Spill Prevention Control and Countermeasures Plan

For

Woods Hole Oceanographic Institution
Woods Hole, Massachusetts

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WOODS HOLE OCEANOGRAPHIC INSTITUTION
SPILL PREVENTION CONTROL AND COUNTERMEASURES
(40 CFR Part 112)

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1.0 INTRODUCTION AND PLAN CERTIFICATION

1.1 Introduction

As required by the Clean Water Act, the United States Environmental Protection Agency (USEPA) established Oil Pollution Prevention Regulations, which are codified in 40 CFR Part 112. These regulations establish procedures, methods, equipment, and other requirements to prevent the discharge of oil from non-transportation-related onshore and offshore facilities into or upon the navigable waters of the United States (U.S.) or adjoining shorelines.

These regulations apply to owners/operators of facilities engaged in storing, processing, transferring, distributing, using, or consuming oil and oil products, including gasoline, and other activities, which due to its location, could reasonably be expected to discharge oil in quantities that may be harmful into or upon navigable waters of the U.S.

Facilities are subject to the federal Oil Pollution Prevention regulations if:

1. The underground storage capacity of the facility is 42,000 gallons of oil or greater, or

2. The aggregate aboveground storage capacity of the facility is 1,320 gallons or greater of oil.

Woods Hole Oceanographic Institution is subject to these regulations based upon the quantities of oils stored at their facility.

The main facilities are located at the following addresses:

Woods Hole Oceanographic Institution (Quissett Campus)
360 Woods Hole Road
Woods Hole, MA 02543

Woods Hole Oceanographic Institution (Village Campus)
86 Water Street
Woods Hole, MA 02543

The *Woods Hole Oceanographic Institution* stores approximately **25,916 gallons** of oil in containers and/or aboveground and underground storage tanks (ASTs and USTs) in various buildings throughout the facility. The Village Campus stores approximately **2,658 gallons** and the Quissett Campus stores approximately **23,258 gallons.** Since the

facility's aboveground volume exceeds the regulatory threshold volume and since there is potential, although limited, for an oil spill to reach a "water of the United States", a SPCC Plan has been prepared and implemented.

It is also noted that an additional 4,799 gallons in transformer oil is present on the *Woods Hole Oceanographic Institution* campuses, which are owned and maintained by NSTAR, the power utility company (see Appendix B). Since these transformers are the responsibility of NSTAR, they have not been addressed in this SPCC Plan.

1.2 Professional Engineer's Certification (§112.3(d))

Plan Date:
Date of PE Certification:
Date of Plan Review:

Certification

I, Hubert V. Spurway, attest that I have reviewed the Woods Hole Oceanographic Institution Oil SPCC Plan and certify that:

- I am familiar with the requirements of the federal Oil Pollution Prevention regulations in 40 CFR Part 112;
- I (or my agent) have visited and examined the facilities included in this plan;
- The plan has been prepared in accordance with good engineering practices, including consideration of applicable industry standards, and with the requirements of the SPCC rule;
- Procedures for inspections and testing have been established; and,
- The plan is adequate for the facility.

Professional Engineer: Hubert V. Spurway

Signature:

Registration Number: 26207

State: Massachusetts

Date: September 8, 2008

Stamp:

1.3 Plan Review and Amendments (§112.4, 112.5(a)(b)(c))

1.3.1 Oil SPCC Plan Amendments Required by the U.S. EPA

In accordance with 40 CFR Part 112.4, the Regional Administrator (RA) of the US EPA may require the amendment of this Oil SPCC Plan if:

1) The facility has a discharge exceeding 1000 gallons of oil in a single discharge, or

2) If more that 42 gallons of oil are discharged in each of two discharges occurring within any 12-month period.

If either of these two events occurs, *Woods Hole Oceanographic Institution* must submit information specified in the regulation to the RA within 60 days.

1.3.2 Oil SPCC Plan Amendments Required in the Event of a Material Change

In accordance with 40 CFR Part 112.5(a) this Oil SPCC Plan will be amended "when there is a change in the facility design, construction, operation, or maintenance that materially affects its potential for a discharge into or upon navigable waters of the U.S."

Amendments to the plan will be prepared with six months and implemented as soon as possible, but not later than six months following plan amendment.

1.3.3 Oil SPCC Plan Review & Evaluation

In accordance with 40 CFR 112.5(b), a review and evaluation of this Oil SPCC Plan will be conducted at least once every five years from the date of the last review. *Woods Hole Oceanographic Institution* will amend the Oil SPCC Plan within six months of the review to include more effective prevention and control technology if: (1) if such technology has been field-proven at the time of the review, and (2) if such technology will significantly reduce the likelihood of a spill event from the facility.

The amendment will be implemented as soon as possible, but no later than six months following the amendment of the plan.

The review and evaluation of the Oil SPCC Plan will be documented and a statement signed as to whether the Plan will or will not be amended, as follows:

"I have completed a review and evaluation of the Oil SPCC Plan for Woods Hole Oceanographic Institution on the date(s) below, and will (will not) amend the Plan as a result"

Review Dates	Amendment	Signature
May 2003		
August 2006		
March 2008	1.2, 1.4, 3.2, 3.3.1, 3.3.5, 6.2.1, 6.4, 8.2., 10.1, 11.0	

All technical amendments will be certified by a registered Professional Engineer.

1.4 Conformance with Regulatory Requirements (§112.7(a)(1))

Woods Hole Oceanographic Institution has developed this Oil SPCC Plan in accordance with the requirements of 40 CFR Part 112. As allowed by this regulation (112.7(a)(2), alternative equivalent environmental protection provisions have been implemented where deviation from technical elements of the regulation have been necessary. The reason for each deviation and a description of the environmentally equivalent methods implemented are included within this plan.

1.5 Management Approval

Woods Hole Oceanographic Institution is committed to the prevention of discharges of oil to navigable waters and the environment, and maintains the industry standards for spill prevention control and countermeasures through regular review, updating, and implementation of this Spill Prevention Control and Countermeasures Plan.

Authorized Facility Representative: Ernest G. Charette

Ernest G. Charette
Signature

Director of Facilities and Services
Title

2.0 GENERAL SITE INFORMATION (§112.7(a)(3))

Name of Facility:	**Woods Hole Oceanographic Institution**
Type of Facility:	**Academic/Research Facility**
Location of Facility:	**Woods Hole, Massachusetts 02543**

Name and address of owner or operator:

Woods Hole Oceanographic Institution
Mr. Ernest G. Charette
Director of Facilities and Services
86 Water Street
Woods Hole, Massachusetts 02543

Designated person accountable for oil spill prevention at the facility:

Name	Phone Number
Ernest Charette	508-289-2702

3.0 SPCC PLAN OVERVIEW (§112.7(a)(3))

3.1 Facility Description

Woods Hole Oceanographic Institution is a private research institution, located in Woods Hole, Massachusetts. The two properties associated with *Woods Hole Oceanographic Institution* are Village Campus and Quissett Campus, primarily comprised of academic buildings, residence housing, a central energy plant, and warehouses. The buildings have various purposes, which include laboratories, living accommodations, offices, classrooms, storage, grounds and maintenance. These facilities are encompassed within 219 acres of land adjacent to Great Harbor and Vineyard Sound. A site plan of the campus is provided in Appendix A.

3.2 Oil Storage

Oil storage facilities are located in or adjacent to several of the facility buildings. The site plan presented in Appendix A identifies the location of these facilities on the property. The stored oil is used for a variety of applications, including:

- Fuel oil for heating;
- Diesel fuel for emergency generators;
- Hydraulic fluids for equipment such as elevators;
- Waste oil; and
- Transformer oils.

Types of Oils Stored and Storage Volumes

The table below identifies the types of oils used at *Woods Hole Oceanographic Institution* and their approximate total volumes. Aboveground storage totals include all oil types and sizes of tanks and containers with a capacity of 55 gallons or greater.

Village Campus

Product	Aboveground Storage (gallons)	Underground Storage (gallons)
Diesel/#2 Fuel Oil	1880	0
Hydraulic Oil	778	0
Total	**2,658**	**0**

Quissett Campus

Product	Aboveground Storage (gallons)	Underground Storage (gallons)
Diesel/ #2 Fuel Oil	10,621	10,000
Hydraulic Oil	1,317	0
Misc. Oil	1,320	0
Total	**13,258**	**10,000**

Oil is stored at a variety of locations onsite. Oil storage locations, tank/container sizes, and the predicted flow rate and direction of any releases are presented in Appendix B.

There are 30 transformers on the Institution's campuses, of which 28 are cooled with non-PCB oil and the remaining 2 are cooled by air. The volume of oil in each transformer varies, but the average volume is approximately 171 gallons per transformer, for a total estimated volume of 4,800 gallons. A complete listing of all the transformers is included in Appendix B.

Every emergency generator on the Woods Hole and Quissett campus is tested by qualified personnel on a weekly basis. As part of the documented testing, the Plant Mechanics perform a visual inspection of the tank, pump and piping system at each location. This weekly inspection greatly reduces the chance of an undetected leak or spill.

Bulk fuel oil tanks are equipped, at a minimum, with audible vent alarms that whistle while the tank is being filled by the delivery vendor or contractor. Once the fuel level reaches the top of the storage tank, the whistle stops, alerting the delivery vendor or contractor that the tank is full. The 10,000-gallon #2 fuel oil tank, located at the central energy plant, is equipped with an overfill prevention valve (OPV). These systems are common methods to reduce the chances of the bulk tanks being overfilled during deliveries.

3.3 Woods Hole Oceanographic Institution Policies on Oil Storage, Spill Prevention, and Spill Containment (§112.7(a)(3)(i-v))

Woods Hole Oceanographic Institution has instituted policies for proper oil storage, mitigation of the impact of any spills, and spill response for the facility. To achieve the institution's primary goal to prevent the occurrence of spills at the facility, specific procedures have been developed and implemented. *Woods Hole Oceanographic Institution* supplements this spill prevention initiative with a philosophy that should a spill event occur, the primary means to stop a release is to contain the material within the immediate area of the occurrence. For this reason, *Woods Hole Oceanographic Institution's* oil management system has also established several spill containment procedures for implementation in the event a spill should occur. The specific policies and procedures described in this plan are designed to provide spill prevention and containment at the *Woods Hole Oceanographic Institution* campuses.

3.3.1 Container and Drum Storage

The general strategy for preventing releases from *Woods Hole Oceanographic Institution* facilities is to handle containers and drums properly, and, where needed, to contain a spill in the general area where the material is stored. The following policies have been instituted:

- Drums of oil are properly labeled and stored upright or on drum cradles.
- Containers of oil are to be properly handled and transported by trained personnel.
- Oil storage containers equal to or greater than 55-gallons storage capacity are stored in secondary containment (or are otherwise contained), so as to provide at least 100% containment of the largest container volume in case of a leak or rupture.

- Spill equipment (absorbent material, spill containment equipment) is maintained at oil and loading/unloading storage areas throughout the campus. Similar materials are available at or near elevators and electrical rooms in which oil-filled equipment is located. Additionally, the institution's Comprehensive Emergency Management Plan (CEMP) identifies the locations of spill response equipment.

Spill prevention measures taken by *Woods Hole Oceanographic Institution* are selected based on site-specific conditions, taking into consideration the practical application of a physical means of containment or engineered structure (e.g., berms, dikes, etc.) and the relative potential for spills or releases. Secondary containment is provided in most areas; and if it is not feasible to install secondary containment, then spill equipment is available nearby, and institutional controls (i.e. procedures) have been implemented. Details of secondary containment inspection and spill prevention equipment and materials are included in Appendix C, at the conclusion of this document.

3.3.2 Aboveground Tanks and Containers

There are currently **70** aboveground oil storage tanks and containers (including tanks, drums, and elevators) throughout the institution's facilities. A list of these tanks and containers, and their contents and locations is included in Appendix B of this plan.

The general strategy for preventing releases is to contain any spill of oil in the general area until such time as the material can be removed. The following procedures have been established:

- In rooms or outdoor areas with existing storage tanks near open floor or storm drains, or sensitive receptors, the drains are permanently plugged, capped or covered, if possible; or temporarily covered during refilling operations.

- Containment measures, such as the placement of curbs, berms, or spill pillows at doors or other exits, are used to contain spills within the rooms in which they occur.

- The **Facilities Department** inspects all tanks on a monthly basis and documents the inspections. The **Director of Facilities and Services** reviews all inspection logs. (See Appendix C)

- Oil containing equipment or tanks placed out on the dock area are inspected weekly for leaks.

3.3.3 Underground Tanks

The Woods Hole Oceanographic Institution has one underground storage tank on the Quissett Campus, which is a 10,000-gallon tank of #2 fuel oil located at the Central Energy Plant. The tank is equipped with a state-of-the-art monitoring system by the manufacturer, Veeder Root, which continually monitors the system for leaks. The Plant Supervisor or designee of the Central Energy Plant checks the tank monitoring system monthly and the results are recorded. The installation and correct use of this equipment greatly reduces the chances of an undetected leak.

Appendix E identifies the location of this tank and the fuel oil diagram. The policies and procedures for refueling this tank are included in Section 8.

3.3.4 Hydraulic Equipment

Hydraulic oil-containing elevators are located in several buildings within the two *Woods Hole Oceanographic Institution* campuses. The elevators are operated and maintained by an outside contractor. The elevators are inspected on a monthly basis. Spill kits are nearby in the event of a spill. A list of these locations is included in Appendix B of this Plan.

3.3.5 Marine Vessel Refueling

The marine vessels at *Woods Hole Oceanographic Institution* are routinely refueled. Because refueling activities pose a potential for fuel releases into Great Harbor, contractors are required to be accompanied by *Woods Hole Oceanographic Institution* personnel at all times during fueling. The contractor is required to place containment trays under all fill pipes during refueling procedures. Refer to Section 8 for the complete procedure.

4.0 POTENTIAL SPILLS - PREDICTION AND CONTROL (§ 112.7(b) & (c))

Per subsection 112.7(b) of the federal regulations, this plan identifies locations where experience indicates that a reasonable potential for equipment failure exists. The regulation requires that the plan include a prediction of the flow direction, rate of flow, and total quantity of oil that could be discharged from the facility as a result of such a failure. Subsection 112.7(c) further states that containment and/or diversionary structures or equipment to prevent discharged oil from reaching a navigable watercourse should be provided.

Appendix B lists the locations where oil is stored and where spill events could occur, indicates stored oil volumes, estimates potential flow rates and direction, and lists the containment and/or diversionary structures or equipment that are used to prevent discharged oil from reaching a surface water. The information is listed based on the tank/container location.

Both campuses have upgraded secondary containment systems and spill kits placed near aboveground storage tank locations. Because the UST poses a potential threat of spillage to navigable water primarily during filling operation, *Woods Hole Oceanographic Institution* Facilities Department personnel from Mechanical Services, Electrical Shop and Plant Operations are nearby and available at all times while the tank is being filled to provide emergency notification and immediate spill control measures. Delivery procedures are included in Section 9 of this plan. Spill kits are readily accessible at underground storage tank (UST) locations while tanks are being filled.

5.0 FACILITY DRAINAGE (§ 112.8(b))

5.1 Drainage Systems

Drainage from the oil storage areas on the campus is best discussed by differentiating indoor and outdoor drainage systems.

Indoor Drainage Systems

When practicable, *Woods Hole Oceanographic Institution* makes every effort to store and handle oil within contained areas or with secondary containment. Oil is stored in various buildings at the *Woods Hole Oceanographic Institution* facilities. At this time, all oil storage tanks and containers equal to or exceeding 55 gallons have secondary containment. Physical containment of and response procedures to potential oil releases will greatly reduce, if not completely prevent, oil from reaching the outside environment. Floor drains near any oil tanks or containers have been permanently plugged.

Outdoor Drainage Systems

While the majority of oil storage tank bulk containers and delivery areas are not adjacent to navigable waterways (Great Harbor or Vineyard Sound) or storm drains, the potential does exist for a spill to enter storm drains or navigable waterways on the Village Campus.

Consequently, during periods of wet weather flow, there is a possibility that oil spills to storm drains could reach a local surface water body and be considered a reportable spill incident by federal definition.

The Quissett Campus existing storm drains discharge to drywells in accordance with town policy. The campus has no connection to the town sewer system, therefore no release potential exists via sewer piping.

Above ground storage tanks are located on concrete or asphalt surfaces or within buildings with concrete floors, and in nearly every case, for those containers that have total capacity equal to or greater than 55 gallons, have secondary containment. Therefore, no need exists to have diking around tank/container storage areas, and storm water is not collected.

6.0 BULK STORAGE TANKS/CONTAINERS (§ 112.8(c))

"Bulk storage container" is defined in the regulations as *any container used to store oil except oil filled electrical, operating, or manufacturing equipment.* For purposes of this plan, the terms "tank" and "container" are used interchangeably. Oil storage tank inventories for the *Woods Hole Oceanographic Institution* facilities are provided in Appendix B. There are aboveground storage tanks or containers (including hydraulic elevator tanks) at the facility. Absorbent materials are stored in close proximity. None of the tanks are equipped with internal heating coils.

6.1 Tank Materials and Construction (§ 112.8(c)(1))

Aboveground storage tanks are steel and other materials that are compatible with the material stored within them and with other conditions of storage.

6.2 Secondary Containment (§ 112.8(c)(2))

The underground storage tank (UST) at the campus is double-walled and equipped with leak detection systems consisting of interstitial monitoring devices and high level alarms. The UST is a completely buried tank and are in full compliance with the applicable UST technical requirements of 40 CFR Parts 280 and 281.

Most of the aboveground tanks are in the basement of buildings, which provide sufficient secondary containment. The types of secondary containment for all tanks on campus, along with institutional controls, are listed in Appendix B.

Woods Hole Oceanographic Institution's fuel oil delivery contractor performs fuel deliveries in compliance with U.S. Department of Transportation (DOT) regulations. The fuel delivery contractor maintains absorbent pads and spill containment materials on each oil delivery truck. The delivery contractor is also responsible for providing oil absorbent booms or socks under each loading pipe to prevent spillage or leakage of oil into the environment.

6.2.1 Motive Power Containers

Motive power containers are located in or on a motor vehicle, including on-board bulk storage containers used solely to power the movement of a motor vehicle, or ancillary on-board, oil-filled operational equipment used to facilitate its operation. Operational equipment fitting this description that are present on the *Woods Hole Oceanographic Institution* include:

- Forklift (330-gallon fuel tank),
- Lebus Winch (132-gallon hydraulic oil tank),
- Terex Crane (111-gallon hydraulic/lube oil tank), and
- Grove Crane (58-gallon hydraulic/lube oil tank).

Guidance provided within the U.S. EPA's SPCC Guidance for Regional Inspectors (11/28/2005) states that the SPCC rule was not intended to regulate motive power containers. Therefore, this equipment is not subject to the general secondary containment provisions within 112.7(c) requiring secondary containment for all aboveground storage tanks.

6.3 Buried or Partially Buried Metallic Tanks (§112.8(c)(4)&(5))

There are no partially buried metallic storage tanks at *Woods Hole Oceanographic Institution.*

6.4 Aboveground Storage Tank Integrity Testing Schedule (§112.8(c)(6))

Federal oil pollution prevention regulations set forth in 40 CFR Part 112 require regular visual inspection as well as integrity testing of aboveground oil storage tanks/containers on a regular schedule. Each of the above ground storage tanks at the *Woods Hole Oceanographic Institution* campus have been assessed to determine the most appropriate integrity testing methods.

In order to comply with this requirement *Woods Hole Oceanographic Institution* has implemented measures equivalent to the requirements of 112.8 (c)(6) by adhering to the provisions of the Steel Tank Institution Standard SP001, Inspection of Aboveground Storage Tanks. This standard is hereafter referred to as STI Standard SP001. The standard establishes methods and procedures for the inspection of storage tanks based on the risk of release to the environment with consideration to spill control methods and release detection engineering of the tanks.

Woods Hole Oceanographic Institution currently stores oil in above ground containers ranging in size from 55-gallons to 2,500 gallons. Because these tanks are all less than 5,000 gallons shell capacity or do not fall under "Category 3" tank specifications which are specific to above ground storage tanks without spill control and without continuous release detection monitoring, non-destructive shell testing is not applicable in accordance with the STI Standard SP001 standard. This is discussed in greater detail in the following paragraphs.

55-Gallon Drums

In accordance with Table 5.5 "Table of Inspection Schedules" of the STI Standard SP001, "Portable Containers" are only subject to monthly visual inspections

whereas no formal shell integrity testing is required. Furthermore, in accordance with clarification provided by U.S. EPA Region I, U.S. Department of Transportation (DOT)-approved 55-gallon drums in good condition are not subject to integrity testing as they are already in conformance with required industry standards.

Accordingly, *Woods Hole Oceanographic Institution* has adopted the environmentally equivalent practice of using only UN Rated [DOT approved] shipping containers for the storage of oil in quantities of ≤ 55 gallons. This standard practice is addressed within the annual training provided to the oil handling personnel at each campus.

Small Storage Tanks (100 to 2,500- Gallon Capacity)
In accordance with STI Standard SP001, the small storage tanks at the *Woods Hole Oceanographic Institution* were evaluated for their risk of release to the environment based on the following conditions:

- the presence of a Continuous Release Detection Method (CRDM),
- the presence of a Spill Control equipment
- the tank size, and
- the tank type.

A summary of this evaluation is presented in Appendix F

6.5 Container Installations - Good Engineering Practices (§112.8(c)(8))

All above and below ground tanks are equipped with a type of Overfill Protection Device (OPD) such as either liquid level indicators or vent whistles, or the liquid level can be observed while filling the container (e.g., drums, elevator reservoirs, etc.); storm drains are protected when tanks are being filled. Specifically:

- The 10,000-gallon underground storage tank is equipped with a monitoring system by Veeder Root that continually monitors the system for leaks and contains an OPV, (40 CFR 112.8(c)(8));

- Aboveground tanks have vent whistles and/or are observed during filling

Where OPDs are not practical (e.g., 55-gallon drums), observation of container filling in lieu of an OPD, is an acceptable means of providing alternative measures for equivalent environmental protection in accordance with 112. 8.

6.6 Facility Wastewater Discharges (§ 112.8(c)(9))

Village Campus sanitary wastewater is discharged to the local Publicly Owned Treatment Works (POTW) through the sanitary sewer lines. By implementing containment procedures, providing secondary containment within indoor oil storage areas, directing flow to dry wells (Quissett Campus) in accordance with town policy, and/or by maintaining a readily available supply of absorbent materials in such areas, *Woods Hole Oceanographic Institution* minimizes the potential for oil spills occurring in campus buildings to reach the local sewer system, and therefore navigable water.

6.7 Visible Oil Leaks and Mobile Oil Storage Tanks (§112.8(c)(10)&(11))

Upon discovery, oil leaks that could result in a loss of oil from tank seams, gaskets, rivets and bolts, are promptly corrected by the Facilities Department.

Leaks are corrected by Facilities Department personnel on an as-needed basis and both written and verbal reports are submitted to the Director of Facilities and Services The individual who detects the leak initiates repairs or calls for a work order. Spill equipment is nearby in the event of a release.

In the event that portable or temporary oil storage containers are used at either campus, either active or passive means of secondary containment would be provided. In accordance with the regulation, secondary containment would be required to provide 100% containment of the largest container volume plus sufficient freeboard for precipitation.

7.0 TRANSFER OPERATIONS, PUMPING AND IN-PLANT PROCESSES (§112.8(d))

The principal transfer operations taking place at the campus involves the transfer of fuel oil from delivery trucks to aboveground and the underground tank and from the containers to its point of use. In addition, *Woods Hole Oceanographic Institution* transfers products from containers on an as-needed basis. Oil is pumped from the oil storage tanks by various pumping and pipeline systems to its point of final use. No above ground oil pipes are located where vehicles could cause damage, therefore, no warning is provided to vehicle operators to avoid above ground lines.

7.1 Buried Piping (§ 112.8(d)(1))

Buried piping that is installed or replaced will be provided with a protective wrapping and coating. The *Woods Hole Oceanographic Institution* campus has both underground and aboveground piping systems. All accessible aboveground systems are visually inspected on a monthly basis as part of the tank inspection procedures (see Appendix C). Underground piping has undergone integrity testing. Buried piping systems are visually inspected whenever they are exposed.

7.2 Out-of-Service Pipelines (§112.8(d)(2) & 112.7(g)(4))

Woods Hole Oceanographic Institution currently does not have any out-of-service pipes. However, when pipelines are not in service or are in standby mode for an extended period of time, the connection at the transfer point is capped and marked as to its origin.

7.3 Pipe Supports and Aboveground Pipelines and Valves (§112.8(d)(3) and (4))

Oil transfer pipeline supports have been designed and constructed to minimize abrasion and corrosion and allow for expansion and contraction. The Facilities Department visually examines the aboveground pipelines, valves, and pipe supports on a monthly basis. These monthly inspections are documented and records kept on file.

The Director of Facilities and Services reviews all inspection reports. Integrity testing of all ASTs and associated piping is performed in accordance with the inspection checklist provided in Appendix C.

8.0 TANK TRUCK LOADING AND UNLOADING (§112.8(d))

Tank truck unloading at *Woods Hole Oceanographic Institution* consists primarily of bulk deliveries of fuel oil to their respective aboveground and underground storage tanks. Contractors are required to follow *Woods Hole Oceanographic Institution's* established spill prevention guidelines.

8.1 Department of Transportation Regulations

An independent delivery supplier, under contract with *Woods Hole Oceanographic Institution,* performs tank truck unloading. The unloading procedures implemented by the carriers meet the minimum requirements and regulations established by the Department of Transportation. (49 CFR 177.834 and 177.837).

8.2 Fuel Oil Delivery Procedures

The following are *Woods Hole Oceanographic Institution's* fuel oil delivery guidelines. These guidelines are communicated to contractors selected by *Woods Hole Oceanographic Institution* for fuel delivery service.

Delivery procedures implemented by the outside oil delivery contractors meet the minimum requirements and regulations established by the Department of Transportation. Absorbent materials and spill containment materials are present on each delivery truck and utilized in the event of a spill event. *Woods Hole Oceanographic Institution* requires the oil delivery contractor to use drip trays under all fill pipes to catch spills or leaks that would otherwise reach the environment, this is especially important when the ships are being fueled. The contractor is present during delivery and has the proper spill equipment in the event of a spill during fueling.

Where installed, overfill alarms are used to prevent overfilling of tanks. The delivery contractor is always present throughout the filling process. Deliveries at the Central Energy Plant are always monitored by *Woods Hole Oceanographic Institution* personnel to ensure fueling is performed properly and without incident. Fuel delivery is permitted at this location during regular business hours, with prior notice of delivery to the Facilities Department. Periodic audits at other locations are also performed.

Marine Vessel Fueling

For fueling of the *Woods Hole Oceanographic Institution* marine research vessels, the oil delivery contractor is required to notify the Port Office when a delivery to the Iselin Marine Facility is scheduled and the Port Office in turn notifies the Facilities

Department. Fueling is only performed by qualified personnel and in accordance with the procedure described below to reduce the likelihood of a spill event. Fuel deliveries are performed only at the request of Port Office personnel.

All deliveries are made during daylight hours, and preferably at high tide. Marine Operations personnel first manually "stick" the fuel tanks to verify the existing fuel level in each tank. From that information, the volume of fuel to be added to the tank is calculated and this information is relayed to the delivery truck operator. The delivery truck operator remains by the truck, while the Marine Operations employee dispenses the fuel at the fill connection (s) of each vessel. The truck operator and the Marine Operations employee are in constant visual and audible contact during the operation, monitoring the volume of fuel going into the tank (by the delivery truck driver) and the fuel level in the tank itself (by the Marine Operations employee).

Once the tanks approach their fill level, the fueling operation is stopped. The research vessels have absorbent pads on board which are used to absorb small drips should they occur during the fueling operation. A phone is located on the vessel and at the dock, and employees have radios/cell phones that enable them to call for assistance should an accident occur.

Tank truck unloading procedures meet the minimum requirements and regulations established by the U.S. Department of Transportation and the U.S. Coast Guard. In particular, the following procedures are observed during the filling of research vessels as well as the 10,000 gallon #2 fuel UST:

1. No smoking is allowed within 50 feet while unloading fuel.
2. The delivery truck driver is to remain with the vehicle at all times while loading/unloading.
3. Each delivery of oil is supervised by the delivery truck driver and a trained *Woods Hole Oceanographic Institution* employee. Throughout the process, each person must be alert, have unobstructed view of the delivery truck and the storage tank, as well as being within 25 feet of each. Unless the delivery truck's engine is to be used for operation of the pump, no flammable liquid shall be unloaded while the engine is running.
4. The facility representative will ensure that the wheels of the delivery truck are blocked/chocked and that drip pans or oil absorbing pads are placed beneath all hose connections that might be prone to leakage.
5. Unloading operations are to be performed only in areas designated for that purpose.

6. The unloading operation is not to begin before the level in the tank is checked and it is verified that the tank has sufficient capacity to receive the volume of fuel to be transferred.

7. The drain valve on the truck is to be closed, and the unloading line is to be drained back to the tank before disconnecting the unloading line.

8. Prior to departure of the delivery truck, the lower most drain and all outlets are closely examined for leakage, and if necessary, tightened, adjusted or replaced to prevent any liquid leakage while in transit.

9. Any leakage or spillage must be immediately reported and including quantity, by dialing extension 2911 on the campus phone which is continuously monitored by WHOI personnel.

Dyers Dock is a dock area owned by *Woods Hole Oceanographic Institution,* however, the dock is also utilized by the general public. A sign is posted instructing boaters to clean up any spills in the dock area.

These procedures shall be reviewed during all annual SPCC trainings for *Woods Hole Oceanographic Institution* oil handling personnel.

9.0 INSPECTIONS AND RECORDS (§112.7(e))

Aboveground oil storage tanks, oil containers, and oil-containing equipment are visually inspected on a routine basis by the Facilities Department to determine if there any leaks, spills or other deficiencies. Deficiencies are reported to the Director of Facilities and Services or the Facilities Department and corrected in a timely manner.

Monthly inspection records of all tanks, containers, secondary containment, and emergency response items are maintained and reviewed by the Director of Facilities and Services Inspection sheets are presented in Appendix C. All records are signed by the appropriate supervisor and kept on file for three years. The Facility Self-Inspection records are kept on file for five years. Spills, leaks and/ or other problems discovered are reported and promptly corrected. Incident logs for various types of spills are maintained by the Facilities Department. *Woods Hole Oceanographic Institution* Incident reports are completed for spills of oil to a storm drain or surface water, in the event they occur. A Release Notification Form is included in Appendix D.

10.0 SECURITY (§112.7(g))

10.1 Fencing and Gates (§112.7(g)(1))

The requirements of this section of the Oil SPCC regulation require a facility to fully fence each facility handling, processing, or storing oil, and lock and/or guard entrance gates when the facility is not in production or is unattended. *Woods Hole Oceanographic Institution* does not have a perimeter fence around their property line with guarded or locked entry points primarily because of the nature of the facility's operation as an academic and research institution. Instituting this method of security would greatly inhibit the facility's operation and student access to the campus.

Environmental Equivalent Measures

Woods Hole Oceanographic Institution therefore has elected to adopt environmentally equivalent security methods to satisfy the rule's security requirements.

The vast majority of oil storage and handling occurs within secured areas of *Woods Hole Oceanographic Institution* buildings which prevent unauthorized access to these locations. These locations are secured with locked doors at the entrances.

The fuel oil delivery location for the UST, however, is not located within a secured area at the facility. To provide security and contingency management, all fuel deliveries are monitored by *Woods Hole Oceanographic Institution* operating personnel in accordance with the strict delivery procedures identified in section 8.2 of this plan. The delivery of fuel is monitored and the fuel directed to proper tanks, while monitoring fueling rate and pressure. During all other times the fill ports shall be secured with a lock mechanism to prevent tampering by unauthorized persons.

10.2 Flow Valves, Starter Controls, and Pipeline Loading/Unloading Connections (§112.7(g)(2)&(3))

Master flow valves, starter controls, and other equipment related to initiating the flow of oil are located within secured *Woods Hole Oceanographic Institution* buildings and are not accessible to unauthorized personnel.

10.3 Facility Lighting (§112.7(g)(5))

Lighting provided in and around the facilities is sufficient to provide for the observation of spills during hours of darkness and to deter acts of vandalism that could otherwise result in oil spills. Outdoor oil storage is not readily accessible to acts of vandalism.

11.0 PERSONNEL TRAINING AND SPILL PREVENTION PROCEDURES (§112.7(f))

The *Woods Hole Oceanographic Institution* training program as described below has been implemented as part of this SPCC Plan.

Woods Hole Oceanographic Institution provides annual training to all oil-handling personnel involved with the operation and maintenance of equipment to prevent the discharge of oil. Training elements include:

- discharge procedure protocols;
- applicable pollution control laws, rules, and regulations;
- general facility operations; and,
- the contents of the facility's Oil SPCC Plan.

Woods Hole Oceanographic Institution will include discharge prevention briefings for oil-handling personnel during the annual training to highlight and describe known discharges as described in 40 CFR 112.1(b), or failures, malfunctioning components, and recently developed precautionary procedures.

Woods Hole Oceanographic Institution personnel responsible for overseeing and responding to oil spills at the facility are provided with appropriate hazardous materials spill response training and precautionary measures. Documentation of all such training will be maintained in the Facilities Department office files.

At *Woods Hole Oceanographic Institution,* Mr. Ernest Charette is the designated person accountable for oil spill prevention and who reports to line management.

12.0 SPILL RESPONSE/NOTIFICATION PROCEDURES (§112.7(a)(4))

This section details the response and notification procedures that are to be implemented in the event of any oil spill from the *Woods Hole Oceanographic Institution* campus that has the potential to reach navigable waters.

12.1 Immediate Response/Notification

Upon discovery of a spill or leak, personnel are instructed to stop the discharge to the extent possible (considering health and safety issues). They are instructed to take immediate measures (such as deploying spill containment pillows) to contain the spill in the immediate area and prevent the oil from reaching a floor drain or storm drain, or navigable waters.

After taking initial containment measures, the person discovering the spill must dial 2911 (on campus phones) or (508) 289-2911 (from cell phone) or call the Facilities Department at **(508) 289-2702** or Security at **(508) 289-2242** to provide the following information:

- Location, date, and time of release
- An assessment of the potential for the release reaching a catch basin, floor drain, or release to the sewer, or discharge over land to a navigable waterway, wetland or other sensitive receptors.
- Type of oil released
- Approximate quantity of oil released
- Source of release
- Description of release
- Name and telephone number of the responsible person in the area where the release occurred
- Description of immediate response actions taken
- Any other information, including potential environmental impacts, that is relevant to assessing the degree of the hazard posed by the release.

Pursuant to the procedures in this SPCC Plan, facility personnel are responsible for immediately contacting the Facilities Department. The emergency coordinator contacts other appropriate response team members at *Woods Hole Oceanographic Institution* or a Response Contractor as necessary.

For spills that have reached or have the potential to reach a floor drain, catch basin or other vessel leading to either Great Harbor, Eel Pond, or another sensitive receptor, notification of the proper persons within *Woods Hole Oceanographic Institution* and the regulatory agencies will be made as soon as feasibly possible.

12.2 Facility/ Security Responsibility

A record of all calls will be logged at Facilities or Security office for compliance notification. As soon as possible after the incident, the emergency coordinator will be contacted.

In the event of a spill of any oil or other hazardous substance that exceeds the quantities specified in Table 1 below, or that is released to the Vineyard Sound or Great Harbor, *Woods Hole Oceanographic Institution* is required by state and federal regulations to **immediately** inform the United States Environmental Protection Agency (USEPA) and the Massachusetts Department of Environmental Protection (MADEP) of the location of the spill and as much as is known of the extent of the situation. If any spill occurs which has the potential of reaching either the Vineyard Sound or Great Harbor, the decision to notify the agencies will be the responsibility of the **Director of Facilities and Services** or another senior manager of the Facilities Department. If they cannot be reached within 2 hours of the spill, one person from the Facilities Department will verify the need to contact the MADEP and USEPA.

If it is determined that a spill has reached the Vineyard Sound or Great Harbor or has the potential to reach either waterway, and notification is required, calls must be made to the following numbers, with a responsible person at each location acknowledging receipt of the information. This person's name should be recorded.

12.3 Contact List (§112.7(a)(3)(vi))

1. **<u>Spill Response Contractors:</u> Clean Harbors (800) 645-8265 (Emergency Response Institute), (781) 803-4100 Weymouth Response Center, (800) 343-4244 Corporation Customer Service or Enviro-Safe (508) 888-5478/(508) 737-4109 (Shoreside Spill Response) or Fleet Environmental**

(888) 233-5338 (Shoreside/Marine Spill Response) should be called to respond to a spill. They should be informed of the location of the spill, and the quantity and type of oil spilled. The caller should also identify the potential for discharge to the Vineyard Sound or Great Harbor or other waterways.

2. **Federal EPA at the National Response Center-(NRC) in Washington, D.C.**
   Phone Number **1-800-424-8802.** If no answer, call the alternate number, **(202) 267-2675**, or call EPA Region 1 Headquarters at **(617) 223-6700**. NRC should be informed of the location of the spill, and the quantity and type of oil spilled. If appropriate, the caller should also identify the potential for discharge to the sewer system or the Vineyard Sound or the Great Harbor.

3. **Massachusetts Department of Environmental Protection:** During normal work hours call the MADEP Regional Office at **(508) 946-2700.** In the evening call the spill reporting number at **(508) 820-2121** and follow voicemail instructions to report a spill.

4. **Facilities Emergency Coordinator**: Call the **Director of Facilities and Services, Ernest Charette** at **(508) 289-2702** or **Assistant Facilities Manager** at **(508) 289-2289** or **Security** at **(508) 289-2242.**

5. **Town of Falmouth Fire Department: Dial (508) 548-2323.**

The personnel providing notification should be prepared to offer the following information:

- Exact address or location

- Name and Phone Numbers of:

Woods Hole/Quissett Campus
- Owner/Location – Woods Hole Oceanographic Institution
- Contact Person- Mr. Ernest Charette, **Director of Facilities and Services**

-

- Person reporting the spill or incident

- Date, and time of the discharge

- Type of material released

- Estimates of the total quantity discharged
- The source of the discharge
- The cause of the discharge
- How close to surface water the discharge occurred
- Description of all affected media
- Any damages or injuries caused by the discharge
- Actions being used to stop, remove and mitigate the effects of the discharge
- Whether an evacuation may be needed
- Names of emergency response contractors or other organizations that have been contacted.
- Names of other federal, state, or local governmental agencies that have been notified of and/or have responded to the release.
- Set of notification criteria that is the basis for State Agency notification *(in most cases, release to sewer)*
- Any other information, including without limitation, potential environmental impacts, relevant to assessing the degree of hazard posed by the release.

Following completion of initial response and notification activities facility personnel will restock emergency equipment, restore the impacted area and properly manage contaminated debris.

12.4 Reporting Requirements: U.S. EPA -Significant or Multiple Releases to Surface Water (§112.4)

SPCC regulations require that if any oil storage facility subject to 40 CFR 112.1(b) experiences a release of either: 1) more than 1,000 U.S. gallons of oil into a waterway, or 2) more than two discharges of 42 gallons or oil or greater into a waterway within any twelve month period, the owner or operator of such facility shall submit to the Regional Administrator (U.S. EPA Region I) and to the State

Department of Environmental Protection (MA DEP), within 60 days of the incident, the following information:

1. Name of facility;

2. Name(s) of the owner or operator of the facility;

3. Location of the facility;

4. Maximum storage or handling capacity of the facility and normal daily throughput;

5. Corrective action and countermeasures that were taken, including a description of equipment repairs and replacements;

6. An adequate description of the facility, including maps, flow diagrams, and topographical maps as necessary;

7. The cause(s) of such discharge, including a failure analysis of system or subsystem in which the failure occurred;

8. Additional preventive measures taken or contemplated to minimize the possibility of recurrence; and

9. Such other information as the Regional Administrator may reasonably require pertinent to the Plan or discharge.

Copies of this report should be forwarded to the following addresses:

U.S. EPA Region 1
U.S. Environmental Protection Agency
Region 1- New England
1 Congress Street Suite 1100
Boston, MA 02114

Massachusetts DEP
Commonwealth of Massachusetts
DEP Southeast Region
20 Riverside Drive
Lakeville, MA 02347

12.5 Massachusetts DEP Release Reporting Requirements (Per Massachusetts Contingency Plan)

[1]TABLE 1 RELEASE REPORTING CRITERIA		
2 HOUR REPORTING CONDITIONS	72 HOUR REPORTING CONDITIONS	120 DAY REPORTING CONDITIONS
Sudden release *(equal to or greater than the Reportable Quantity(RQ),or unknown)*	Subsurface, non-aqueous phase liquid (NAPL) equal to or greater than ½ inch	Release of hazardous materials to soil or groundwater exceeding reportable concentration
Threat of sudden release *(likely to occur in quantities equal to or greater than the RQ)*	Underground storage tank (UST) release	Release of oil to soil exceeding reportable concentration and affecting more than 2 cubic yards
Oil sheen on surface Water	Threat of UST release	Release of oil to groundwater exceeding reportable concentration
"Poses" Imminent Hazard	Release to groundwater near water supply	Subsurface NAPL equal to or greater than 1/8 inch and less than ½ inch
Could "pose" Imminent Hazard	[1]Refer to 310 CMR 40.03 et seq. for detailed reporting criteria.	
Release detected in private well		
Release to storm drain		
Sanitary sewer release (Imminent Hazard only)		

If the oil release is a recorded reportable release under the Massachusetts Contingency Plan (MCP), additional follow-up reporting will likely be required. *Woods Hole Oceanographic Institution* may be required to engage or employ the services of a Licensed Site Professional (LSP) to assist in the determination of Immediate Response Actions (IRA) and in the follow-up activities required by the MCP.

Within sixty (60) calendar days of the date of occurrence, *Woods Hole Oceanographic Institution may* have to submit a Release Notification Form to the DEP Southeast Region Office. Where appropriate, the Release Notification Form may be accompanied by a Response Action Outcome Statement. The LSP will assist *Woods Hole Oceanographic Institution* in the preparation of these forms. Forms will be forwarded to the following address:

Commonwealth of Massachusetts
DEP Southeast Region
20 Riverside Drive
Lakeville, MA 02347

The Release Notification Form will include the following information:

1. the location and address where the release or threat of release occurred;

2. the time and date when the release or threat of release occurred;

3. the time(s) and date(s) when the person(s) required to provide the notification to the Department pursuant to 310 CMR 40.0331 obtained knowledge that the release or threat of release met one or more sets of notification criteria established in 310 CMR 40.0311 through 40.0315;

4. the time(s) and date(s) when oral notification of the release or threat of release was made to the Department, if applicable;

5. the set(s) of notification criteria met, as specified at 310 CMR 40.0311 through 40.0315;

6. the names and amounts of oil and/or hazardous material released or threatened to be released;

7. the names and mailing addresses of the owners of all properties impacted by the release or threat of release;

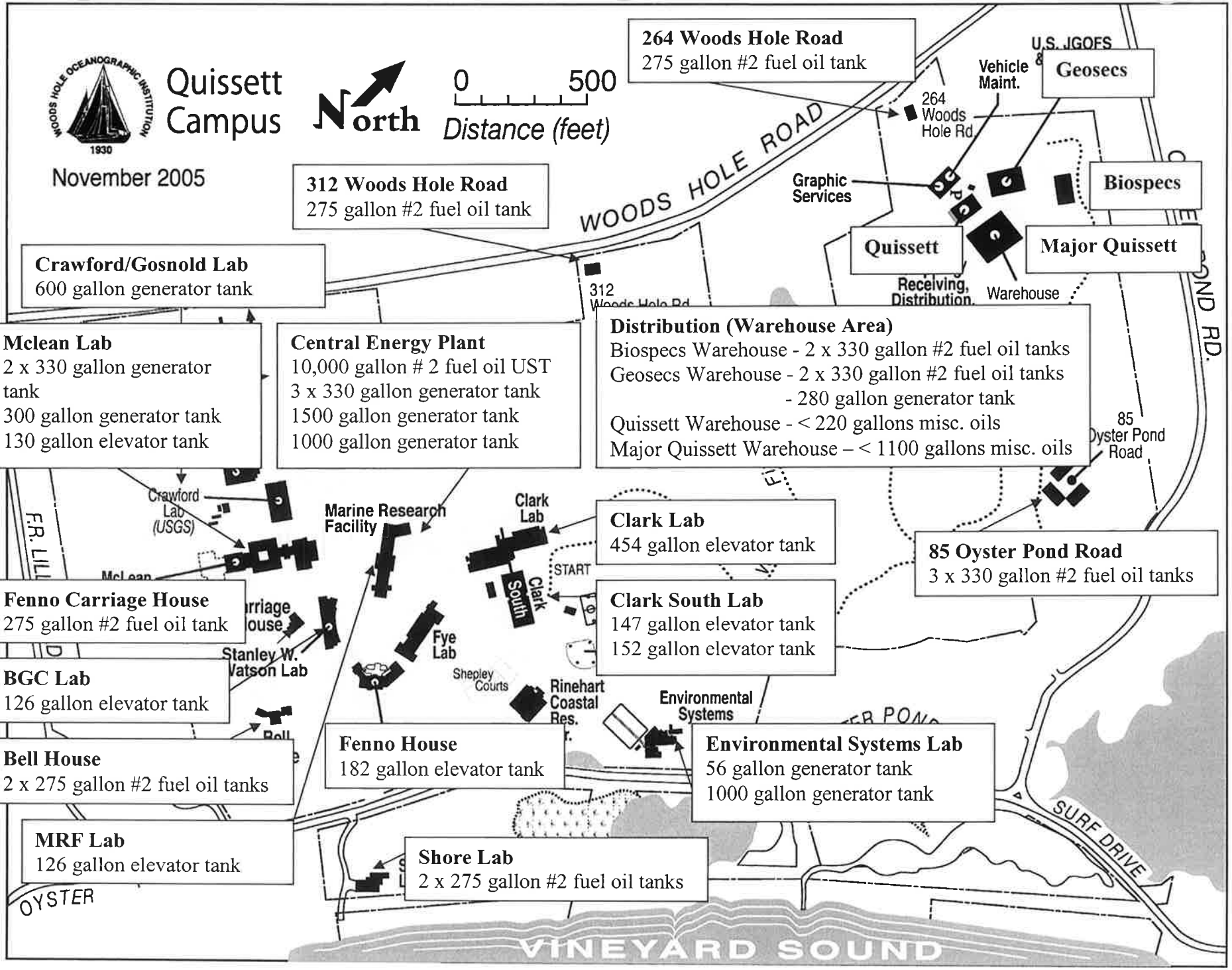
8. the name(s) and address(es) of the person(s) providing the notification of the release or threat of release;

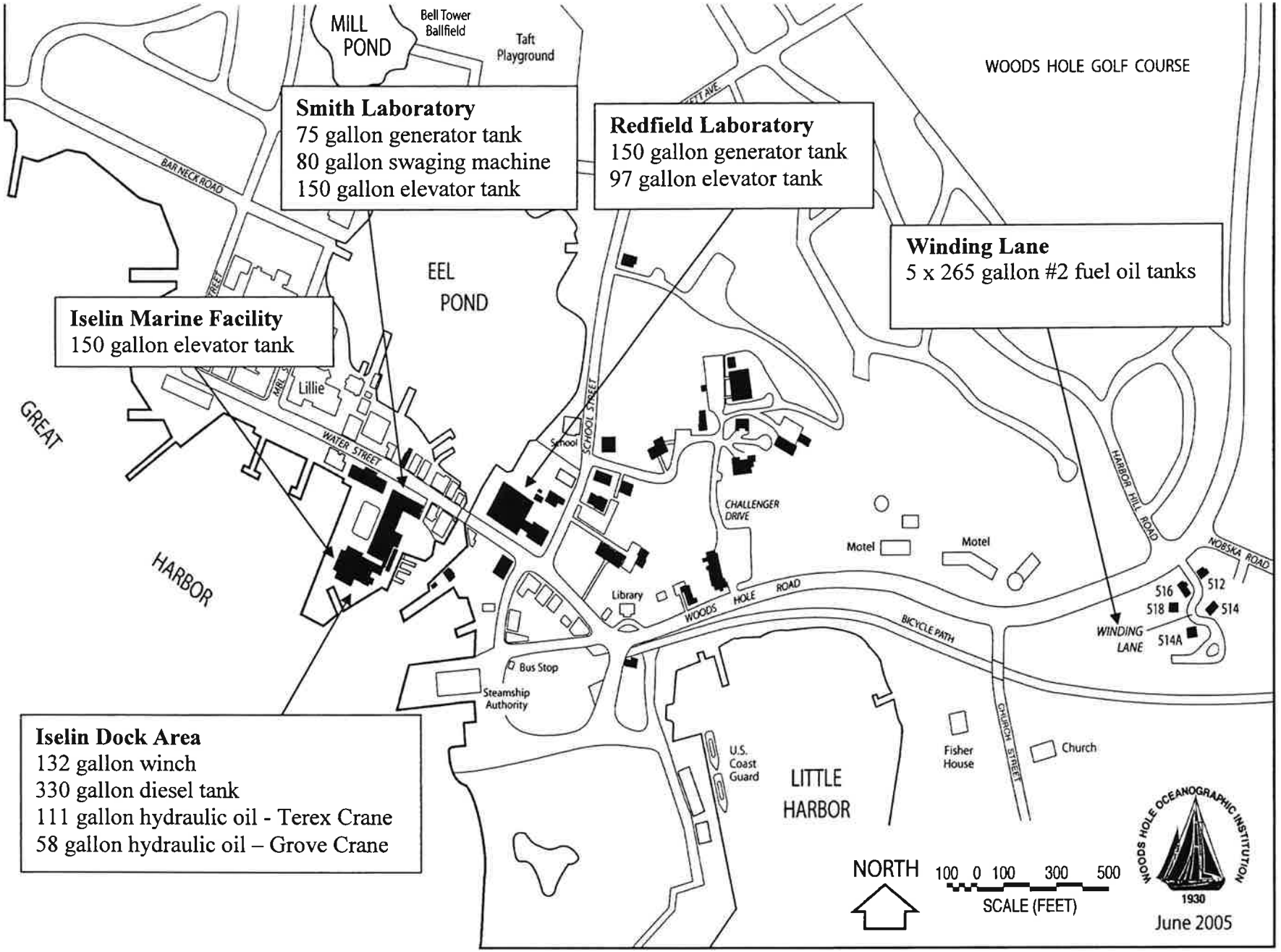
9. the affiliation of the person(s) making the notification to the site of the release or threat of release, as described in 310 CMR 40.0331;

10. a signed and dated certification statement from the person(s) reporting the release or threat of release attesting to the truth and accuracy of the information provided, as specified at 310 CMR 40.0009; and

11. such other information as the Department may from time to time determine is necessary and useful in the fulfillment of its statutory obligations under M.G.L. c. 21E and 310 CMR 40.0300.

Appendix A. Facility Site Plan


Quissett Campus
November 2005
North
0
500
Distance (feet)
264 Woods Hole Road
275 gallon #2 fuel oil tank
312 Woods Hole Road
275 gallon #2 fuel oil tank
Crawford/Gosnold Lab
600 gallon generator tank
Mclean Lab
2 x 330 gallon generator tank
300 gallon generator tank
130 gallon elevator tank
Central Energy Plant
10,000 gallon # 2 fuel oil UST
3 x 330 gallon generator tank
1500 gallon generator tank
1000 gallon generator tank
Distribution (Warehouse Area)
Biospecs Warehouse - 2 x 330 gallon #2 fuel oil tanks
Geosecs Warehouse - 2 x 330 gallon #2 fuel oil tanks
- 280 gallon generator tank
Quissett Warehouse - < 220 gallons misc. oils
Major Quissett Warehouse – < 1100 gallons misc. oils
Clark Lab
454 gallon elevator tank
Clark South Lab
147 gallon elevator tank
152 gallon elevator tank
85 Oyster Pond Road
3 x 330 gallon #2 fuel oil tanks
Fenno Carriage House
275 gallon #2 fuel oil tank
BGC Lab
126 gallon elevator tank
Bell House
2 x 275 gallon #2 fuel oil tanks
MRF Lab
126 gallon elevator tank
Fenno House
182 gallon elevator tank
Environmental Systems Lab
56 gallon generator tank
1000 gallon generator tank
Shore Lab
2 x 275 gallon #2 fuel oil tanks
WOODS HOLE ROAD
OYSTER
SURF DRIVE
VINEYARD SOUND
Geosecs
Biospecs
Quissett
Major Quissett
Graphic Services
Vehicle Maint.
Receiving, Distribution
Warehouse
Crawford Lab (USGS)
Marine Research Facility
Clark Lab
Clark South
Fye Lab
Stanley W. Watson Lab
Shepley Courts
Rinehart Coastal Res.
Environmental Systems
85 Oyster Pond Road
START


MILL POND
Bell Tower Ballfield
Taft Playground
WOODS HOLE GOLF COURSE
Smith Laboratory
75 gallon generator tank
80 gallon swaging machine
150 gallon elevator tank
Redfield Laboratory
150 gallon generator tank
97 gallon elevator tank
Winding Lane
5 x 265 gallon #2 fuel oil tanks
Iselin Marine Facility
150 gallon elevator tank
EEL POND
BAR NECK ROAD
WATER STREET
Lillie
GREAT HARBOR
School
SCHOOL STREET
CHALLENGER DRIVE
Motel
Motel
HARBOR HILL ROAD
NOBSKA ROAD
Library
WOODS HOLE ROAD
BICYCLE PATH
516
512
518
514
514A
WINDING LANE
Bus Stop
Steamship Authority
Iselin Dock Area
132 gallon winch
330 gallon diesel tank
111 gallon hydraulic oil - Terex Crane
58 gallon hydraulic oil – Grove Crane
U.S. Coast Guard
LITTLE HARBOR
Fisher House
CHURCH STREET
Church
NORTH
100 0 100 300 500
SCALE (FEET)
WOODS HOLE OCEANOGRAPHIC INSTITUTION
1930
June 2005

Appendix B. Oil Storage Inventory, Spill Prediction and Impacts Assessment

Woods Hole Oceanographic Institution - Potentials Spills and Controls											
Campus	Location	Tank or Container	Tank ID #	Capacity (Gallons)	Product	Secondary Containment	Failure Type	Flow Rate (GPM)	Direction of Flow	Controls	Receptors
Village	Smith Laboratory	Generator	GTV-1	75	Diesel	Single wall steel curb	Leak/puncture	5	Non-directional	Spill kit	Concrete
Village	Redfield Laboratory	Generator	GTV-2	150	Diesel	Double wall tank	Leak/puncture	5	Non-directional	Spill pads	Concrete
Village	Winding Lane Housing	Heating AST	HTV-1	265	#2 Fuel Oil	Double wall tank	Leak/puncture	5	Non-directional	None	Concrete
Village	Winding Lane Housing	Heating AST	HTV-2	265	#2 Fuel Oil	Double wall tank	Leak/puncture	5	Non-directional	None	Concrete
Village	Winding Lane Housing	Heating AST	HTV-3	265	#2 Fuel Oil	Double wall tank	Leak/puncture	5	Non-directional	None	Concrete
Village	Winding Lane Housing	Heating AST	HTV-4	265	#2 Fuel Oil	Double wall tank	Leak/puncture	5	Non-directional	None	Concrete
Village	Winding Lane Housing	Heating AST	HTV-5	265	#2 Fuel Oil	Double wall tank	Leak/puncture	5	Non-directional	None	Concrete
Village	Iselin Dock	Forklift Fuel AST	VTV-1	330	Diesel	None	Leak/puncture	1	Radial direction	Spill kit	Concrete/Water
Village	Smith Laboratory	Swaging Machine	HOV-1	80	Hydraulic Oil	Single wall	Leak/puncture	1	Radial direction	Spill kit	Concrete/Water
Village	Smith Laboratory	Elevator	ETV-1	150	Hydraulic Oil	Floor berm	Leak	1	Non-directional	Spill kit	Concrete
Village	Redfield Laboratory	Elevator	ETV-2	97	Hydraulic Oil	Floor berm/double wall	Leak	1	Non-directional	Spill kit	Concrete
Village	Iselin Marine Facility	Elevator	ETV-3	150	Hydraulic Oil	Floor berm	Leak	1	Non-directional	Spill kit	Concrete
Village	Iselin Dock/At Sea	Lebus Winch	HOV-11	132	Hydraulic Oil	None	Leak/puncture	1	Radial direction	Spill kit	Concrete/Water
Village	Iselin Dock	Terex Crane	HOV-2	111	Hydraulic Oil/Lube Oil	None	Leak/puncture	1	Radial direction	Spill kit	Concrete/Water
Village	Iselin Dock	Grove Crane	HOV-3	58	Hydraulic Oil/Lube Oil	None	Leak/puncture	1	Radial direction	Spill kit	Concrete/Water
			VillageTotal	2658							
Quissett	Anderson House	Heating AST	HTQ-1	275	#2 Fuel Oil	Concrete wall and floor	Leak	5	Non-directional		Concrete
Quissett	Webster House	Heating AST	HTQ-2	275	#2 Fuel Oil	Concrete wall and floor	Leak	5	Non-directional	Spill kit	Concrete
Quissett	Crawford/Gosnold Laboratory	Generator	GTQ-1	600	Diesel	Double wall	Leak/puncture	5	Non-directional	Spill kit	Concrete/Soil
Quissett	Mclean Laboratory (2 - 330 gallon tanks)	Generator #1	GTQ-2	660	Diesel	Single wall steel curb	Leak/puncture	5	Non-directional	None	Concrete/Soil
Quissett	Mclean Laboratory	Generator #2	GTQ-3	300	Diesel	Double wall	Leak/puncture	5	Non-directional	None	Concrete/Storm Drain
Quissett	Environmental Systems Laboratory	Generator #1	GTQ-4	56	Diesel	Single wall steel curb	Leak	5	Down hill	None	Concrete/Soil
Quissett	Environmental Systems Laboratory	AST generator fuel	GTQ-5	1000	Diesel	Double wall	Leak/puncture	5	Down hill	None	Concrete/Soil
Quissett	Fenno Carriage House	Heating AST	HTQ-3	275	#2 Fuel Oil	Concrete wall and floor	Leak	5	Non-directional	None	Concrete
Quissett	Bell House (2 - 275 gallon tanks)	Heating AST	HTQ-4	550	#2 Fuel Oil	Concrete wall and floor	Leak	5	Non-directional	None	Concrete
Quissett	Shore Laboratory (2 - 275 gallon tanks)	Heating AST	HTQ-5	550	#2 Fuel Oil	Double wall	Leak/puncture	5	Down hill	None	Concrete/Soil
Quissett	Carolyn Miller Housing A	Heating AST	HTQ-6	330	#2 Fuel Oil	Concrete wall and floor	Leak	5	Non-directional	None	Concrete
Quissett	Carolyn Miller Housing B	Heating AST	HTQ-7	330	#2 Fuel Oil	Concrete wall and floor	Leak	5	Non-directional	None	Concrete
Quissett	Carolyn Miller Housing C	Heating AST	HTQ-8	330	#2 Fuel Oil	Concrete wall and floor	Leak	5	Non-directional	None	Concrete
Quissett	Biospecs Warehouse (2 - 330 gallon tanks)	Heating AST	HTQ-9	660	#2 Fuel Oil	Concrete floor	Leak	5	Radial direction	None	Concrete
Quissett	Geosecs Warehouse (2 - 330 gallon tanks)	Heating AST	HTQ-10	660	#2 Fuel Oil	Concrete floor	Leak	5	Radial direction	None	Concrete
Quissett	Quissett Warehouse	Storage drums	N/A	220	Miscellaneous Oils	Containment pallets	Leak	5	Radial direction	None	Concrete
Quissett	Major Quissett Warehouse	Storage drums	N/A	1100	Miscellaneous Oils	Containment pallets	Leak	5	Radial direction	None	Concrete
Quissett	Clark Laboratory	Elevator	ETQ-1	454	Hydraulic Oil	Floor berm	Leak	1	Non-directional	Spill kit	Concrete
Quissett	Clark South Laboratory	Elevator #1	ETQ-2	147	Hydraulic Oil	Floor berm	Leak	1	Non-directional	Spill kit	Concrete
Quissett	Clark South Laboratory	Elevator #2	ETQ-3	152	Hydraulic Oil	Floor berm	Leak	1	Non-directional	Spill kit	Concrete
Quissett	Fenno House	Elevator	ETQ-4	182	Hydraulic Oil	Floor berm	Leak	1	Non-directional	Spill kit	Concrete
Quissett	Mclean Laboratory	Elevator	ETQ-5	130	Hydraulic Oil	Floor berm	Leak	1	Non-directional	Spill kit	Concrete
Quissett	BGC Laboratory	Elevator	ETQ-6	126	Hydraulic Oil	Floor berm	Leak	1	Non-directional	Spill kit	Concrete
Quissett	MRF Laboratory	Elevator	ETQ-7	126	Hydraulic Oil	Floor berm	Leak	1	Non-directional	Spill kit	Concrete
Quissett	Central Energy Plant	Heating AST	HTQ-13	10000	#2 Fuel Oil	Double wall	Leak	5	Down hill	Spill kit	Concrete/Soil/Storm Drain
Quissett	Central Energy Plant (3 - 330 gallon tanks)	Generator #1 and #2	GTQ-6	990	Diesel	Double wall	Leak	5	Non-directional	Spill kit	Concrete/Soil/Storm Drain
Quissett	Central Energy Plant	Generator #3	GTQ-7	1500	Diesel	Double wall	Leak	5	Down hill	None	Concrete/Soil/Storm Drain
Quissett	Central Energy Plant	Generator #4	GTQ-8	1000	Diesel	Double wall	Leak	5	Down hill	None	Concrete/Soil/Storm Drain
Quissett	Geosecs Warehouse	Generator #1	GTQ-9	280	Diesel	Double wall	Leak/puncture	5	Radial direction	None	Concrete/Soil/Storm Drain
			Quissett Total	23258							
			WHOI Total	25916							
Revised: March 5, 2008											

Woods Hole Oceanographic Institution - Fuel Oil Tanks - 2008											
Campus	Location	Tank or Container	Tank ID #	Capacity (Gallons)	Product	Secondary Containment	Failure Type	Flow Rate (GPM)	Direction of Flow	Controls	Receptors
Village	Winding Lane Housing	Heating AST	HTV-1	265	#2 Fuel Oil	Double wall tank	Leak/puncture	5	Non-directional	None	Concrete
Village	Winding Lane Housing	Heating AST	HTV-2	265	#2 Fuel Oil	Double wall tank	Leak/puncture	5	Non-directional	None	Concrete
Village	Winding Lane Housing	Heating AST	HTV-3	265	#2 Fuel Oil	Double wall tank	Leak/puncture	5	Non-directional	None	Concrete
Village	Winding Lane Housing	Heating AST	HTV-4	265	#2 Fuel Oil	Double wall tank	Leak/puncture	5	Non-directional	None	Concrete
Village	Winding Lane Housing	Heating AST	HTV-5	265	#2 Fuel Oil	Double wall tank	Leak/puncture	5	Non-directional	None	Concrete
			VillageTotal	1325							
Quissett	Anderson House	Heating AST	HTQ-1	275	#2 Fuel Oil	Concrete wall and floor	Leak	5	Non-directional		Concrete
Quissett	Webster House	Heating AST	HTQ-2	275	#2 Fuel Oil	Concrete wall and floor	Leak	5	Non-directional	Spill kit	Concrete
Quissett	Fenno Carriage House	Heating AST	HTQ-3	275	#2 Fuel Oil	Concrete wall and floor	Leak	5	Non-directional	None	Concrete
Quissett	Bell House (2 - 275 gallon tanks)	Heating AST	HTQ-4	550	#2 Fuel Oil	Concrete wall and floor	Leak	5	Non-directional	None	Concrete
Quissett	Shore Laboratory (2 - 275 gallon tanks)	Heating AST	HTQ-5	550	#2 Fuel Oil	Double wall	Leak/puncture	5	Down hill	None	Concrete/Soil
Quissett	Carolyn Miller Housing A	Heating AST	HTQ-6	330	#2 Fuel Oil	Concrete wall and floor	Leak	5	Non-directional	None	Concrete
Quissett	Carolyn Miller Housing B	Heating AST	HTQ-7	330	#2 Fuel Oil	Concrete wall and floor	Leak	5	Non-directional	None	Concrete
Quissett	Carolyn Miller Housing C	Heating AST	HTQ-8	330	#2 Fuel Oil	Concrete wall and floor	Leak	5	Non-directional	None	Concrete
Quissett	Biospecs Warehouse (2 - 330 gallon tanks)	Heating AST	HTQ-9	660	#2 Fuel Oil	Concrete floor	Leak	5	Radial direction	None	Concrete
Quissett	Geosecs Warehouse (2 - 330 gallon tanks)	Heating AST	HTQ-10	660	#2 Fuel Oil	Concrete floor	Leak	5	Radial direction	None	Concrete
Quissett	Central Energy Plant	Heating AST	HTQ-13	10000	#2 Fuel Oil	Double wall	Leak	5	Down hill	Spill kit	Concrete/Soil/Storm Drain
			Quissett Total	14235							
			WHOI Total	15560							
Revised: March 5, 2008											

Appendix C - AST and Piping Inspection Checklist

AST AND PIPING INSPECTION CHECKLIST

Tank ID:_____

Inspector:_____

Date:_____

INSPECTION ITEMS:

Equipment/Containers	**Yes**	**No**	**NA**	**Comment**
Tank in good condition	___	___	___	_____
Piping in good condition	___	___	___	_____
Evidence of spill/leak	___	___	___	_____
Tank properly closed	___	___	___	_____
Tank properly labeled	___	___	___	_____
Containment and Foundation				
Foundation in good condition	___	___	___	_____
Containment in good condition	___	___	___	_____
Foreign materials in area	___	___	___	_____
Leak Detection and Inventory				
Gauges/sensors working	___	___	___	_____
Miscellaneous				
Vent pipe in good condition	___	___	___	_____

OTHER COMMENTS:

_____

_____

Appendix D – Release Notification Report Form

Massachusetts Department of Environmental Protection **BWSC-103**

Bureau of Waste Site Cleanup

Release Tracking Number

☐ - ☐

If assigned by DEP

RELEASE NOTIFICATION & NOTIFICATION RETRACTION FORM

Pursuant to 310 CMR 40.0335 and 310 CMR 40.0371 (Subpart C)

A. RELEASE OR THREAT OF RELEASE LOCATION:

Street: _____ Location Aid: _____

City/Town: _____ ZIP Code: _____

B. THIS FORM IS BEING USED TO: (check one)

☐ Submit a **Release Notification** (complete all sections of this form).

☐ Submit a **Retraction of a Previously Reported Notification** of a Release or Threat of Release (complete Sections A, B, E, F and G of this form). You **MUST** attach the supporting documentation required by 310 CMR 40.0335.

C. INFORMATION DESCRIBING THE RELEASE OR THREAT OF RELEASE (TOR):

Date and time you obtained knowledge of the Release or TOR. Date: _____ Time: _____ Specify: ☐ AM ☐ PM

The date you obtained knowledge is always required. The time you obtained knowledge is not required if reporting only 120 Day Conditions.

IF KNOWN, record date and time release or TOR occurred. Date: _____ Time: _____ Specify: ☐ AM ☐ PM

☐ Check here if you previously provided an Oral Notification to DEP (2 Hour and 72 Hour Reporting Conditions only).

Provide date and time of Oral Notification. Date: _____ Time: _____ Specify: ☐ AM ☐ PM

Check all Notification Thresholds that apply to the Release or Threat of Release: (for more information see 310 CMR 40.0310 - 40.0315)

2 HOUR REPORTING CONDITIONS	72 HOUR REPORTING CONDITIONS	120 DAY REPORTING CONDITIONS
☐ Sudden Release	☐ Subsurface Non-Aqueous Phase Liquid (NAPL) Equal to or Greater than 1/2 Inch	☐ Release of Hazardous Material(s) to Soil or Groundwater Exceeding Reportable Concentration(s)
☐ Threat of Sudden Release	☐ Underground Storage Tank (UST) Release	☐ Release of Oil to Soil Exceeding Reportable Concentration(s) and Affecting More than 2 Cubic Yards
☐ Oil Sheen on Surface Water	☐ Threat of UST Release	☐ Release of Oil to Groundwater Exceeding Reportable Concentration(s)
☐ Poses Imminent Hazard	☐ Release to Groundwater near Water Supply	☐ Subsurface Non-Aqueous Phase Liquid (NAPL) Equal to or Greater than 1/8 Inch and Less than 1/2 Inch
☐ Could Pose Imminent Hazard	☐ Release to Groundwater near School or Residence	
☐ Release Detected in Private Well		
☐ Release to Storm Drain		
☐ Sanitary Sewer Release (Imminent Hazard Only)		

List below the Oils or Hazardous Materials that exceed their Reportable Concentration or Reportable Quantity by the greatest amount. If necessary, attach a list of additional Oil and Hazardous Material substances subject to reporting.

Name and Quantities of Oils (O) and Hazardous Materials (HM) Released:

O or HM Released	O HM (check one)	CAS # (if known)	Amount or Concentration	Units	Reportable Concentrations Exceeded, if Applicable (RCS-1, RCS-2, RCGW-1, RCGW-2)
	☐ ☐				
	☐ ☐				
	☐ ☐				

D. ADDITIONAL INVOLVED PARTIES:

☐ Check here if attaching names and addresses of owners of properties affected by the Release or Threat of Release, other than an owner who is submitting this Release Notification (required).

☐ Check here if attaching Licensed Site Professional (LSP) name and address (optional).

You may write in names and addresses on the bottom of the second page of this form.

Massachusetts Department of Environmental Protection **BWSC-103**

Bureau of Waste Site Cleanup

Release Tracking Number

☐ - ☐

If assigned by DEP

RELEASE NOTIFICATION & NOTIFICATION RETRACTION FORM

Pursuant to 310 CMR 40.0335 and 310 CMR 40.0371 (Subpart C)

E. PERSON REQUIRED TO NOTIFY:

Name of Organization: _____

Name of Contact: _____ Title: _____

Street: _____

City/Town: _____ State: _____ ZIP Code: _____

Telephone: _____ Ext.: _____ FAX: (optional) _____

F. RELATIONSHIP OF PERSON REQUIRED TO NOTIFY TO RELEASE OR THREAT OF RELEASE: (check one)

☐ RP or PRP Specify: ◯ Owner ◯ Operator ◯ Generator ◯ Transporter Other RP or PRP: _____

☐ Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

☐ Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

☐ Any Person Otherwise Required to Notify Specify Relationship: _____

G. CERTIFICATION OF PERSON REQUIRED TO NOTIFY:

I, _____, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines or imprisonment, for willfully submitting false, inaccurate, or incomplete information.

By: _____ Title: _____
(signature)

For: _____ Date: _____
(print name of person or entity recorded in Section E)

Enter address of the person providing certification, if different from address recorded in Section E:

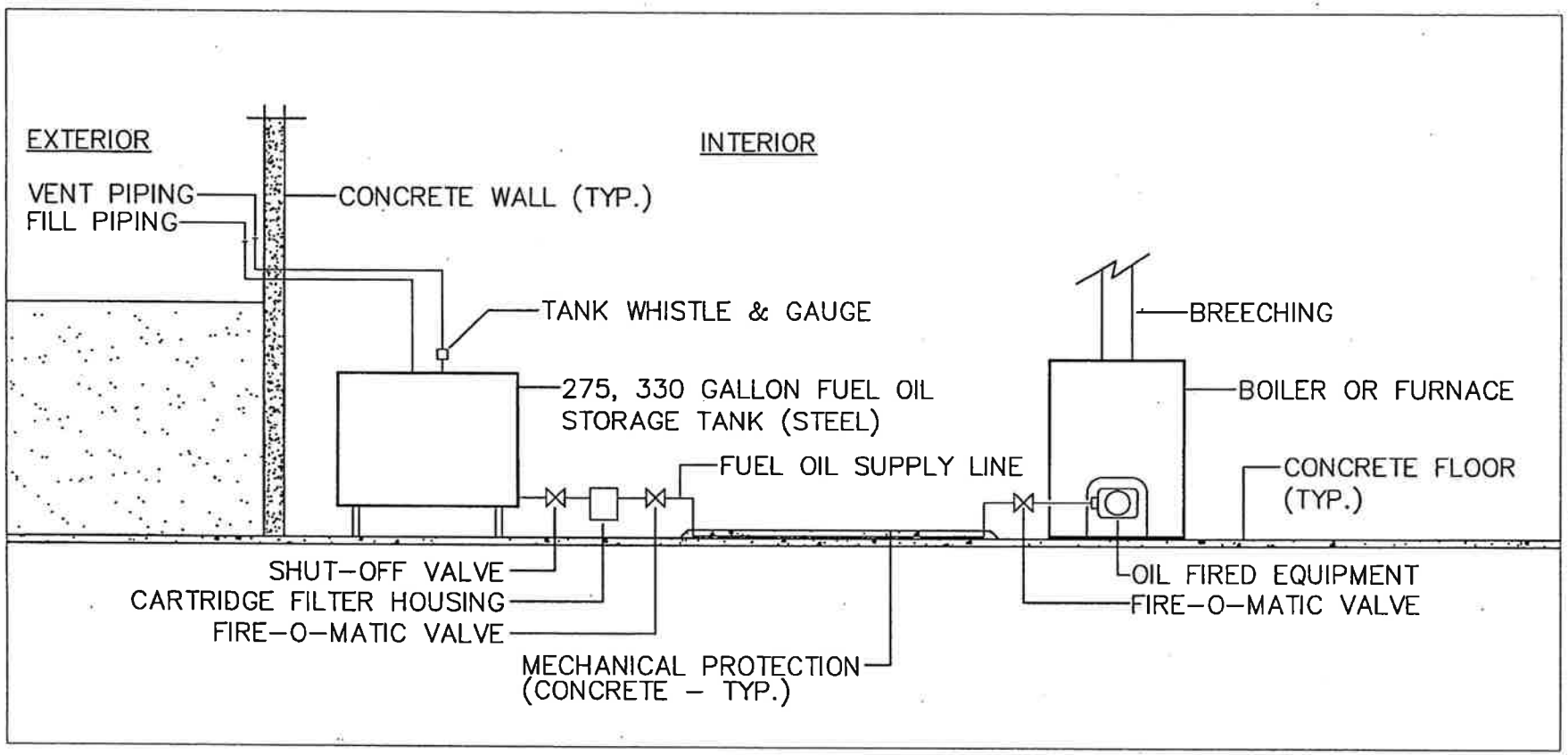
Street: _____

City/Town: _____ State: _____ ZIP Code: _____

Telephone: _____ Ext.: _____ FAX: (optional) _____

YOU MUST COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.

Appendix E- Oil Fired Heating System Arrangements



TYPICAL OIL FIRED FUEL BURNING HEATING SYSTEM ARRANGEMENT

NO SCALE

TYPICAL OIL FIRED FUEL BURNING
HEATING SYSTEM ARRANGEMENT

WOODS HOLE
OCEANOGRAPHIC INSTITUTION
FACILITIES OFFICE

-	NO SCALE	3/2/98	PSA	PSA	SK-1

Appendix F- Oil Tank Risk Assessment for Aboveground Tanks

Risk Based Assessments of Aboveground Storage Tanks

SP001 "Category 2" (low risk to the environment) Bulk Storage Tanks: Village Campus

No.	Location	Capacity	Tank Type	Spill Protection and OR CRDM	Category	Integrity testing Required?
1	Smith Laboratory	75	Shop-Fabricated	Within secondary containment; No CRDM	"Category 2"	Periodic AST inspection
2	Redfield Laboratory	150	Shop-Fabricated	Spill Protection: Contained in interstitial space; CRDM: double walled.	"Category 2"	Periodic AST inspection
3	Winding Lane Housing	5 X 265	Shop-Fabricated	Spill Protection: Contained in interstitial space; CRDM: double walled.	"Category 2"	Periodic AST inspection

Note: CRDM – Continuous Release Detection Monitoring

All of the bulk oil storage tanks at this facility have been assigned to "Category 2" in accordance with the STI Standard SP001, and are shop-fabricated ASTs. The inspection schedule suggested for "Category 2" tanks less than 1,100 gallon capacity is periodic visual inspection only. Based on this industry standard, the inspection provisions of this SPCC plan, section 9.0 will be implemented as equivalent environmental protection to the standards in §112.8(c)(6).

This information will be included in the annual SPCC training *Woods Hole Oceanographic Institution* provides to all of their oil handling personnel.

Oil filled operational equipment such as electrical transformers and hydraulic elevator reservoirs have not been included in this section because they are not subject to the SPCC integrity testing requirements of §112.8(c)6. These standards are only applicable to bulk containers of oil.

Risk Based Assessments of Aboveground Storage Tanks

SP001 "Category 2" (low risk to the environment) Bulk Storage Tanks: Quissett Campus

No.	Location	Capacity	Tank Type	Spill Protection and or CRDM	Category	Integrity testing Required?
1	Anderson House	275	Shop-Fabricated	Within secondary containment; No CRDM	"Category 2"	Periodic AST inspection.
2	Webster House	275	Shop-Fabricated	Within secondary containment; No CRDM	"Category 2"	Periodic AST inspection
3	Crawford/Gosnald Laboratory	600	Shop-Fabricated	Spill Protection: Contained in interstitial space; CRDM: double walled.	"Category 2"	Periodic AST inspection
4	McLean Laboratory	2 X 330	Shop-Fabricated	Within secondary containment; No CRDM	"Category 2"	Periodic AST inspection
5	McLean Laboratory	300	Shop-Fabricated	Spill Protection: Contained in interstitial space; CRDM: double walled.	"Category 2"	Periodic AST inspection
6	Environmental Systems Laboratory	56	Shop-Fabricated	Within secondary containment; No CRDM	"Category 2"	Periodic AST inspection
7	Environmental Systems Laboratory	1000	Shop-Fabricated	Spill Protection: Contained in interstitial space; CRDM: double walled.	"Category 2"	Periodic AST inspection
8	Fenno Carriage House	275	Shop-Fabricated	Within secondary containment; No CRDM	"Category 2"	Periodic AST inspection
9	Bell House	2 X 275	Shop-Fabricated	Within secondary containment; No CRDM	"Category 2"	Periodic AST inspection
10	Shore Laboratory	2 X 275	Shop-Fabricated	Spill Protection: Contained in interstitial space; CRDM: double walled.	"Category 2"	Periodic AST inspection
11	Carolyn Miller Housing A	330	Shop-Fabricated	Within secondary containment; No CRDM	"Category 2"	Periodic AST inspection

Risk Based Assessments of Aboveground Storage Tanks

No.	Location	Capacity	Tank Type	Spill Protection and OR CRDM	Category	Integrity testing Required?
12	Carolyn Miller Housing B	330	Shop-Fabricated	Within secondary containment; No CRDM	"Category 2"	Periodic AST inspection
13	Carolyn Miller Housing C	330	Shop-Fabricated	Within secondary containment; No CRDM	"Category 2"	Periodic AST inspection
14	Biospecs Warehouse	2 X 300	Shop-Fabricated	Within secondary containment; No CRDM	"Category 2"	Periodic AST inspection
15	Geospecs Warehouse	2 X 300	Shop-Fabricated	Within secondary containment; No CRDM	"Category 2"	Periodic AST inspection
16	Quissett Warehouse	4 X 55	Shop-Fabricated	Within secondary containment; No CRDM	"Category 2"	Periodic AST inspection
17	Major Quissett Warehouse	20 X 55	Shop-Fabricated	Within secondary containment; No CRDM	"Category 2"	Periodic AST inspection
18	Central Energy Plant	3 X 330	Shop-Fabricated	Spill Protection: Contained in interstitial space; CRDM: double walled.	"Category 2"	Periodic AST inspection
19	Central Energy Plant	1500	Shop-Fabricated	Spill Protection: Contained in interstitial space; CRDM: double walled.	"Category 2"	Periodic AST inspection
20	Central Energy Plant	1000	Shop-Fabricated	Spill Protection: Contained in interstitial space; CRDM: double walled.	"Category 2"	Periodic AST inspection
21	Central Energy Plant	280	Shop-Fabricated	Spill Protection: Contained in interstitial space; CRDM: double walled.	"Category 2"	Periodic AST inspection

All of the bulk oil storage tanks at this facility have been assigned to "Category 2" in accordance with the STI Standard SP001, and are shop-fabricated ASTs. The inspection schedule suggested for "Category 2" tanks less than 1,100 gallon capacity is periodic visual inspection only.

Risk Based Assessments of Aboveground Storage Tanks

Based on this industry standard, the inspection provisions of this SPCC plan, section 9.0 will be implemented as equivalent environmental protection to the standards in §112.8(c)(6).

This information will be included in the annual SPCC training *Woods Hole Oceanographic Institution* provides to all of their oil handling personnel.

Oil filled operational equipment such as electrical transformers and hydraulic elevator reservoirs have not been included in this section because they are not subject to the SPCC integrity testing requirements of §112.8(c)6. These standards are only applicable to bulk containers of oil.

Appendix G- Certification of the Applicability of the Substantial Harm

Attachment C-II—Certification of the Applicability of the Substantial Harm Criteria

Facility Name: Woods Hole Oceanographic Institution
Facility Address: 360 Woods Hole Road, Woods Hole, 02543

1. Does the facility transfer oil over water to or from vessels and does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?

Yes ___ No _X_

2. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and does the facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation within any aboveground oil storage tank area?

Yes ___ No _X__

3. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula in Attachment C-III to this appendix or a comparable formula[1]) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments? For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments" (see Appendix E to this part, section 13, for availability) and the applicable Area Contingency Plan.

Yes ___ No __X_

4. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula in Attachment C-III to this appendix or a comparable formula[1]) such that a discharge from the facility would shut down a public drinking water intake[2] ?

[1] If a comparable formula is used, documentation of the reliability and analytical soundness of the comparable formula must be attached to this form.

[2] For the purposes of 40 CFR part 112, public drinking water intakes are analogous to public water systems as described at 40 CFR 143.2(c).

Yes ___ No __X_

5. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and has the facility experienced a reportable oil discharge in an amount greater than or equal to 10,000 gallons within the last 5 years?

Yes ___ No _X__

Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.

Ernest G. Charette

Signature

ERNEST G. CHARETTE

Name (please type or print)

DIRECTOR OF FACILITIES AND SERVICES

Title

9/15/08

Date