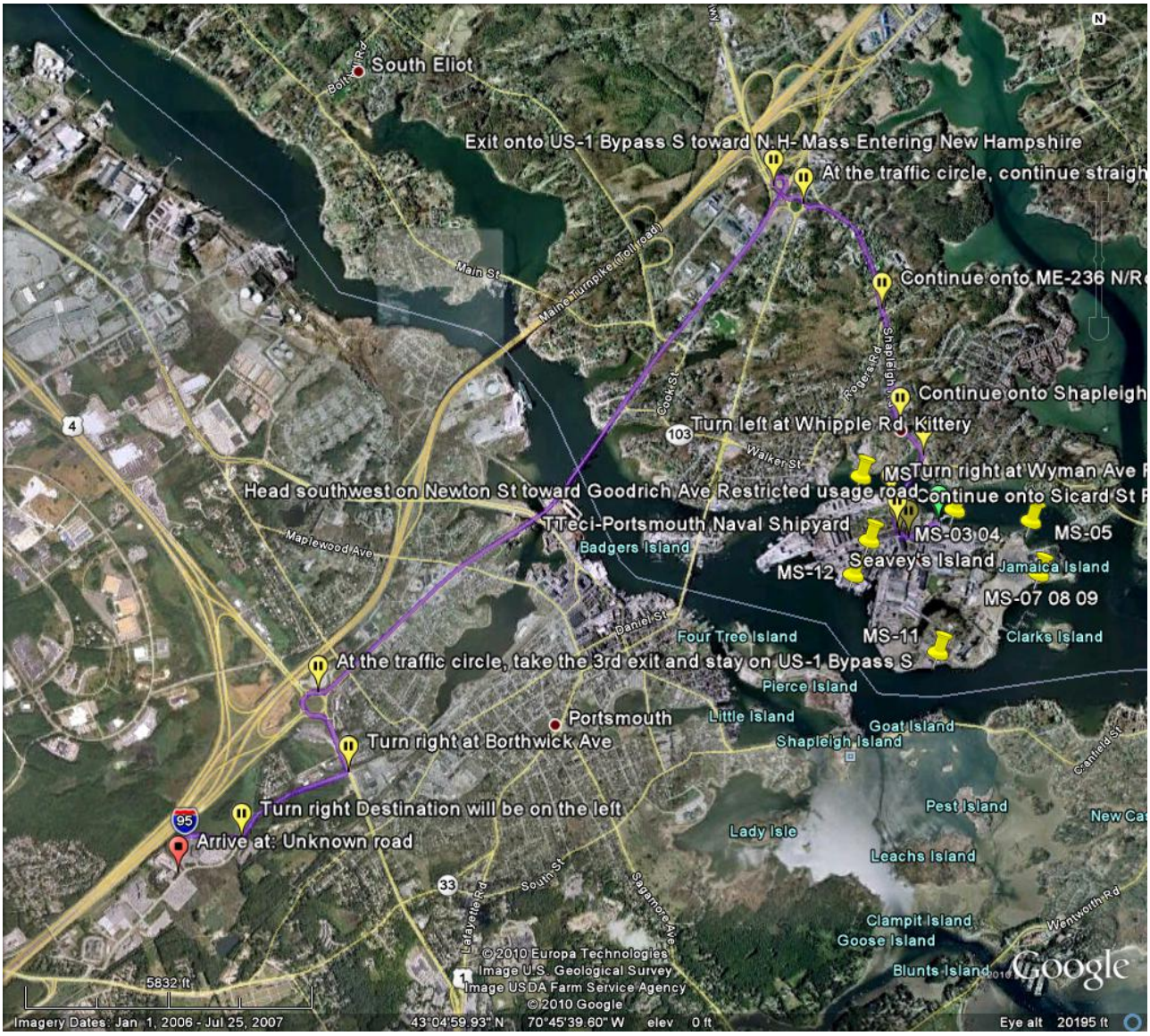
Work Rest Regiment	Work Load		
	Light	Moderate	Heavy
Continuous Work	86.0	80.0	77.0
75% Work – 25% rest each hour	87.0	82.0	78.6
50% Work – 50% rest each hour	89.0	85.0	82.0
25% Work – 75% rest each hour	90.0	88.0	86.0

Figure 9-2

Site Location

Figure 9-3

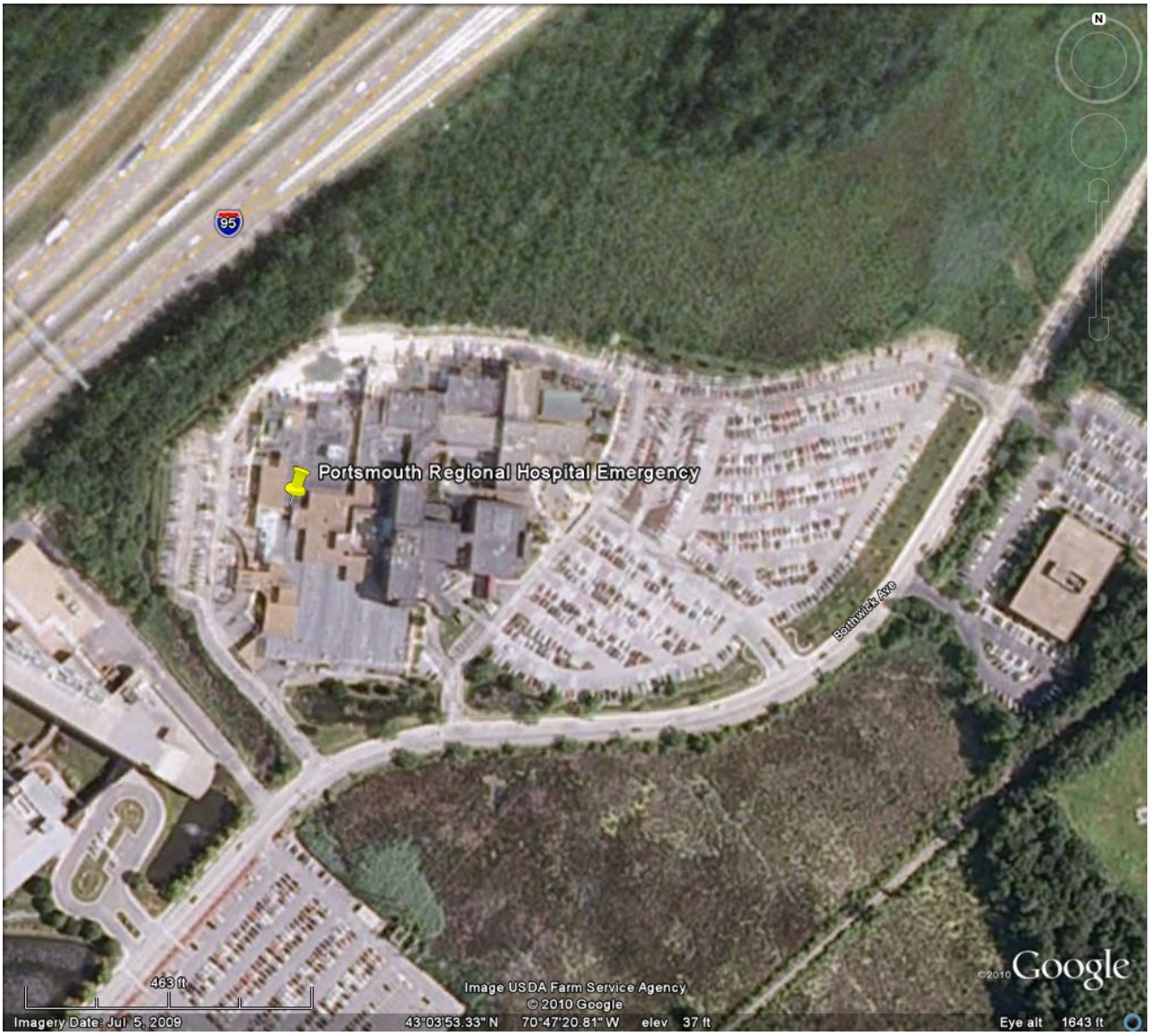
Route To Portsmouth Regional Hospital
(603) 436-5110



Emergency Route to Hospital:

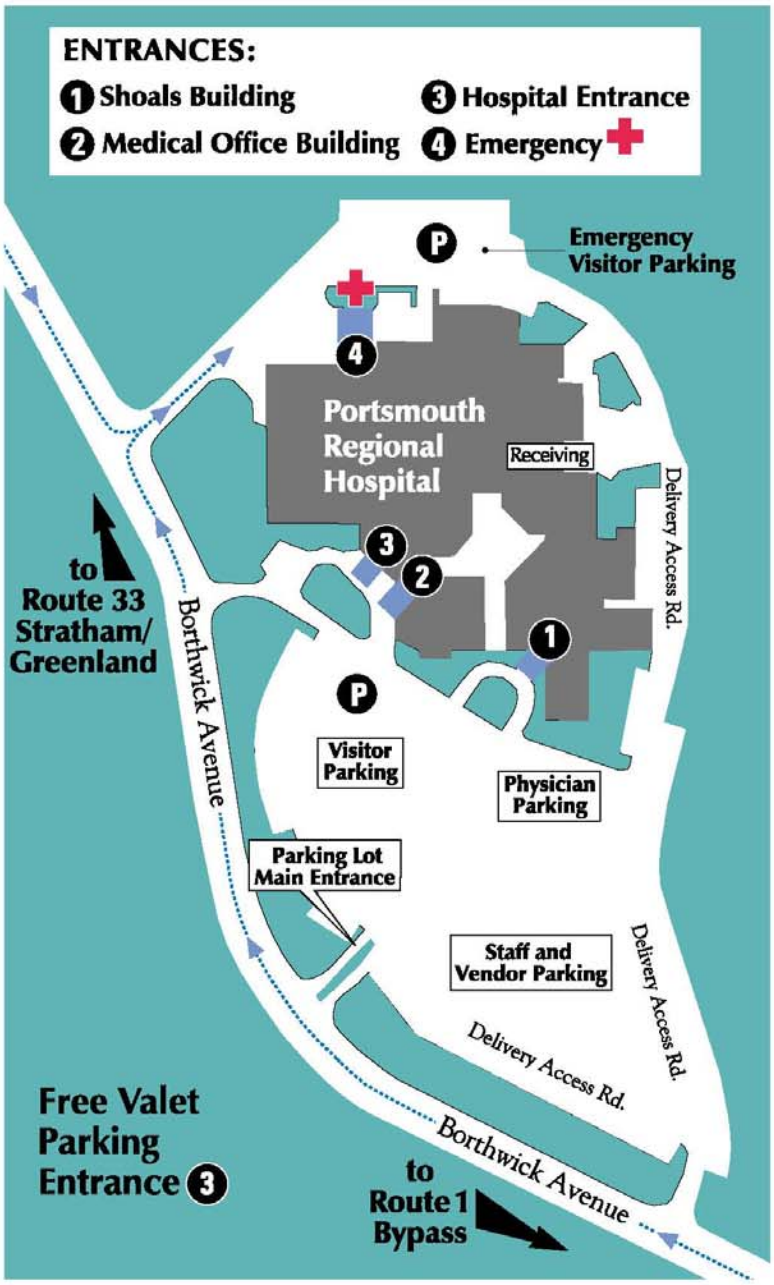
From the boat ramp head SW on Newton St. Take right at Goodrich Ave. Take 1st right onto Winston St. Continue onto Sicard St. Turn right at Wyman Ave. and turn left at Whipple Rd. Continue onto Shapleigh Rd. and continue onto ME 236 N. At circle stay on ME 236 and get off onto US 1 Bypass. At circle take 3rd exit and continue on US 1. Then take right onto Borthwick Ave. and take a right into the Hospital.

Portsmouth Regional Hospital Campus



PORTSMOUTH REGIONAL HOSPITAL CAMPUS MAP

(SEE DIRECTORY ON NEXT PAGE)



Portsmouth Regional Hospital
Entrance Directory
Page 1 of 3

ATTACHMENT VI

SAFE BOATING CHECKLIST

Owner/Operator Name:_____

Registration Number_____

Location _____ County: _____State: _____HIN:_____

Length of Boat:	<16 ❑	16-25 ❑	26-39 ❑	40-65 ❑	> 65 ❑
Area of Operations:	Inland ❑	Coastal ❑			
Powered by:	Gas ❑	Diesel ❑	Sail ❑	Other ❑	
Type:	PWC ❑	Open ❑	Cabin ❑	Other ❑	

Capacity:_____

USCG **COMMERCIAL SMALL VESSEL CHECKLIST**

1._____Applied for inspection or scheduled re-inspection (46 CFR 176.105)
2. _____Certificate of documentation up to date (46 CFR 67.7)
3. _____Vessel's stability letter on board (46 CFR 176.306)
4. _____Operator's license valid (46 CFR 185.402; 15.805(a)(4))
5. _____Fcc station license valid (46 CFR 176.402(c)(3); 184.502)
6. _____Emergency checklist posted (46 CFR 185.510(a))
7. _____Life jacket donning instruction posted (46 CFR 185.516)
8. _____Operating area charts onboard (no more than 3 years old) (46 CFR 184.420(a)(1))
9. _____Approved first aid kit onboard (46 CFR 184.710)

NAVIGATION EQUIPMENT:

1. _____Compass working and lighted (46 CFR 184.402)
2. _____Radar, if installed, properly operating (46 CFR 184.404)
3. _____ Loran, if installed, properly operating (46 CFR 184.410)
4. _____Depth sounder working
5. _____Vhf radio working (46 CFR 184.502)
6. _____All navigational lights working and properly installed (46 CFR 183.420)
7. _____Anchor light working and properly installed (46 CFR 183.420)
8. _____Fog bell onboard (33 CFR 81, appendix a, rule 33)
9. _____Horn working (33 CFR 81, appendix a, rule 33)
10. _____All flares (3 red and 3 orange) within 3 years of manufacture date and stored in a water proof container (46 CFR 180.68)

FIRE FIGHTING EQUIPMENT:

1. _____At least 1-bi fire extinguisher and 2-bii fire extinguishers onboard in brackets and in usable condition (46 CFR 181.500)
2. _____If installed, power driven fire pump properly operating (46 CFR 181.300)
3. _____Annual servicing for installed fixed fire extinguishing systems (46 CFR 176.810 (b))
4. _____If required, all engine and vent shut downs operating (46 CFR 181.420(a)(3))

LIFESAVING:

1. _____All life jackets (appropriate Type), in good condition, all straps and buckles rot free and working. Retro reflective tape in good condition. Vessels name stenciled on the jacket. All jackets must be laid out at time of inspection. (46 CFR 176.808; 180.71(a); 185.604(b) & (h))
2._____Life jacket boxes properly stenciled. Child's life jackets stored separately (46 CFR 185.604(f); 180.78(a)(5))

3. _____Ring buoy in good condition. Attached line and water light in good condition. Ring buoy properly stenciled. (46 CFR 185.604(b) & (i); 180.70; 176.808(b))

4. _____Buoyant apparatus in good condition and properly rigged. Lines usable. All straps in good condition. Waterlight in working condition. Weak link properly attached. For life floats; paddles

in good condition and all equipment stenciled. (46 CFR 176.808(b); 180.130; 180.137; 180.175; 180.200; 46 CFR 185.604(a)(2) & (e) & (g))

MACHINERY:

1. _____Engine exhaust in good condition. For dry exhaust; insulation blanket must be in place. (46 CFR 182.425; 182.430; 177.920)

2. _____All flexible, non-metallic piping (hose) properly double clamped. All wires and piping properly supported. (46 CFR 182.430(f); 183.340(a)(4))

3. _____Electrical wiring of proper type and size. No jury rigs, or improper splices or portable cords or wire nuts. All stray, dead wires removed. (46 CFR 183.340)

4. _____All bilge pumps, piping, float switches, high water alarms and helm indicator lights in good working condition. Hand bilge pump working properly with adequate length of hose. (46 CFR 182.500 - 182.530)

5. _____All sea valves operable and accessible (46 CFR 179.350(c) - (g))

6. _____Bilge oil free

7. _____ Shaft packing gland properly adjusted (46 CFR 176.802; 176.804)

8. _____Shut offs in good working condition and stenciled. (46 CFR 182.455(b)(4);46 CFR 185.608)

9. _____Flame shield installed on the racor fuel filter (46 CFR 182.455(b)(6))

10. _____All fuel tanks and fills bonded (46 CFR 182.445(g))

11.____All fuel vents clean and have 30x30 flame screens (46 CFR 182.450(e))

12. _____All storage batteries in lead lined, fiberglass or acceptable plastic boxes. All connections clean. If necessary, lid on the box. Battery shutoff switch installed. Electrical system fused. All helm guages in proper working order (i.e.; tach, oil pressure and water temp). (46 CFR 183.350(e);183.354(b); 183.350(g); 183.380(i); 182.410(b))

MISCELLANEOUS:

1. _____All watertight hatches in proper working condition with good gaskets. All hatches with keeper chains/securing devices. (46 CFR 179.360)

2. _____All decks in sound, safe condition (46 CFR 176.802)

3. _____Anchor and anchor line in good condition (46 CFR 184.300)

4. _____Steering system in good condition (i.e. Packing gland, rudder stops and rams, cables and rods in good condition) (46 CFR 182.600 - 182.620 & 176.802)

5. _____All toilets properly work. Toilet piped for no discharge. (46 CFR 184.704)

6. _____All hand rails secure (46 CFR 177.900)

7. _____Two good working flashlights onboard (46 CFR 183.430)

Note: all installed equipment, whether it is required or not, must be in good working condition.

Reference: altered USCG small vessel inspection checklist

ATTACHMENT VII

OSHA POSTER

Job Safety and Health

It's the law!

OSHA

Occupational Safety and Health Administration
U.S. Department of Labor

EMPLOYEES:

- You have the right to notify your employer or OSHA about workplace hazards. You may ask OSHA to keep your name confidential.
- You have the right to request an OSHA inspection if you believe that there are unsafe and unhealthful conditions in your workplace. You or your representative may participate in that inspection.
- You can file a complaint with OSHA within 30 days of retaliation or discrimination by your employer for making safety and health complaints or for exercising your rights under the *OSH Act*.
- You have the right to see OSHA citations issued to your employer. Your employer must post the citations at or near the place of the alleged violations.
- Your employer must correct workplace hazards by the date indicated on the citation and must certify that these hazards have been reduced or eliminated.
- You have the right to copies of your medical records and records of your exposures to toxic and harmful substances or conditions.
- Your employer must post this notice in your workplace.
- You must comply with all occupational safety and health standards issued under the *OSH Act* that apply to your own actions and conduct on the job.

EMPLOYERS:

- You must furnish your employees a place of employment free from recognized hazards.
- You must comply with the occupational safety and health standards issued under the *OSH Act*.

This free poster available from OSHA –
The Best Resource for Safety and Health

Free assistance in identifying and correcting hazards or complying with standards is available to employers, without citation or penalty, through OSHA-supported consultation programs in each state.

1-800-321-OSHA

www.osha.gov

OSHA 3165-12-06R