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MARINE SAFETY PLAN OFFSHORE SAMPLING AT OPERABLE UNIT 4 (OU 4) NSY  
PORTSMOUTH ME  
04/01/2011  
TETRA TECH NUS

**Marine Safety Plan**  
**For**  
**Sediment Sampling**  
**Portsmouth Naval Shipyard**  
**Kittery, Maine**



**Naval Facilities Engineering Command**  
**Mid-Atlantic**

**Contract Number N62470-08-D-1001**

**Contract Task Order WE29**

April 2011

**MARINE SAFETY PLAN**

**OFFSHORE SAMPLING AT OU4**

**PORTSMOUTH NAVAL SHIPYARD  
KITTEERY, MAINE**

**COMPREHENSIVE LONG-TERM  
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT**

**Submitted to:**

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

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## **1.0 OVERVIEW**

This Marine Safety Plan (MSP) has been developed specifically to support the marine sediment sampling operations that will take place at Portsmouth Naval Shipyard (PNS) in April 2011. The sediment sampling will support the offshore monitoring for Operable Unit 4 at PNS. The purpose of this plan is to provide procedures and protocols that will be used by the contractor Tetra Tech NUS, Inc. (Tetra Tech) and Aqua Survey when performing the marine portions of the sediment sampling work. The work will be performed from a 25' pontoon boat. The primary concerns addressed by this MSP are personal safety, environmental safety and vessel safety. The final draft of this plan will be provided prior to the start of offshore work to all interested parties and will address all pertinent procedures involved in the sampling plan.

## **2.0 PLAN ELEMENTS**

This MSP is composed of the following elements:

- Distribution of MSP
- Training and Implementation
- Marine Project Location
- Critical Operations Plan
- Critical Procedures
- Rigging and Lifting Operations
- Emergency Procedures
- Marine Communications Plan
- Marine Transportation Plan
- Shore Base
- Water Hazards and Lifesaving
- Conclusion

## **3.0 DISTRIBUTION OF MSP**

This MSP will be distributed to the NAVFAC PWD MAINE engineering technician, NAVFAC Remedial Project Manager, the Tetra Tech Project Manager, the Aqua Survey project manager, all field personnel, and the Aqua Survey vessel operator. A copy of this MSP will be placed on the sediment sampling vessel utilized for this project.

#### **4.0 TRAINING AND IMPLEMENTATION**

The AQUA SURVEY project manager, AQUA SURVEY field supervisors, will review the contents of this MSP and Health and Safety Plan (HASP) at a kick-off safety meeting that will take place before any marine field work takes place on this project. Pertinent comments or suggestions made during this kick-off safety meeting may be inserted into revised versions of this HASP or MSP.

The vessel Captain for Aqua Survey must possess a USCG license and be 40-hour trained in OSHA HAZWOPER 29 CFR 1910.120 with annual 8-hour refresher renewals.

#### **5.0 MARINE PROJECT LOCATION**

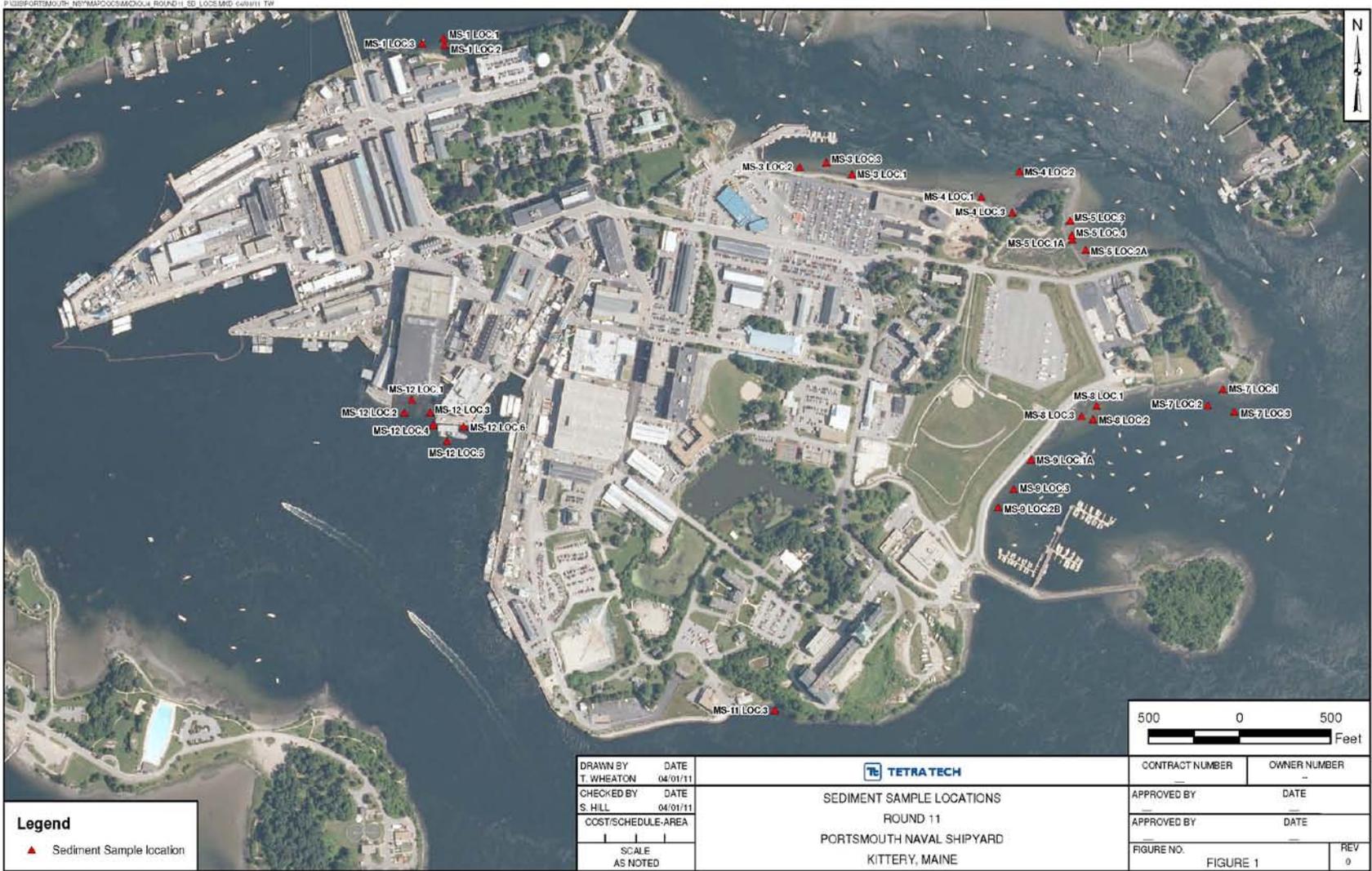
Portsmouth Naval Shipyard (PNS) is a military facility with restricted access. PNS spans all of Seavey Island and is situated in a tidal estuary of the Piscataqua River, which forms a border between Maine and New Hampshire. PNS is located in the State of Maine about 1 mile north of Portsmouth, New Hampshire. 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. Figure 1 shows the sediment monitoring stations that will be sampled during this investigation.

#### **6.0 CRITICAL OPERATION PLAN**

The following operational procedures are intended for use by the AQUA SURVEY offshore crews during the sediment sampling work. The purpose of these procedures is to provide a precise set of operational requirements and duties that will ensure that all marine operations are conducted safely.

**FIGURE 1**  
**OU 4 SAMPLING LOCATIONS**



## **6.1      Safety**

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:

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

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. The Captain will be the Competent Person for marine operations.

## **7.0      **CRITICAL PROCEDURES****

Following are critical procedures specific to this project:

### **7.1      Pre-Sampling Notification**

The NAVFAC PWD MAINE engineering technician will be notified prior to the start of offshore operations at the site. This will provide notification of the project start date and the intent to conduct sediment sampling at OU 4.

### **7.2      Security Clearance**

Prior to work being performed from a water borne craft, the boat 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.

### **7.3      Contact with Commercial Fishermen or Recreational Boaters**

In the event military and commercial traffic or recreational boaters approach the offshore work site during periods of sampling activity, AQUA SURVEY will notify the boaters by radio of the operations and required safety clearances. In the event commercial fishermen or recreational boaters violate the minimum safety clearances, AQUA SURVEY will shut down its operations until the safety hazard has been remedied. The U.S. Coast Guard may be called for assistance, if necessary.

## **8.0 COMPETENT PERSON**

The competent person for marine operations shall be the AQUA SURVEY Boat Captain. Contact information for this individual is provided in the Contact List located in Figure 2 of this Plan. This individual has the ultimate responsibility and authority for maintaining a safe offshore work site and responding to any emergencies.

## **9.0 OFFSHORE SAFE WORKING CONDITIONS**

In the event of unsafe seas or weather conditions, the AQUA SURVEY Captain (Competent Person) will shut down work and not permit any operation to be [performed during these conditions. In addition, AQUA SURVEY will maintain a professional marine weather forecast radio to provide the Competent Person with daily weather and sea state predictions.

## **10.0 REFUELING**

The sediment sampling (pontoon) boat will not be refueled during this project.

## **11.0 RIGGING AND LIFTING OPERATIONS**

This project will not require extensive rigging and lifting of heavy objects. Samplers will employ a medium ponar dredge to collect sediment samples. Based on the amount of the sample grab at each location the weight on the ponar could create a heavy lifting situation. The boat captain may employ an attached winch to lift the sample to the surface. The winch will be inspected at the beginning of operations per the Safe Boat Checklist

## **12.0 ANCHORING OPERATIONS**

Anchoring operations present special safety hazards to the offshore crews as well as other boaters who pass through the site during anchoring operations. No anchors will be allowed to drag on the seafloor. Anchor setting operations will not commence or will be halted, if already started, until all commercial or recreational boaters are clear of the work site.

## **13.0 EMERGENCY PROCEDURES**

### **13.1 Evacuation Procedures**

In the event of an emergency requiring evacuation during marine operations, personnel will immediately stop activities and return to shore and report to the designated safe place of refuge unless doing so would pose additional risks. The place of refuge will be determined by the FOL once on site and communicated

to site personnel during site specific training. . 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 sediment sampling. This information will be reiterated during daily safety meetings. 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.

### **13.2 Storm Contingency**

Storm surf could be dangerous to sediment samplers and operations.

In the event of predicted storms, or in the event of high surf, AQUA SURVEY will pull the boat from the water and remove the boat from the Shipyard until the storm passes or surf subsides.

## **14.0 MARINE COMMUNICATIONS PLAN**

The marine communications plan will be used by the vessel to communicate with vessel traffic in and around the site, and to communicate with the U.S. Coast Guard.

### **14.1 Work Site Radio Communications**

Radio communications will be conducted using VHF-FM marine band radios.

### **14.2 Cellular Telephone Contact**

The Tetra Tech FOL will be available by cellular telephone. This individual possesses a phone that is legal (does not have a camera) for use on PNS her contact number is found in the Contact List Figure 2:

**FIGURE 2**

**EMERGENCY REFERENCES  
PORTSMOUTH NAVAL SHIPYARD**

<b>AGENCY</b>	<b>TELEPHONE NUMBER</b>
Police (Shipyards)	(207) 438-2444*
Fire Department (Shipyards) Ambulance (Shipyards)	(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
Matt Shappell Aqua survey Captain	(941) 224-6884
Shannon Hill, FOL	(412) 921-8876 - office (617) 901-1498 - cell
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 (757) 218-8747 - cell
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

## **15.0 MARINE TRANSPORTATION PLAN**

The offshore operations will be performed on a 22-26 foot pontoon boat. Additional vessels will not be required for support. The pontoon boat owned by AQUA SURVEY will transport AQUA SURVEY and Tetra Tech personnel to and from the shore base on a daily basis. The boat will travel the most direct route to the sampling locations and the local shore base on PSNY.

Safety features on the vessel will include guard rails to guard against falling off the vessel when it is underway or stationary while sampling. Also, a throwable buoy with at least 90 ft. of rope attached will be on board.

Care must be taken when boarding and debarking the vessel to reach the dock or the shore. If a buddy can extend an arm or hand to help another person it should be done. Jumping onto the shore should only be done as a last resort. If it is necessary be sure of the footing you will be landing on. If available a boarding ladder can be used.

## **16.0 SHORE BASE**

AQUA SURVEY anticipates establishing a shore base somewhere near the boat ramp. The exact location has not been selected at the time of this writing. However, the location will provide an area for temporary storage of equipment.

## **17.0 WATER HAZARDS AND LIFESAVING**

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.

## **17.1 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 NAVFAC PWD MAINE engineering technician Joe Lavoie to leave and store the boat on site at night. In order to safely perform the sampling activities Tetra Tech and Aqua Survey have developed a Site Specific Health and Safety Plan for their activities during this planned work

## **18.0 SPILL CONTAINMENT PROGRAM**

Project sediment sampling activities will not require significant quantities of potentially hazardous materials to be handled; therefore a Spill Containment Program will not be necessary for sediment sampling activities. The sediment sampling boat will, however, contain a fuel tank to power the boat. The Aqua Survey boat will be required to be equipped with booming equipment in the event of an accidental spill such as a ruptured fuel tank.

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

## **19.0 LIFESAVING U.S.C.G. FLOTATION DEVICE TYPES**

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.

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 water's edge (Piers and Docks) will do so using the buddy system to assist in rescue efforts, if needed.

## **19.1 U.S.C.G Boat Regulations**

The Navy Dockmaster is the ultimate authority within the boundaries of US Navy property. Contact with the dockmaster will be coordinated through NAVFAC PWD MAINE engineering technician Joe Lavoie. 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 storage of the boat will be coordinated with Joe Lavoie who will find a berth for the boat at the marina if available

The U.S.C.G. requires 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.
- 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 I of this plan.. 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.

## **20.0 CONCLUSION**

The marine Safety Plan is intended to present hazards and safety precautions to preclude the occurrence of mishaps during offshore operations. This plan is to be used in conjunction with the:

- Tetra Tech NUS HASP for OU4
- Aqua Survey Health and Safety Plan

**ATTACHMENT I**

**SAFE BOATING CHECKLIST**

## Safe Boating Checklist

Owner/Operator Name: Aqua Survey – Matthew Shappell

Registration Number NJ7232HA

Location: Flemington County: Hunterdon State: NJ HIN: VCP25105B606

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. \_\_\_\_\_ Depth sounder working
3. \_\_\_\_\_ Vhf radio working (46 CFR 184.502)
4. \_\_\_\_\_ All navigational lights working and properly installed (46 CFR 183.420)
5. \_\_\_\_\_ Anchor light working and properly installed (46 CFR 183.420)
6. \_\_\_\_\_ Fog bell onboard (33 CFR 81, appendix a, rule 33)
7. \_\_\_\_\_ Horn working (33 CFR 81, appendix a, rule 33)
8. \_\_\_\_\_ 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 onboard in brackets and in usable condition (46 CFR 181.500)
2. \_\_\_\_\_ Annual servicing for installed fixed fire extinguishing systems [46 CFR 176.810 (b)]
3. \_\_\_\_\_ 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. All jackets must be laid out at time of inspection. [46 CFR 176.808; 180.71(a); 185.604(b) & (h)]
2. \_\_\_\_\_ Ring buoy in good condition. Attached line and water light in good condition.
3. \_\_\_\_\_ 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. [46 CFR 176.808(b); 180.130; 180.137; 180.175; 180.200; 46 CFR 185.604(a)(2) & (e) & (g)]

### **MISCELLANEOUS:**

1. \_\_\_\_\_ All decks in sound, safe condition (46 CFR 176.802)
2. \_\_\_\_\_ Anchor and anchor line in good condition (46 CFR 184.300)
3. \_\_\_\_\_ 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)
4. \_\_\_\_\_ All hand rails secure (46 CFR 177.900)
5. \_\_\_\_\_ 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*