SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN

Prepared For:
MASSACHUSETTS INSTITUTE OF TECHNOLOGY
Cambridge, Massachusetts

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SPCC PLAN

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1. INTRODUCTION AND PLAN CERTIFICATION

1.1 Introduction

The United States Environmental Protection Agency Oil Pollution Prevention regulation (40 CFR 112) requires that a facility storing oil in quantities above a threshold volume, and located such that it could reasonably be expected to discharge oil in harmful quantities into or upon waters of the United States or adjoining shorelines, develop and implement a Spill Prevention, Control and Countermeasure (SPCC) plan.

Massachusetts Institute of Technology (MIT) is an education and research institute. The main campus is located in Cambridge, Massachusetts (see Figures Section for a campus map). In the course of educating and housing its students, MIT stores oil on campus. This includes fuel oils used for heating, steam and electricity generation, along with gasoline, jet fuel, cooking oils, lubricating oils, hydraulic fluids, and dielectric fluid. Oil is stored in tanks, drums, small containers, mechanical equipment reservoirs, and in oil-filled electrical equipment. The stored oil exceeds both the 1,320 gallon aboveground and the 42,000 gallon underground threshold values presented in the Oil Pollution Prevention regulation (referred to herein as either 40 CFR 112 or the SPCC regulation).

The Charles River, located directly south of the campus, is the nearest surface water body. Memorial Drive, a major four-lane roadway, separates the majority of the MIT campus from the Charles River. The Wood Sailing Pavilion (Bldg. 51) and the Pierce Boathouse (Bldg. W8), both owned and operated by MIT, are the only two MIT facilities located on or directly adjacent to the river.

Although most oil spills would be contained on the main campus, there is a potential for an oil spill to reach the Charles River. MIT's sanitary sewerage discharges to the City of Cambridge sanitary sewerage system that, in turn, discharges to the Massachusetts Water Resources Authority (MWRA) sewer system. Most campus storm drainage discharges into the City of Cambridge storm drainage system. As a result of the sewer separation program recently completed by the City of Cambridge, a majority of the storm drains located on the MIT campus drain to the City of Cambridge stormwater drainage system, which ultimately discharges to the Charles River. The remaining storm drains discharge directly to the Charles River.

Thus, since MIT stores oil above the applicable regulatory threshold values, outlined in

40 CFR 112, and there exists a potential for an oil spill to reach a surface water of the United States, this SPCC plan has been prepared and implemented for the MIT campus.

1.2 Professional Engineer's Certification

Subsection 112.3 (d) of the SPCC regulation states "no SPCC Plan shall be effective to satisfy the requirements of this part unless it has been reviewed by a Registered Professional Engineer and certified to by such Professional Engineer." Presented below is the Professional Engineer's certification of the SPCC plan.

CERTIFICATION

I hereby certify that I, or a designated representative, have visited and examined the subject facility, and being familiar with the provisions of 40 CFR Part 112, as amended, attest that this SPCC Plan has been prepared in accordance with good environmental engineering practices, including consideration of applicable industry standards, with the requirements of this part, and applicable state and local requirements. This SPCC plan represents a complete update and revision of the previous version of the SPCC Plan, which was completed in April 2000. I also certify that the procedures for required inspections and testing have been established and that the Plan is adequate for this facility.

_____
(Signature)

_____
(Name) (Registration Number)

Massachusetts
(State of Registration)

_____
(Date)

1.3 Plan Revision and Amendment

It is the intent of the Oil Pollution Prevention regulation that the SPCC plan be periodically reviewed and, as necessary, revised and/or amended to reflect changes at the facility. Specifically, subsection 112.5(a) of the SPCC regulation states that the owner or operator of a subject facility must "amend SPCC Plan for your facility in accordance with the general requirements in § 112.7, and with any specific section of this part applicable to your facility, when there is a change in the facility design, construction, operation, or maintenance that materially affects its potential for a discharge as described in § 112.1(b). Examples of changes that may require amendment of the Plan include, but are not limited to: commissioning or decommissioning containers; replacement, reconstruction, or movement of containers; reconstruction, replacement, or installation of piping systems; construction or demolition that might alter secondary containment structures; changes of product or service; or revision of standard operation or maintenance procedures at a facility." Technical amendments made to this Plan shall only be effective, and satisfy the requirements of 40 CFR 112, if certified by a Registered Professional Engineer. Administrative changes, such as a change of phone numbers, do not require certification by a Registered Professional Engineer. The regulation requires that such amendments be implemented as soon as possible, but not later than 6 months after such change has occurred.

In addition to plan amendments that may be triggered by facility changes, the regulation (112.5(b)) also requires that the facility owner and operators complete a review and evaluation of the SPCC plan at least once every five years and that as a result of this review and evaluation, the owner or operator shall amend the SPCC plan within six months of the review to include more effective prevention and control technology if: 1) such technology will significantly reduce the likelihood of a spill event from the facility, and 2) such technology has been field-proven at the time of the review. All Plan reviews and/or amendments must be documented.

> Finally, designated persons will visit all oil storage areas on the MIT campus at least once annually. These people will be responsible for reviewing any change in oil storage and making the determination as to whether such a change merits a formal plan amendment (and P.E. certification), or whether the change is minor and can be handled as a plan revision (P.E. certification not required).

Records of plan revisions and plan amendments will be updated annually, using either the "plan revision log" (Appendix A-1) or the "plan amendment log" (Appendix A-2).

1.4 Plan Distribution

In order to facilitate periodic revision and/or amendment of this SPCC plan, control copies of the full SPCC plan will be maintained and be accessible at key campus locations including:

- Environmental Health and Safety Office (see Lou DiBerardinis, N52-496);
- Operations Center (see Patty LeClair, E19-134);
- Plasma Fusion Center (see Catherine Fiore, NW21-203);
- Dean of Student Life-Administration (see Mary Jacques, E32-215)
- Department of Facilities (see Jennifer Combs, NE49-3400);
- CUP Control Room (42-230-106); and
- CUP Engineer (see Laura Bonk, 42).

MIT also has a web-based version of the SPCC plan, which is available to all staff:

http://web.mit.edu/environment/programs/spcc_ref/mit_spcc_plan.html

1.5 Certification of Substantial Harm Determination

As required by 40 CFR 112 and included as Appendix C is a completed Certification of Substantial Harm Determination Form, which demonstrates that the MIT campus does not meet the criteria for posing a risk of substantial harm to the environment.

2. GENERAL SITE INFORMATION

Name of the facility: Massachusetts Institute of Technology
Type of facility: University
Location of facility: Cambridge, Massachusetts 02139

Name and address of owner or operator:

Massachusetts Institute of Technology
77 Massachusetts Avenue
Cambridge, Massachusetts 02139

SPCC Coordinator:

Lou DiBerardinis
Director
Environmental Health and Safety Office, N52-496

Phone: (617) 253-9389
Email: loudib@mit.edu

Alternate SPCC Coordinator:

William Van Schalkwyk, CSP
Director
Environmental Health and Safety Programs, 7-206

Phone: (617) 253-9492
Email: billv@mit.edu

3. SPCC PLAN OVERVIEW

3.1 Campus Description

The Massachusetts Institute of Technology is a university located in Cambridge, Massachusetts. The Institute consists of 130 buildings varying in use from classroom facilities to dormitories to laboratories. The campus also has its own cogeneration facility, referred to as the Central Utility Plant (CUP). The CUP provides electricity and steam to meet most of the power and heating requirements of the MIT campus and also includes a set of steam driven chillers, coupled with a set of evaporative cooling towers, to satisfy campus cooling loads.

The Figures Section of this Plan presents a site map showing buildings on the MIT campus.

3.2 Oil Storage

Oil is stored at various locations throughout the MIT campus and for various uses. The primary types of oil storage can be categorized as follows:

- oil storage tanks for heat and power generation (e.g., aboveground and underground storage tanks, underground storage vaults, etc.);
- oil stored in reservoirs associated with operational oil-filled equipment (e.g., hydraulic oil reservoirs for trash compactors and elevator systems, lube oil reservoirs, etc.);
- oil stored in operational oil-filled electrical equipment (e.g., transformers, capacitors, switches, etc.); and
- oil stored in drums and containers in various storage areas (e.g., fuel oil, gasoline, jet fuel, cooking oil, motor oil, lube oil, hydraulic oil, cutting oils, dielectric oil, waste oil, etc.).

3.2.1 Campus Oil Storage Tanks

Oil storage tanks are located in or adjacent to a majority of the campus' academic, administrative, and residential buildings, and include both aboveground storage tanks and underground storage tanks. Oils stored in tanks include:

- fuel oil for powering emergency generators; and
- fuel oil for heating.

An inventory of all aboveground and underground storage tanks is provided in Table 1.

3.2.2 Campus Oil Storage within Equipment-Related Oil Storage Reservoirs

Equipment-related oil storage units at the MIT campus include hydraulic oil storage reservoirs associated with elevators, trash compactors, and other hydraulic equipment, and lube oil reservoirs associated with a variety of mechanical equipment. An inventory of oil-containing equipment throughout the campus, as well as a description of spill prediction and control measures, is provided in Table 1 and Table 2.

3.2.3 Campus Oil Storage in Oil-Filled Electrical Equipment

The MIT campus has numerous units of oil-filled (dielectric oil) electrical equipment related both to the campus electrical distribution system and to laboratory experimentation. Oil-filled electrical units include electrical transformers, switches, capacitors, and modulators. These oil-filled electrical units are owned and operated by MIT. An inventory of oil-filled electrical equipment, as well as a description of spill prediction and control measures, is provided in Table 1 and Table 2.

3.2.4 Oil Storage Areas

The various hydraulic oils, compressor oils, and lube oils, arrive on campus in 5 and 55-gallon drums. All drums and containers of oil are properly labeled and stored upright on spill pallets or within a contained area. An inventory of oil storage areas, as well as a description of spill prediction and control measures, is provided in Table 1 and Table 2.

3.3 MIT Policies on Oil Storage

MIT's primary goal is to prevent the occurrence of spills. MIT supplements this spill prevention initiative with a philosophy that, should a spill occur, the primary means to stop a release to the Charles River is to contain the material within the immediate area of the occurrence.

3.3.1 Container and Drum Storage

The general strategy for preventing releases from MIT is to contain a spill in the general area until the material is removed. The following policies have been instituted:

- all drums/containers of oil are properly labeled and stored upright;
- all drums are securely closed when not in use;
- when stored in areas in which the potential for release exists (e.g., outside storage areas, loading docks, etc.), all drums/containers of oil are stored on secondary containment pallets (or are otherwise contained), in order to provide secondary containment in case of a leak or rupture of the drum;
- in storage areas where floor drains are present, the oil containers are in secondary containment or the floor drains are plugged or equipped with a collar; and
- a supply of absorbent materials is maintained at or near all oil storage areas. Similar materials are also available at or near electrical rooms in which oil-filled electrical equipment is located.

3.3.2 Above Ground Tanks

Again, the general strategy for preventing releases from MIT is to contain a spill in the general area until the material is removed. The following policies have been instituted:

- existing oil storage tanks are equipped with secondary containment;
- areas in which new tanks are to be installed will also be equipped with secondary containment; and
- all tanks are visually examined on a periodic basis for leaks or other potential problems (see Section 10).

4. SPILL HISTORY

Subsection 112.4(a) of the SPCC regulation requires that facilities, which have experienced two or more spill events, each of quantities greater than 42 gallons, within the past twelve months, include a written description of each such spill, corrective action taken, and plans for preventing recurrence. A spill event is defined in the regulations as a discharge of oil into or upon the navigable waters of the United States or adjoining shorelines in quantities that have been determined to be harmful to the public health and welfare of the United States.

Reportable spills that have occurred at the campus in the past twelve months are summarized in Appendix B. Incident reports for any future spill of oil to a storm drain and/or to surface water in quantities discussed above, if such a spill were to occur, will be maintained in Appendix B of this SPCC plan.

5. POTENTIAL SPILLS - PREDICTION AND CONTROL AND COUNTERMEASURES

Subsection 112.7(b) of the SPCC regulation requires that the plan identify locations where experience indicates that a reasonable potential for equipment failure exists. At these locations, the plan should 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 water should be provided.

Table 1 and Table 2 lists locations where oil is stored and where spill events could occur. It also indicates stored oil volumes, predicts potential flow rates and flow directions, and discusses the containment and/or diversionary structures or equipment that are in-place to prevent discharged oil from reaching a surface water.

MIT focuses on spill prevention with appropriate containment measures; however, in the event of a catastrophic spill at the Central Utility Plant (N16 and 42) fuel unloading areas, Wood Sailing Pavilion (51), and the Pierce Boathouse (W8), MIT has developed a countermeasures program. This program determines the flow direction and distance to the receiving stream and determines the interception points to prevent a catastrophic spill from reaching the Charles River or Boston Harbor.

5.1 Central Utility Plant, Building N16

No. 6 fuel oil is stored in underground storage vaults constructed into the foundation of Building N16. Fill ports for these vaults are located on the exterior north wall of Building N16.

Fuel oil is delivered to this location via tanker trucks with an average capacity of 8,500 gallons. For the purpose of this countermeasure program, a catastrophic tank failure releasing all 8,500 gallons of the tanker contents was assumed. The release could either be instantaneous (as in the event of tank failure), or at a rate of approximately 100 gallons per minute based on gravity drain through a 4-inch diameter hose hook-up.

Due to pavement gradient and the speed bumps, oil released in the paved parking lot would drain to the Catch Basin “A” area in the northwest corner of the site. Oil would

either drain to the catch basin and subsequently to the attached drainage structure or will accumulate in the low area surrounding the catch basin (i.e. catch basin would be covered). Berming structures in the form of speed bumps have been installed between the concrete curbs approximately 40 feet north of the unloading station and at the exit/entrance to Albany Street to prevent any released product from entering the leaching Catch Basin "B".

There is also a storm drain outside Building N16, (at the corner of the building beside the RR tracks) that connects to the stormwater system. Thus, in the unlikely event of an oil spill at this location, the storm drain will have to be blocked.

5.1.1 Release Countermeasures

MIT Central Utility Plant employees visually monitor the no. 6 fuel delivery via camera, and in the event of an oil spill:

- MIT Central Utility Plant employees will call the MIT Operations Center at 253-4948 and report the oil spill;
- The Operations Center will request assistance from the Emergency Response Group, and the Environmental Health and Safety Office. The Environmental Health and Safety Office will request assistance from an Emergency Response Contractor if needed;
- MIT CUP employees and/or the oil supply contractor will deploy absorbent materials in the immediate area of the spill;
- MIT CUP employees and/or the oil contractor will cover catch basin A with storm drain blockers that are kept at the CUP if time permits;
- MIT CUP employees and/or the oil contractor will cover the catch basins on Albany Street with storm drain blockers if the spill is large enough to potentially reach these catch basins;
- The emergency response contractor will pump oil from the containment area within the parking lot and possibly the catch basins; and
- MIT Environmental Health and Safety Office will investigate and determine if reporting is required. If the spill is a MIT-reportable incident, EHS Office will report the spill to the appropriate MIT departments and regulatory agencies. See Section 14 for appropriate Spill Response/Notification Procedures.

5.2 Central Utility Plant, Building 42

There are three (3) underground storage tanks that receive no. 2 fuel oil from fill ports located east of Building 42, on the north side of Vassar Street. The largest fuel tankers, that are expected to deliver oil to this location, have an approximate total capacity of 11,000 to 12,000 gallons, with a single largest compartment capacity of 3,600 gallons. A concrete fuel oil unloading pad overlies the tanks and drains to a storm drain located in front of Building 42.

There is one storm drain located in front of Building 42 that has a valve to route the stormwater to either an oil/water separator located in the basement of building 42 or the storm drain system on Vassar St. During precipitation events, this valve system allows operators at Building 42 to route all stormwater directly to the City of Cambridge stormwater system in accordance with the Massachusetts Water Resources Authority regulations.

The worst-case release scenario would include discharge of the contents of a single compartment (3,600 gallons) of the fuel tank truck to the concrete pad, and a subsequent failure of the storm drain connected to the oil/water separator due to blockage or the storm drain gate being left open. In most release scenarios, oil would flow to the storm drain located in front of Building 42 and be routed to an oil/water separator located in the basement of Building 42. Release of the oil could either be instantaneous (tank failure) or at a release rate of approximately 100 gallons/minute (4-inch diameter hose hook-up through gravity feed).

In the release scenario described, the oil would follow the storm drain system below Vassar Street to Massachusetts Avenue, which would then enter the City of Cambridge storm drain system. The City of Cambridge storm drain system ultimately flows to the Charles River.

5.2.1 Release Countermeasures

In the event of a catastrophic oil spill that does not enter the oil/water separator in Building 42:

- MIT Central Utility Plant employees will call the MIT Operations Center at 253-4948 and report the oil spill. These procedures are outlined in Section 14;
- The Operations Center will request assistance from the Emergency Response

Group, and the Environmental Health and Safety Office;

- The Environmental Health and Safety Office will request assistance from an Emergency Response Contractor if needed;
- MIT CUP employees and the oil supply contractor will deploy absorbent materials in the immediate area of the spill;
- MIT CUP employees and the oil contractor will cover the nearest catch basin with a storm drain blocker;
- The emergency response contractor will pump oil from the fuel pad unloading area and Vassar Street;
- If oil were to enter a catch basin, the emergency response contractor will be dispatched to the manhole on Massachusetts Ave.
- MIT Environmental Health and Safety Office will investigate and determine if reporting is required. If the spill is a MIT-reportable incident, EHS Office will report the spill to the appropriate MIT departments and government agencies. See Section 14 for appropriate Spill Response/Notification Procedures.

5.3 Wood Sailing Pavilion, Building 51

There is one 275-gallon aboveground no. 2 fuel oil storage tank within secondary containment in Building 51 that is used for limited heating. The oil fill port is located on the north wall of the building at the Memorial Drive sidewalk. It is locked to prevent unauthorized deliveries. Furthermore, it has an overfill box that can contain more than 5 gallons. An audible vent whistle sounds during the filling operation.

The worst-case release scenario will be a catastrophic event where oil is released from the tanker truck and/or associated hoses. The release could either be instantaneous (as in the event of tank failure), or at a pumped rate of 60-70 gallons per minute. The released oil would accumulate on the Memorial Drive sidewalk and Memorial Drive. This area is relatively flat. However, the oil could travel eastward, in the downstream direction, to a small, partially blocked sidewalk catch basin 16 feet away from the fill port. The oil could also travel 35 feet to the open railing above the Charles River. At the catch basin and open railing, the oil would enter the river if absorbent materials were not deployed.

5.3.1 Release Countermeasures

In the event of catastrophic oil spill:

- MIT employees will call the MIT Operations Center at 253-4948 and report the oil spill. These procedures are outlined in Section 14;
- The Operations Center will request assistance from the Emergency Response Group, and the Environmental Health and Safety Office;
- The Environmental Health and Safety Office will request assistance from an Emergency Response Contractor if needed;
- MIT employees and the oil supply contractor will deploy absorbent materials in the immediate area of the spill. Absorbent materials are on the tanker truck and within Building 51;
- MIT employees and the oil contractor will cover the sidewalk catch basin with absorbent materials and block the area along the railing with temporary berms;
- The emergency response contractor will pump oil from the sidewalk, Memorial Drive, and/or Charles River; and
- MIT Environmental Health and Safety Office will investigate and determine if reporting is required. If the spill is a MIT-reportable incident, EHS Office will report the spill to the appropriate MIT departments and government agencies. See Section 14 for appropriate Spill Response/Notification Procedures.

5.4 Pierce Boathouse, Building W8

There are two 275-gallon interconnected diesel aboveground storage tanks in secondary containment to power a wave machine in the Pierce Boathouse that are filled approximately twice a year. The fill port for these aboveground tanks is on the north side of the building, at the end of the wheelchair ramp. For safety concerns, it is not possible to fully enclose the wheelchair ramp. The oil fill port is locked to prevent unauthorized deliveries. The oil delivery contractor does not have a key to access the fill port. An MIT employee must be present at all times during fuel deliveries. Absorbent materials are maintained in the building. Furthermore, the fill port has an overfill box with a capacity of 5 gallons. An audible vent whistle sounds during the filling operation.

For purposes of this countermeasure plan, a catastrophic event where oil is released from the tanker truck and/or associated hoses is assumed. The release could either be instantaneous (as in the event of tank failure), or at a pumped rate of 60-70 gallons per minute. The oil would accumulate on inclined wheelchair ramp, Memorial Drive sidewalk, or Memorial Drive. If the oil were at the fill port, it would travel downhill 3 feet

to an open railing above the Charles River. At the open railing, the oil could immediately enter the river if absorbent materials are not deployed. If the spill were on the sidewalk or Memorial Drive, it would travel between 5 and 30 feet to the Charles River.

5.4.1 Release Countermeasures

In the event of catastrophic oil spill:

- MIT employees and the oil contractor will deploy absorbent materials in the immediate area of the spill. Absorbent materials are available on the tanker truck and within the building;
- MIT employees and the oil supply contractor will block the open area along the railing with temporary berms;
- MIT employees will call the MIT Operations Center at 253-4948 and report an oil spill as outlined in Section 14. The oil supply contractor must call their dispatcher to report a spill;
- The Operations Center will request assistance from the MIT Emergency Response Group, and the Environmental Health and Safety Office. They should emphasize the immediate potential for oil to enter the Charles River;
- The Environmental Health and Safety Office will request assistance from an Emergency Response Contractor if needed;
- The emergency response contractor will pump oil from the wheelchair ramp, sidewalk, Memorial Drive, and/or Charles River; and
- MIT Environmental Health and Safety Office will investigate and determine if reporting is required. If the spill is a MIT-reportable incident, EHS Office will report the spill to the appropriate MIT departments and government agencies. See Section 14 for appropriate Spill Response/Notification.

6. FACILITY DRAINAGE

6.1 Indoor Drainage Systems

When feasible, MIT makes every effort to store and handle oil in contained areas (areas without floor drains). Oil storage and handling areas, however, are sometimes located in rooms with floor drains and, even with the implementation of secondary containment, the potential does exist for oil to enter a floor drain. With few exceptions, water entering floor drains is routed to building sanitary sewer lines that connect into the local City of Cambridge sanitary sewer system and then into the Massachusetts Water Resources Authority (MWRA) sanitary sewer system. MIT sanitary discharges are routed to the MWRA sewer treatment plant at Deer Island and do not enter local surface waters.

6.2 Outdoor Drainage Systems

While most oil storage tank delivery areas and drummed oil loading/unloading areas are not close to a catch basin or other storm drain, the potential does exist that, in the event of a major spill (especially if such a release were to occur during a rainstorm), oil could enter the local storm drainage system. The discharge destination for oil entering the campus storm drainage system varies based on the location of the spill and on rainfall conditions.

Storm drains in the vicinity of the Sailing Pavilion (51), the Pierce Boathouse (W8), and campus buildings 1 through 14, 16, 17, 18, 31, and 54 drain directly to the Charles River. Storm drains from other sections of campus enter the City of Cambridge storm drainage system that ultimately flows to the Charles River.

7. BULK STORAGE TANKS

Section 112.8(c) of the SPCC regulation addresses bulk oil storage tanks. A list of oil storage tanks and oil reservoirs at the MIT Campus is provided in Table 1. As noted in the table most of these oil storage tanks and reservoirs are of relatively small capacity (e.g. 60 to 500 gallons) and most are either stored within secondary containment or are stored within rooms that are constructed in a manner which provides adequate secondary containment (i.e., have no floor drains and are of sufficient size to contain an oil spill). There are, however, several larger aboveground oil storage tanks on the main campus that are also equipped with some form of secondary containment.

7.1 Tank Materials and Construction

Aboveground oil storage tanks and reservoirs on the main campus are of a material and construction (mostly single-walled steel tanks; some double-walled steel and single-walled fiberglass) compatible with the materials stored within them and with their aboveground storage conditions.

At the CUP, the no. 2 fuel oil underground storage tanks are of a material and construction (double-walled fiberglass reinforced plastic) compatible with the materials stored within them and with the underground storage conditions. The no. 6 fuel oil underground storage vaults are also of a material and construction (cast-in-place concrete) compatible with the materials stored within them and with the underground storage conditions.

The gas turbine lube oil reservoir and the smaller no. 2 fuel oil aboveground storage tanks are steel tanks. The oil/water separator oil storage tanks are polyethylene tanks. The construction materials of these tanks are compatible with the oil stored within the tanks and with the aboveground storage conditions.

7.2 Secondary Containment

Most aboveground oil storage tanks are stored within concrete block, brick, or steel secondary containment walls. Some tanks are double-walled tanks, equipped with interstitial leak detection devices. Certain smaller emergency generator day tanks and elevator hydraulic reservoirs are not stored within formal secondary containment berms, but are located in rooms that are constructed in a manner which provides adequate

secondary containment (i.e., have no floor drains and are of sufficient size to contain an oil spill).

The CUP's no. 2 fuel oil underground storage tanks are double-walled tanks and are equipped with interstitial leak detection devices. Each of these tanks is also equipped with a high-level alarm and fill port catchment basins designed to capture minor spills or overfills. The CUP's no. 6 fuel oil underground storage vaults are not equipped with secondary containment. The fill ports to these vaults, however, are equipped with catchment basins designed to capture minor spills or overfills.

MIT's fuel oil delivery contractor performs fuel deliveries in compliance with U.S. Department of Transportation (DOT) unloading regulations. The fuel delivery contractor maintains sorbent and spill containment materials on each oil delivery truck and has received training in reporting and responding to oil spills.

7.3 Drainage from Diked Areas

The only outdoor diked oil storage area in which precipitation would be anticipated to accumulate is the Building NW15 emergency generator no. 2 fuel oil storage tank containment area. The containment dike serving this aboveground tank is equipped with a normally closed, manually operated gate valve. Stormwater accumulating in this storage area is visually examined for evidence of oil and, if oil-free, is released to the ground. If oil is observed, the oil is removed from the water using sorbent materials. Additionally, the indoor diked storage areas present at the MIT campus are not equipped with any drains, valves, pumps, or ejectors which would permit the outward flow of any accumulated material collected from within the structures.

7.4 Buried or Partially Buried Metallic Tanks

There are no buried or partially buried metallic storage tanks on the MIT campus.

7.5 Internal Heating Coils

The only storage tanks equipped with internal heating coils are the Central Utility Plant's no. 6 fuel oil storage vaults, located in the basement of Building N16. Internal heating is provided to these vaults by means of high-pressure steam lines. Since the steam lines are under pressure, the potential for oil to enter the steam line is minimal.

7.6 Good Engineering Practice – Alarm Systems

Most oil storage tanks on campus are small tanks (e.g. 500 gallons or less) and are not equipped with formal fail-safe engineering systems such as high level alarms, electronic leak detection, and fill port catchment basins. These tanks are stored within secondary containment, are equipped with tank level gages, and have vents that whistle during filling operations, indicating available capacity to the fuel delivery contractor.

Certain aboveground tanks (e.g., Bldg. 16 emergency generator no. 2 fuel oil tanks) are equipped with high level alarms. Some aboveground tanks (e.g., Bldg. 16 emergency generator tanks, Bldg. NW-14 emergency generator tanks) are double-walled tanks equipped with interstitial leak detection devices.

The fill ports to the Pierce Boathouse's no. 2 fuel oil aboveground storage tanks and to the Sailing Pavilion's no. 2 fuel oil aboveground storage tank are equipped with fill port catchment basins.

Fail-safe engineering components, including implementation of secondary containment in bulk oil storage tank areas, act to minimize the potential for a significant spill or release of oil associated with the filling and storage of oil in these tanks.

The CUP's existing no. 2 fuel oil underground fuel storage tanks are double-walled fiberglass reinforced plastic tanks and are equipped with interstitial leak detection devices. These tanks are also equipped with high-level alarms and with fill port catchment basins that are designed to capture minor spills or overfill. The oil levels in these underground storage tanks are monitored at the CUP control room. These "fail-safe" engineering components act to minimize the potential for a significant spill or release of oil associated with the filling and storage of oil in these tanks.

The underground no. 6 fuel oil storage vaults at the CUP are not equipped with formal secondary containment or interstitial leak detection. The fill ports to these vaults, however, are equipped with catchment basins designed to capture minor spills or overfills.

7.7 Facility Wastewater Discharges

Campus wastewaters are discharged to the City of Cambridge sanitary sewer system and then to the Massachusetts Water Resources Authority (MWRA) sanitary sewer system under an MWRA sewer use permit. By implementing secondary containment in indoor oil storage areas and by maintaining a readily available supply of sorbent

materials in such areas, MIT minimizes the potential for oil spills inside campus buildings to reach the local sanitary sewer system.

Wastewater discharges from the CUP to a City of Cambridge sanitary sewer main located in Vassar Street. The facility's wastewater pre-treatment system includes two oil/water separators designed to remove oil from facility wastestreams (including stormwater collected from the no. 2 fuel oil unloading pad) prior to treatment in neutralization tanks and discharge to the sewer system.

The MIT's sewer use permit imposes limits for oil and grease and for petroleum hydrocarbons. As a condition of the MWRA sewer use permit, grab samples of wastewater discharge are collected on a quarterly basis and are analyzed for petroleum hydrocarbons.

7.8 Visible Oil Leaks and Mobile Oil Storage Tanks

Visible oil leaks, which could result in a loss of oil from tank seams, gaskets, rivets and bolts, when noted by facility personnel, are promptly addressed.

There are two oil storage tanks on campus that could be classified as mobile storage tanks. These tanks are no. 2 fuel oil emergency generator oil storage tanks located inside self-contained trailers outside of Building N9. There are no storm drains in the vicinity of these tanks.

8. TRANSFER OPERATIONS, PUMPING AND IN-PLANT PROCESSES

The principal “transfer” operations taking place on campus involve the transfer of oil from aboveground or underground fuel oil, lube oil, and hydraulic oil storage tanks to their point of use. Oil is pumped from oil storage tanks by various pumping and pipeline systems.

At the CUP, the principal “transfer” operation involves the transfer of fuel oil from underground fuel oil storage tanks/vaults to its point of use. No. 2 fuel oil is pumped from the fuel oil storage tanks by means of underground double-walled fiberglass fuel lines and a suction pump system. No. 6 fuel oil is pumped from the fuel oil storage vaults by means of aboveground steel fuel lines and a suction pump system.

8.1 Buried Piping

Most campus pipeline systems are aboveground systems that are visually examined on a regular basis.

CUP fuel lines running from the underground no. 2 fuel oil storage tanks to the cogeneration facility are of double-walled fiberglass construction and are equipped with interstitial leak detection.

8.2 Out-of-Service Pipelines

As a general policy, when pipelines are not in service, or in standby service for an extended period of time, the terminal connection at the transfer point is capped or blank-flanged, and marked as to its origin.

8.3 Pipe Supports and Aboveground Pipelines and Valves

Oil transfer pipeline pipe supports have been designed and constructed to minimize abrasion and corrosion and allow for expansion and contraction. Aboveground pipelines, valves, and pipe supports are visually examined on a regular basis.

9. TANK TRUCK UNLOADING

Tank truck unloading at this facility consists primarily of bulk deliveries of no. 2 and no. 6 fuel oil to the respective aboveground and underground storage tanks.

9.1 Loading/Unloading Procedures

Oil delivery contractors perform tank truck unloading. MIT requires these contractors to conduct unloading procedures in accordance with the requirements and regulations established by the Department of Transportation. As a condition of their contract with MIT, each contractor must have a tanker truck spill response plan and must submit this plan to MIT EHS Office for review. Truck drivers are trained to implement appropriate safety measures and spill prevention procedures prior to, during, and following fuel unloading activities. Drivers also receive training related to spill response and notification procedures. A supply of absorbent materials is maintained on every tanker truck.

9.2 Containment in Tank Truck Unloading Areas

Except for fill port catchment basins installed at the Sailing Pavilion and Pierce Boathouse, secondary containment is generally not provided in most campus fuel unloading areas. The unloading procedures implemented by the oil delivery contractors are required to meet the requirements and regulations established by the Department of Transportation. Absorbent materials and spill containment materials are present on each oil delivery truck and would be utilized in the event of a spill event.

At the Central Utility Plant, secondary containment is provided in the no. 2 fuel oil unloading area both by means of fill port overfill catchment basins and a local drainage system designed to capture minor spills. Drainage in the vicinity of the no. 2 fuel oil unloading pad is directed to a storm drain located near Building 42 that, in turn, routes flow through an oil/water separator. During storm events, this local drainage system is diverted to the storm drain system. This system minimizes the potential that minor oil releases will reach local surface waters.

Fill ports in the CUP no. 6 fuel oil unloading area are also equipped with overfill catchment basins. Pavement in the vicinity of the no. 6 fuel oil unloading area is relatively flat and, should allow for the accumulation of oil spilled in the area of the fill

ports. The high viscosity of no. 6 fuel oil also reduces the possibility that an oil release in the unloading area will reach the nearest street storm drain (located over 100 feet away). As described in Section 5.1, drainage structures in the vicinity of the no. 6 fuel oil unloading area are intended to prevent released oil in this area from entering the storm sewer system and ultimately the Charles River.

10. INTEGRITY TESTING

10.1 Oil Storage Tanks

Aboveground oil storage tanks at the MIT campus will be integrity tested on a regular schedule or whenever material repairs are made to the tank. All aboveground oil storage tanks at the MIT campus are equipped with dedicated secondary containment systems, and are located indoors and therefore not subject to the corrosive effects of direct contact with soil or other corrosive conditions. Accordingly, integrity testing of the aboveground oil storage tanks will be conducted at an interval not to exceed 10 years, but may be conducted more frequently if indicated by visual inspections, or previous test results,

The testing will be conducted in accordance with generally accepted industry standards and will employ such methods at hydrostatic testing, radiographic testing, ultrasonic testing, acoustic emissions testing, or another system of non-destructive shell testing. The Department of Facilities EHS Coordinator will maintain records of all such testing, including comparison testing.

10.2 Oil Storage Containers

Currently, MIT stores various types of oil in 55-gallon drums located throughout the campus. While the containers are at the MIT campus they are equipped with some form of dedicated secondary containment structure, which would contain any spilled material in the event of a failure of the container, and which protects them from contact with water or other corrosive conditions and from physical or mechanical damage. Additionally, these containers are typically removed from the facility and replaced a minimum of once every two years. Accordingly, MIT does not conduct periodic integrity testing of the oil storage containers on campus.

10.3 Oil Containing Equipment

Oil containing equipment at the MIT campus consists of oil containing electrical switches and transformers, hydraulic elevator systems, trash compactors, and various laboratory and engineering equipment. 40 CFR 112 requires integrity testing for bulk storage containers, defined as any container used to store oil. Operational equipment such as oil-filled electrical, operating, or manufacturing equipment, is specifically excluded from this definition and is not subject to the periodic integrity testing

requirements of 40 CFR 112. However, any failures, or leaks will become immediately apparent because the equipment will fail to perform thus alerting a user of a condition to investigate.

11. INSPECTIONS AND RECORDS

Inspection of oil storage areas is accomplished by the following protocols:

- MIT CUP personnel oversee oil deliveries and oil management daily as part of their routine duties;
- MIT maintenance personnel periodically inspect maintenance areas as part of their routine preventive maintenance duties;
- Boathouse and Sailing pavilion personnel are on duty daily to monitor management of oil and boat fuel;
- MIT Environmental Management Program coordinates inspections of all inventoried areas at least annually to review inventory and possible changes to the SPCC plan, the results of which are documented;
- Integrity testing of tanks, as well as the associated valves and piping will be coordinated and performed by the Department of Facilities. Records of integrity testing will be maintained by the Department of Facilities.
- Spills, leaks, and/or other problems discovered during day-to-day operations are reported to the Operations Center and are promptly corrected; and
- Incident logs for various types of spills are maintained in the MIT Environmental Health and Safety Office. Incident reports for spills of oil to a storm drain and/or to surface water, in the event they occur, will also be maintained in Appendix B of this SPCC plan.

12. SECURITY

12.1 Fencing and Gates

Most oil storage areas on the MIT campus are either inside secured buildings and behind locked or otherwise secured areas, or are secured with fencing and locks. Fuel oil unloading areas are located in open (unfenced) areas, but are adjacent to the buildings. Fill ports in the oil unloading areas are locked. MIT maintains a campus police force, which routinely patrols all areas of campus.

12.2 Flow Valves, Starter Controls, and Pipeline Loading/Unloading Connections

Master flow valves, starter controls, and other equipment related to initiating the flow of oil are all located inside the MIT buildings and are not accessible to non-employees.

12.3 Facility Lighting

Lighting, provided in and around the campus, is sufficient to provide for the detection of spills both indoors and outdoors at any time of day, and should deter acts of vandalism that could result in oil spills.

13. PERSONNEL TRAINING AND SPILL PREVENTION PROCEDURES

MIT faculty, students and staff can readily access SPCC Plan on the web at:
http://web.mit.edu/environment/programs/spcc_ref/mit_spcc_plan.html

or a hard copy of the plan at the locations indicated in Section 1.4. MIT personnel responsible for overseeing and responding to oil spills have received appropriate hazardous materials spill response training.

SPCC training is also offered on an annual basis to MIT personnel that handle oil.

MIT has a web-based or a stand-alone live SPCC training module that can be easily accessed by all MIT personnel. SPCC web-based module is available at:

http://web.mit.edu/environment/environmental/ehs_services/topic_index/training.html

14. SPILL RESPONSE/NOTIFICATION PROCEDURES

14.1 Immediate Response/Notification

When a spill occurs, the immediate responsibility for cleaning the spill rests with the person or department causing the spill. Upon discovery of a spill or leak, 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 catch basin.

For spills that have reached, or have the potential to reach, a floor drain or catch basin or any other vessel leading to the Charles River or other surface waters, notification of the proper persons within MIT and, if necessary, the regulatory agencies must be made.

After taking initial containment measures, the person discovering the spill should immediately call the Operations Center (617-253-4948) or the Campus Police (x100) and provide the following information:

- location, date, and time of the spill;
- an assessment of the potential for the spill to a catch basin, floor drain, or other surface water body;
- type of oil spilled;
- approximate quantity of oil spilled;
- source of spill;
- description of spill; and
- name and telephone number of the responsible person in the department where spill occurred.

The Operations Center is responsible for immediately contacting the appropriate response teams at MIT, including:

- the Emergency Response Group (ERG); and
- the Environmental Health and Safety Office (EHS) on-call staff.

14.2 Operations Center Responsibility

The record of all calls will be logged at the Operations Center for compliance

notification. The Operations Center will contact the Emergency Response Group (ERG), and the Environmental Health and Safety Office (EHS).

14.3 EHS Responsibility

The EHS Office will further evaluate the spill, and determine the appropriate measures to take in accordance with the MIT Spill Response Policy. If notifications to regulatory agencies are required, a person from the EHS will make the appropriate calls.

14.4 Regulatory Agency Notifications

A spill or release of oil that exceeds the Massachusetts Contingency Plan (MCP) Oil and Hazardous Materials List (310 CMR 40.1600) reportable quantity (RQ) (RQ for oil is 10 gallons) in a 24-hour period and enters the environment, must be reported to the Massachusetts Department of Environmental Protection (DEP) within designated time limits. For spills or releases exceeding 10-gallons in a 24-hour period, this notification must be made within 2 hours of the spill/release discovery. During business hours, call the DEP Spill Reporting Hotline at 617-556-1133. After hours, follow the voice mail instructions or call the State Police at 508-820-2121.

In the event of a spill of any oil to the Charles River, MIT policy is to immediately inform the United States Environmental Protection Agency (EPA) and the Massachusetts DEP of the location of the spill and as much as is known of the extent of the situation. For any spill that has the potential for reaching the Charles River, EHS will be on call and responsible for notification to the agencies. Lou DiBerardinis and William Van Schalkwyk will be responsible to ensure that an on-call system is in place to respond in a timely manner and perform the reporting requirements included in this Plan.

In the event of a spill of any oil to the Charles River calls must be completed to the following numbers, with a responsible person at each location acknowledging receipt of the information. This responsible person's name should be recorded in the logbook.

14.4.1 Contact List (in order)

1. Federal EPA at the National Response Center (NRC) in Washington, D.C. A spill

or release of oil to surface water requires notification to the National Response Center (NRC). The NRC will notify the Coast Guard, if such notification is warranted. The NRC should be notified as follows:

a. During all hours: (800) 424-8802 or, if no answer,
   a. (202) 267-2675

b. NRC should be informed of the location of the spill, and the quantity and type of oil spilled.

2. Massachusetts DEP. A spill or release of oil that creates a sheen on a surface water or that exceeds the Massachusetts Contingency Plan (MCP) Oil and Hazardous Materials List (310 CMR 40.1600) reportable quantity (RQ) (RQ for oil = 10 gallons) in a 24-hour period and enters the environment, must be reported to the Massachusetts DEP within designated time limits. For spills or releases resulting in a sheen or exceeding 10-gallons in a 24-hour period, this notification must be made within 2 hours of the spill/release discovery. During business hours, call the DEP Spill Reporting Hotline at 617-556-1133. After hours, follow the voice mail instructions or call the State Police at 508-820-2121.

3. Metropolitan District Commission. The Metropolitan District Commission (MDC) is a state authority responsible for the recreational use of the Charles River. If it is anticipated that an oil spill or release may result in a discharge to the Charles River that could impact the recreational use of the river, the MDC should be notified of the release.

   a. Both people listed below should be contacted during normal business hours. If a release occurs after hours or on weekends or holidays, contact Mr. Kerins.

   b. During normal business hours: Mr. David Balfour
      Commissioner
      (617) 727-5114

   c. During all hours: Mr. Brian Kerins
      Deputy Commissioner for Operations
      (617) 644-0300 (pager)

4. Massachusetts Water Resources Authority. During all hours: 617-242-6000.

5. City of Cambridge Department of Public Works. During normal business hours: 617-

349-4845. Contact Owen O'Riordan, Supervisor Sewer Construction & Maintenance. After 5 PM Mon.- Fri., or weekends/holidays: 617-349-4862 contact the City Radio Room.

6. City of Cambridge Fire Department. (During all hours): 911

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

- name and phone numbers of the:
    - Owner – MIT
    - Contact Person – Lou DiBerardinis and William Van Schalkwyk
    - Your name
- location, date, and time of the release;
- set of criteria that is the basis for notification ;
- type of oil released;
- approximate quantity of oil released;
- source of release;
- description of release;
- names of other federal, state, or local governmental agencies that have been notified of and/or have responded to the release; and
- any other information, such as potential environmental impacts, that is relevant to assessing the degree of hazard posed by the release.

14.4.2 Follow-up Reporting to EPA/DEP - Significant or Multiple Releases to Surface Water

SPCC regulations require that if any oil storage facility subject to 40 CFR 112 spills either 1) more than 1,000 U.S. gallons of oil in a single discharge into a waterway, or 2) more than 42 gallons of oil in each of two separate events within any twelve month period, the owner or operator of such facility shall submit to the Regional Administrator (EPA Region 1) and to the Massachusetts Department of Environmental Protection (DEP), within 60 days of the incident, the following information:

1. Name of the 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. Facility description, including drawings, flow diagrams, and topo maps;
6. The cause(s) of such spill, including a failure analysis of system or subsystem in which the failure occurred;
7. The corrective actions and/or countermeasures taken, including an adequate description of equipment repairs and/or replacements;
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 spill event.

A copy of this report should be forwarded to the following addresses:

U.S. EPA Region 1

U.S. Environmental Protection Agency
Region 1 - New England
John F. Kennedy Building
Boston, MA 02108

Massachusetts DEP

Commonwealth of Massachusetts
DEP
1 Winter St.
Boston, MA 02203

Commonwealth of Massachusetts
DEP Northeast Regional Office
205A Lowell St.
Wilmington, MA 01887

14.4.3 Other Follow-up Reporting

In addition to SPCC required follow-up reporting related to significant or multiple releases to the environment, follow-up reporting may also be required to the DEP, MWRA, and the City of Cambridge depending on the type of spill event. Presented below are the types of written information that may have to be provided.

14.4.3.1 Possible DEP Follow-up Reporting (Per Massachusetts Contingency Plan)

If the oil release is a reportable release under the Massachusetts Contingency Plan (MCP, 310 CMR 40.0000), additional follow-up reporting will be required. Such follow-up activities will be performed or coordinated by the EHS Office. Within sixty (60) calendar days of the date of occurrence, MIT may have to submit a Release Notification Form (RNF) to the DEP. Where appropriate, the Release Notification Form may be accompanied by a Response Action Outcome Statement. Forms would be forwarded to the following address:

Commonwealth of Massachusetts
Department of Environmental Protection
C/O DEP Northeast Region
One Winter Street
Boston, MA 02108-4746

14.4.3.2 Possible MWRA and City of Cambridge Follow-up Reporting

Should an oil spill reach a storm drain or floor drain, resulting in a slug discharge of oil to the City of Cambridge/MWRA sewer system, follow-up reporting may be required. Per MWRA sewer use regulations (360 CMR 10.013), within five (5) calendar days of the date of occurrence, MIT may be required to submit a detailed written statement to the MWRA and the City of Cambridge describing the causes of the discharge and the measures being taken to prevent future occurrence. The statement should include the following:

- description of the discharge, type of oil, concentration, and volume;
- the duration of noncompliance, including exact dates and, if the noncompliance continues, the time by which compliance is reasonably expected to occur; and
- all steps taken to reduce, eliminate, and prevent recurrence of such an accidental discharge.

The submittal to the MWRA would be sent to the following address:

Massachusetts Water Resources Authority
Chelsea Facility
2 Griffin Way
Chelsea, Massachusetts 02150
Attn.: Toxic Reduction and Control Department

The submittal to the City of Cambridge would be sent to the following address:

City of Cambridge
Department of Public Works
147 Hampshire Street
Cambridge, MA 02139
Attn.: James Wilcox (Supervisor of Sewer Maintenance & Engineering)

14.5 Slug Discharge to City of Cambridge/MWRA Sewer System By Way of the CUP's MWRA-Permitted Wastewater Discharge

14.5.1 MWRA & City of Cambridge Notification

Notification requirements for a discharge of oil by way of the CUP facility's MWRA permitted wastewater treatment discharge are as discussed in the facility's MWRA sewer use permit and as presented in the facility's "Slug Control Plan". Part C of the MWRA Sewer Use Permit states:

> "the permittee shall notify the MWRA and the Municipality (City of Cambridge) immediately by telephone upon the occurrence of an accidental discharge of substances prohibited or limited by the Permit or by 360 CMR 10.021 - 10.024, or of any slug loads or spills that may reasonably be expected to enter the sanitary sewer from the permittee's facility."

A "slug" is defined as "any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch discharge". Any potential violation of MWRA Sewer Use Permit Part B limits resulting from such a non-routine batch discharge or spill will initiate the notification procedures detailed below. For the purposes of this SPCC plan, a release of oil to the MWRA sewer system via the wastewater is considered a slug discharge.

<u>MWRA NOTIFICATION (Notify immediately)</u>

During all hours: (617) 242-6000

CITY OF CAMBRIDGE NOTIFICATION (Notify immediately)

DEPARTMENT OF PUBLIC WORKS

During normal business hours:	(617) 349-4845 James Wilcox Supervisor of Sewer Maintenance & Engineering
After 5 PM Mon.- Fri., or weekends/holidays:	(617) 349-4862 City Radio Room
FIRE DEPARTMENT (During all hours):	911

The notification should contain the information necessary to enable the Authority and the City to undertake countermeasures to minimize damage to their respective sewerage systems, receiving waters, and the public health, safety, welfare and the environment. Information should include the following:

- location of the discharge;
- date and time of the discharge;
- type of waste, including concentration and volume; and
- corrective actions taken.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
SPCC PLAN

Appendices

APPENDIX A-1
MIT SPCC Plan - Revision Log

This form should be used to record minor SPCC plan "revisions" that do not meet the standard of a formal plan "amendment". Professional Engineer certification is not required for these revisions.

Date	Performed by	Revised Section(s)	Description of Revision

APPENDIX A-2
MIT SPCC Plan - Amendment Certification Log

The SPCC plan must be amended whenever there is a "change in facility design, construction, operation or maintenance which materially affects the facility's potential for the discharge of oil into or upon the navigable waters of the United States or adjoining shore lines". Plan amendments must be certified by a Professional Engineer.

P.E.'s Name, State, and License #	P.E. Certification, Signature & Date	Revised Sections	Description of Revisions
_____ Name _____ State _____ License #	_____ Signature _____ Date	_____	_____
_____ Name _____ State _____ License #	_____ Signature _____ Date	_____	_____
_____ Name _____ State _____ License #	_____ Signature _____ Date	_____	_____
_____ Name _____ State _____ License #	_____ Signature _____ Date	_____	_____

TABLE 2
Oil Storage Equipment and Area Inventory

Bldg./ Room	Department	Source	Major Type of Failure	Total Quantity	Flow Rate	Direction of Flow	Secondary Containment or Other Controls
01-001E	Facilities	Transformer (131 gallons)	Unit failure or leak	131 gallons (complete unit failure)	131 gpm	Accumulates on floor. No floor drain.	Berm at the door and piping pit, room serves as secondary containment. A supply of absorbent materials is maintained in the room.
03-070	Mechanical Engineering	HY. robot containing 60 gallons	Unit or piping failure or leak	60 gallons	60 gpm	Accumulates on floor. No floor drain.	Room serves as secondary containment.
03-163	Mechanical Engineering	100 gallons in EDM machine	Unit leak or failure	100 gallons	100 gpm	Accumulates on floor. No floor drain.	Room serves as secondary containment.
03-165	Mechanical Engineering	A machine tool Nazak-Haas robofirm robofil. Kerosene filled cutting machine. Total about 200 gallons	Unit leak or failure	120 gallons	120 gpm	Accumulates on floor. No floor drain.	Room serves as secondary containment.
07-016	Facilities	Elevator hydraulic fluid reservoir with approximately 100 gallons	Reservoir or piping failure or leak	100 gallons (reservoir failure)	200 gpm	Accumulates on floor in area of reservoir or possibly in elevator pit. No floor drain.	A supply of absorbent materials is maintained in the room.
07-029F	Facilities	One G&W switch (107 gallons)	Unit failure or leak	107 gallons (unit failure)	107 gpm	Accumulates on floor. No floor drain.	Room serves as secondary containment. A supply of absorbent materials is maintained in the room.
08-016	Facilities	One transformer (164 gallons)	Unit failure or leak	164 gallons (unit failure)	164 gpm	Accumulates on floor. No floor drain.	Curb contains the oil. A supply of absorbent materials is maintained in or near room.
12-outside	Facilities	Two trash compactors with approximately 25 gallons each of hydraulic oil	Tank or hose failure	25 gallons (tank failure)	25 gpm	Limited flow as both units are at a low point. In some circumstances, oil may flow to a storm drain about 30 ft. away.	Speed bump was installed to prevent flow to storm drain. Sign with emergency information on compactor unit. A supply of absorbent material is maintained inside 12A.
12A	Facilities	Three 55 gallon drums waste oil	Drum failure, leak or spill	55 gallons (drum failure)	55 gpm	Accumulates on spill pallet. No floor drains.	Sealed floor. Room serves as secondary containment.

TABLE 2
Oil Storage Equipment and Area Inventory

Bldg./ Room	Department	Source	Major Type of Failure	Total Quantity	Flow Rate	Direction of Flow	Secondary Containment or Other Controls
13-0	Facilities	Hydraulic fluid reservoir (elevator #3) with approximately 200 gallons	Reservoir or piping failure or leak	200 gallons (reservoir failure)	200 gpm	Accumulates on floor. No floor drain.	Room serves as secondary containment. A supply of absorbent materials is maintained in the room.
13-0082	Facilities	One G&W switch with approximately 107 gallons	Unit failure or leak	107 gallons (one unit failure)	107 gpm	Accumulates on floor. Floor drain approximately 50 ft. away.	Floor drain is protected. A supply of absorbent materials is maintained in the room.
13-2400v emergency loop	Facilities	One G&W switch (60 gallons)	Unit failure or leak	60 gallons (unit failure)	60 gpm	Accumulates on floor. Floor drain at far end of vault.	Floor drain is protected. A supply of absorbent materials is maintained in the room.
16-003	Facilities	Elevator hydraulic fluid reservoir with approximately 150 gallons	Reservoir or piping failure or leak	150 gallons (reservoir failure)	150 gpm	Accumulates on floor. No floor drain.	Room serves as secondary containment. A supply of absorbent materials is maintained in building.
16-outside	Facilities	Fill port/vent to no. 2 fuel oil emergency generator tanks	Tank overflow or spill during loading	280 gallons (assumed maximum truck spill)	200 gpm (assumed flow rate from tanker truck)	Accumulates on the ground.	Tanks (in building) equipped with low and high level alarms and level gauges. A supply of absorbent materials is maintained in building.
18-0012	Facilities	Elevator hydraulic fluid reservoir with approximately 100 gallons	Reservoir or piping failure or leak	100 gallons (reservoir failure)	100 gpm	Accumulates on floor. No floor drain.	Room serves as secondary containment. A supply of absorbent materials is maintained in building.
24-020A	Facilities	One G&W switch (107 gallons) and three transformers (61 gallons each)	Unit failure or leak	107 gallons (switch failure)	107 gpm	Accumulates on floor. Floor drain in room.	Outer door of room has curb. Floor drain is protected. A supply of absorbent materials is maintained in the room.
26-0	Facilities	One G&W switch (107 gallons)	Unit failure or leak	107 gallons (switch failure)	107 gpm	Accumulates on floor. Floor drain in room.	Room serves as secondary containment.
31-014	Aeronautics and Astronautics	Two 55 gallons drum jet fuel, three 55 gallons drum oil	Drum failure, leak or spill	55 gallons (drum failure)	55 gpm	Accumulates in secondary containment.	Spill pallets used. No floor drains. Room provides secondary containment.

TABLE 2
Oil Storage Equipment and Area Inventory

Bldg./ Room	Department	Source	Major Type of Failure	Total Quantity	Flow Rate	Direction of Flow	Secondary Containment or Other Controls
31-040A	Lab for Energy and Environment (Auto Lab)	Three 55 gallon drums engine oil, one 55 gallons drum diesel	Drum failure, leak or spill	55 gallons (drum failure)	55 gpm	Accumulates in secondary containment.	Stored on secondary containment pallets. A supply of absorbent materials is maintained in building.
31-117	Aeronautics & Astronautics (Jet Fuel Lab)	One 55 gallons drum of jet fuel	Drum failure, leak or spill	55 gallons (drum failure)	55 gpm	Accumulates in bottom of cabinet. If it reached floor, could flow through electrical conduit raceway opening (located 3 ft away) and flow down to room below.	Collects in cabinet bottom. A supply of absorbent materials is building.
31-122	Aeronautics & Astronautics (Jet Fuel Lab)	Blowdown turbine containing approximately 200 gallons of heat transfer oil	Equipment failure or leak	200 gallons (equipment failure).	200 gpm	Accumulates on floor. Could flow through electrical conduit raceway opening (located 10 ft away) and flow down to room below.	Installed berms to contain spilled oil. A supply of absorbent materials is maintained in building.
35-125	Laboratory for Manufacturing & Productivity	60 gallons in various machining tools	Drum failure, leak or spill or equipment failure	60 gallons (equipment failure)	60 gpm	Accumulates on floor. Floor drain.	Installed raised lip around the drain in Room 125. A supply of absorbent materials is maintained in building.
35-Outside	Facilities	Trash compactor with approximately 25 gallons of hydraulic oil	Tank or hose failure	25 gallons (tank failure)	25 gpm	Accumulates in corner on ground. Could flow to storm drain 50 ft. away.	A supply of absorbent materials is maintained at the CUP. Sign with emergency information is on the compactor.
36-045	Facilities	Four G&W switches with 465 gallons total	Unit failure or leak	120 gallons (assumed failure of one switch)	120 gpm	Accumulates on floor. No floor drain.	Curb at door contains oil. Room serves as secondary containment. A supply of absorbent materials is maintained in the room below.
37-146	Aeronautics and Astronautics	Hydraulic unit with approximately 50 gallons, one 55 gallon drum of hydraulic oil	Unit failure or leak	55 gallons	55 gpm	Accumulates on floor. No floor drain.	Room serves as secondary containment.
38-099 Central Machine Shop	Laboratory for Nuclear Science	One 55 gallons drum of cutting oil, and one 55 gallon drum waste oil	Drum failure, leak or spill	55 gallons (drum failure)	55 gpm	Accumulates in storage cabinet.	All containers are stored in flammable storage cabinet. An overfill bucket is located beneath tap of working drum of cutting oil. A supply of absorbent materials is maintained in the room 38-053.
39-040	Facilities	Three G&W switches (310 gallons total)	Unit failure or leak	100 gallons (failure of one switch)	100 gpm	Accumulates on floor. No floor drain. Sump pump in next room.	Curbs installed at the door to contain oil. A supply of absorbent materials is maintained in the room.

TABLE 2
Oil Storage Equipment and Area Inventory

Bldg./ Room	Department	Source	Major Type of Failure	Total Quantity	Flow Rate	Direction of Flow	Secondary Containment or Other Controls
41-009	Mechanical Engineering	One 55 gallon drum of hydraulic oil	Drum failure, leak or spill	55 gallons (drum failure)	55 gpm	Accumulates in containment pallets.	All drums on containment pallets.
41-109	Aeronautics and Astronautics	One 55 gal drum of hydraulic oil.	Unit failure or leak	55 gallons	55 gpm	Accumulates on floor. No floor drain.	Room serves as secondary containment.
42-1st Floor	Facilities (Central Utility Plant)	Chillers 1 & 2 (60 gallons lube oil total)	Unit failure or leak	60 gallons	60 gpm	Accumulates on floor. Can seep to the basement through holes in the floor.	A supply of absorbent materials is maintained on the first floor.
42-1st Floor	Facilities (Central Utility Plant)	Chillers 5 & 6 (100 gallons lube oil total)	Unit failure or leak	100 gallons	60 gpm	Accumulates on floor. Can seep to the basement through holes in the floor.	A supply of absorbent materials is maintained on the first floor.
42-1st Floor	Facilities (Central Utility Plant)	Chiller 3 (85 gallons lube oil total)	Unit failure or leak	85 gallons	85 gpm	Accumulates on floor. Can seep to the basement through holes in the floor.	A supply of absorbent materials is maintained on the first floor.
42-1st Floor	Facilities (Central Utility Plant)	Chiller 4 (115 gallons lube oil total)	Unit failure or leak	115 gallons	115 gpm	Accumulates on floor. Can seep to the basement through holes in the floor.	A supply of absorbent materials is maintained on the first floor.
42-Basement	Facilities (Central Utility Plant)	Elevator hydraulic fluid reservoir with approximately 125 gallons	Reservoir or piping failure or leak	125 gallons (reservoir failure)	125 gpm	Accumulates on floor. No floor drain.	Room serves as secondary containment. A supply of absorbent materials is maintained in basement.
42-Basement	Facilities (Central Utility Plant)	Several 55 gallon drums of various lube oil, hydraulic oils	Drum failure, leak or spill	55 gallons (drum failure)	55 gpm	Accumulates on floor of basement. No floor drain.	Impervious concrete floors. Room serves as secondary containment.
42-Basement	Facilities (Central Utility Plant)	Oil/water separator oil storage tank (No. 2 fuel oil unloading pad separator).	Tank overflow, leak or failure	350 gallons (tank failure)	350 gpm	Accumulates on floor of basement. No floor drain.	Room serves as secondary containment. Tank equipped with high oil level alarm. A supply of absorbent materials is maintained in basement.

TABLE 2
Oil Storage Equipment and Area Inventory

Bldg./ Room	Department	Source	Major Type of Failure	Total Quantity	Flow Rate	Direction of Flow	Secondary Containment or Other Controls
42-Basement	Facilities (Central Utility Plant)	Oil/water separator oil storage tank (Cogeneration facility separator).	Tank overflow, leak or failure	150 gallons	150 gpm	Accumulates on floor of basement. Significant spill could reach floor drain (20 ft. away). This drain is routed back to separator.	A supply of absorbent materials is maintained in the basement. Tank equipped with high oil level alarm.
42-Outside	Facilities (Central Utility Plant)	Fill ports to No. 2 fuel oil underground storage tanks (three tanks)	Spill or overfill during fuel loading	3,000 gallons (maximum capacity of tanker compartment)	300 gpm (assumed flow rate from tanker truck)	Accumulates on pad or may flow to central drain and oil/water separator.	Minor overfills collected in fill port catchment basin. Significant spills contained on concrete pad. A supply of absorbent materials is maintained in building and on trucks. Oil deliveries are performed under the supervision of CUP personnel.
48-00	Facilities	Fill port/vent to no.2 fuel oil emergency generator tank	Spill during loading or overfill of tank via vent pipe	300 gallons (assuming maximum tanker spill)	200 gpm (assumed flow rate from tanker truck)	Accumulates on ground under fill.	Audible vent whistle sounds during fill. Tank has top mounted level gauge. A supply of absorbent materials maintained in oil truck and in building.
48-030	Facilities	Elevator hydraulic fluid reservoir with approximately 150 gallons	Reservoir or piping failure or leak	150 gallons (tank failure)	150 gpm	Accumulates on floor. Floor sump 25 ft. away.	A berm was installed to contain spills. A supply of absorbent materials is maintained in the room.
48-100	Civil & Environmental Engineering (Parsons Lab)	Two 55 gallon drums of hydraulic oil.	Drum failure, leak or spill	55 gallons (drum failure)	55 gpm	Accumulates in spill containment pallet.	Stored on spill containment pallet. A supply of absorbent materials is maintained in building.
48-100	Civil & Environmental Engineering (Parsons Lab)	Hydraulic pumping equipment containing approximately 200 gallons of hydraulic oil	Tank or piping failure	Approximately 200 gallons (assumed failure of all equipment)	200 gpm	Accumulates on floor. Could enter grating and flow down to basement.	Room is enclosed with 2 ft. lip at doorway. A supply of absorbent materials is maintained in building.
51-outdoors	Facilities	Fill port/vent to no. 2 fuel oil tank	Spill during loading or overfill of tank via vent pipe	275 gallons (assumed maximum truck spill)	200 gpm (assumed flow rate from tanker truck)	Minor overfill accumulates in overflow box. More significant spill could accumulate on ground and possible flow towards Memorial Drive. No catch basins nearby.	Overfill box (equipped w/ lock) at fill port. New cap installed on vent pipe. Audible vent whistle sounds during fill. Tank has top mounted level gauge. A supply of absorbent materials maintained in oil truck and in building.
54-2035	Facilities	One G&W switch (107 gallons)	Unit failure or leak	107 gallons (unit failure)	107 gpm	Accumulates on floor. No floor drain.	Room serves as secondary containment. A supply of absorbent materials is maintained in the room.
56-0096	Facilities	Elevator hydraulic fluid reservoir (elevator #3) with approximately 75 gallons	Reservoir or piping failure or leak	75 gallons (reservoir failure)	75 gpm	Accumulates on floor. No floor drain.	Room serves as secondary containment. A supply of absorbent materials is maintained in the room.

TABLE 2
Oil Storage Equipment and Area Inventory

Bldg./ Room	Department	Source	Major Type of Failure	Total Quantity	Flow Rate	Direction of Flow	Secondary Containment or Other Controls
57-0	Facilities	One transformer (91 gallons)	Unit failure or leak	91 gallons (unit failure)	91 gpm	Accumulates on floor. Could enter floor drain located just outside door.	Curbs installed at doors and around the pit in room to contain oil. A supply of absorbent materials is maintained in the room.
66-0011	Facilities	Elevator hydraulic fluid reservoir with approximately 75 gallons	Reservoir or piping failure or leak	75 gallons (reservoir failure)	75 gpm	Accumulates on floor. No floor drain.	Berm at door. Room serves as secondary containment. A supply of absorbent materials is maintained in the room.
66-040	Facilities	Three G&W switches with 107 gallons each	Unit failure or leak	107 gallons (failure of one switch)	107 gpm	Accumulates on floor. No floor drain.	Curb at door. Room serves as secondary containment. A supply of absorbent materials is maintained in the room.
66-inside north loading door	Facilities	Trash compactor with approximately 25 gallons of hydraulic oil	Tank or hose failure	25 gallons (tank failure)	25 gpm	Accumulates on floor in room.	Reservoir is inside Bldg. 66. Sign with emergency information is on compactor unit
68-Outside	Facilities	Fill/vent port to emergency generator tank	Spill during loading or overfill of tank via vent pipe	660 gallons (assumed maximum truck spill)	200 gpm (assumed flow rate from tanker truck)	Accumulates under fill port on dirt and mulch covered area. Fill port located approximately 20 ft. from street. Spills likely would not flow to street.	Audible vent whistle sounds during fill. Tanks have top mounted level gauges. A supply of absorbent materials maintained in oil truck and in building.
E02-outside	Facilities	Fill/vent port to emergency generator tank	Spill during loading or overfill of tank via vent pipe	275 gallons (assumed maximum truck spill)	200 gpm (assumed flow rate from tanker truck)	Accumulates on pavement. Could flow towards catch basin (30 ft. away on Amherst St.)	Audible vent whistle sounds during fill. Tank has top mounted level gauge. A supply of absorbent materials is maintained in oil truck and in building.
E15-004	Facilities	Two Nelson switches with 107 gallons each	Unit failure or leak	107 gallons (switch failure)	107 gpm	Accumulates on floor. No floor drain.	Room serves as secondary containment. A supply of absorbent materials is maintained in the room.
E15-041	Facilities	Elevator hydraulic fluid reservoir with approximately 150 gallons (for Elevator #3)	Reservoir or piping failure or leak	150 gallons (reservoir failure)	150 gpm	Accumulates on floor. No floor drain.	A supply of absorbent materials is maintained in the room.
E15-097	Facilities	Two elevator hydraulic fluid reservoirs with approximately 150 gallons each (for Elevators #1 and #2).	Reservoir or piping failure or leak	150 gallons (reservoir failure)	150 gpm	Accumulates in oil pan or on floor. No floor drain.	Oil pan under reservoirs. A supply of absorbent materials is maintained in the room.

TABLE 2
Oil Storage Equipment and Area Inventory

Bldg./ Room	Department	Source	Major Type of Failure	Total Quantity	Flow Rate	Direction of Flow	Secondary Containment or Other Controls
E15-outside	Facilities	Trash compactor with approximately 25 gallons of hydraulic oil	Tank or hose failure	25 gallons (tank failure)	25 gpm	Accumulates on ground. Total release could flow towards storm drain 30 ft. away.	A sign with emergency information is on compactor unit. A supply of absorbent materials available inside E10.
E18-0	Facilities	One G&W switches (107 gallons)	Unit failure or leak	107 gallons (unit failure)	107 gpm	Accumulates on floor. No floor drain.	Room serves as secondary containment. A supply of absorbent materials is maintained in the stockroom.
E18-071	Facilities	Three 55 gallon drums waste oil	Drum failure, leak or spill or equipment failure	55 gallons (drum failure)	55 gpm	Accumulates in spill pallets. No floor drain.	Drums stored on spill pallets. A supply of absorbent materials maintained in the room.
E19-009	Facilities	Four 55 gallon drums of motor oil	Drum failure, leak or spill	55 gallons (drum failure)	55 gpm	Accumulates in containment pallet.	Spill containment pallets in-place under drums. A supply of absorbent materials is maintained in building.
E19-Outside	Facilities	Fill port/vent to no. 2 fuel oil emergency generator tank.	Spill during loading or overfill of tank via vent pipe	300 gallons (assumed maximum truck spill)	200 gpm (assumed flow rate from tanker truck)	Accumulates in corner of loading area. Storm drain 50 ft. away.	Drain blocker stored in E19 shipping room. A supply of absorbent materials maintained in oil truck.
E19-Outside	Facilities	Trash compactor with approximately 25 gallons of hydraulic oil.	Tank or hose failure	25 gallons (tank failure)	25 gpm	Accumulates on pavement.	Sign with emergency information is on compactor unit. A supply of absorbent materials maintained in the stockroom.
E23-008	Facilities	Two G&W switches (131 gallons each)	Unit failure or leak	131 gallons (unit failure)	131 gpm	Accumulates in pit & trench under switch. Floor drain in room.	Pit and trench are sealed to provide containment for the oil. A supply of absorbent materials is maintained in the room.
E23-outside	Facilities	Fill port/vent to no. 2 fuel oil emergency generator tank	Spill during loading or overfill of tank via vent pipe	450 gallons (assumed maximum truck spill)	200 gpm (assuming tanker flow)	Accumulates on pavement. Major spill could flow over paved driveway towards drain located at base of driveway.	Audible vent whistle sounds during fill. Tank has top mounted level gauge. A supply of absorbent materials maintained in oil truck and near tank.
E40-070	Facilities	Four G&W switches (107 gallons each)	Unit failure or leak	107 gallons (switch failure)	107 gpm	Accumulates in secondary containment curb. No floor drain.	Curb surrounds the four switches. A supply of absorbent materials is maintained in the room.

TABLE 2
Oil Storage Equipment and Area Inventory

Bldg./ Room	Department	Source	Major Type of Failure	Total Quantity	Flow Rate	Direction of Flow	Secondary Containment or Other Controls
E40-090	Facilities (Central Utility Plant)	Four 55 gallon drums lube oil	Drum failure, leak or spill or equipment failure	55 gallons (drum failure)	55 gpm	Minor leaks accumulate in containment pallet. Larger releases could flow to sump, which is pumped to sanitary sewer.	Drums stored on secondary containment pallet. Equipment sounds alarm at Central Utility Plant to indicate malfunction. A supply of absorbent materials is maintained in the room.
E40-Outside	Facilities	Fill port/vent to # 2 fuel oil emergency generator aboveground storage tank	Spill during loading or overfill of tank via vent pipe	275 gallons (assumed maximum truck spill)	200 gpm (assumed flow rate from tanker truck)	Accumulates on pavement. Fill port located 50 ft. from Hayward St. and over 100 ft. from nearest drain.	Audible vent whistle sounds during fill. Tank has top mounted level gauge. A supply of absorbent materials is maintained in oil truck and near tank.
E51-012	Facilities	Elevator hydraulic fluid reservoir with approximately 100 gallons	Reservoir or piping failure or leak	100 gallons (reservoir failure)	100 gpm	Accumulates on floor. One inch lip across door contains spills. No floor drain.	A supply of absorbent materials is maintained in the room.
E51-047	Facilities	One G&W switch (107 gallons)	Unit failure or leak	107 gallons (unit failure)	107 gpm	Accumulates on floor under switch. No floor drain.	Concrete curbs contain oil. A supply of absorbent materials is maintained in the room.
E51-Outside	Facilities	Fill port/vent to no. 2 fuel oil emergency generator tank	Spill during loading or overfill of tank via vent pipe	275 gallons (assumed maximum truck spill)	200 gpm (assumed flow rate from tanker truck)	Accumulates on ground in planting area.	Audible vent whistle sounds during fill. Tank has top mounted level gauge. A supply of absorbent materials maintained in oil truck and near tank.
E52-057	Facilities	Two 55 gallon drums of transformer oil.	Drum failure, leak or spill	55 gallons (drum failure)	55 gpm	Accumulates in secondary containment pallet. No floor drain.	Drums stored on secondary containment pallet.
E52-inside parking garage	Facilities	55 gallons drum of used cooking oil	Drum failure, leak or spill or equipment failure	55 gallons (drum failure)	55 gpm	Spill or leak accumulates on pavement. Could flow to garage gas/sand interceptor drain.	Gas/sand interceptor would contain spill. A supply of absorbent materials is maintained in room E52-061.
E53-0	Facilities	Elevator hydraulic fluid reservoir with approximately 60 gallons	Reservoir or piping failure or leak	60 gallons (reservoir failure)	60 gpm	Accumulates on floor. No floor drain.	Room serves as secondary containment. A supply of absorbent materials is maintained in the room.
E55-Outside	Res. Life	BFI trash compactor with approximately 25 gallons of hydraulic oil	Tank or hose failure	25 gallons (tank failure)	25 gpm	Accumulates on pavement.	Sign with emergency information is on the compactor unit.

TABLE 2
Oil Storage Equipment and Area Inventory

Bldg./ Room	Department	Source	Major Type of Failure	Total Quantity	Flow Rate	Direction of Flow	Secondary Containment or Other Controls
E60-0	Facilities	Elevator hydraulic fluid reservoir with approximately 65 gallons	Reservoir or piping failure or leak	65 gallons (reservoir failure)	65 gpm	Accumulates on floor. No floor drain.	Room serves as secondary containment. A supply of absorbent materials is maintained in the room.
N10-1	Laboratory for Electromagnetic & Electronic Systems	One empty transformer oil tanks (not in use).	Tank failure	600 gallons (potential oil volume of empty tank)	100 gpm	No floor drain, but door to outside is located 3 ft. from tank.	Tanks are empty. A supply of absorbent materials is maintained in the building.
N10-1-Center Test Cell	Laboratory for Electromagnetic & Electronic Systems	One 250 gallon dielectric oil storage tank	Tank failure or leak	250 gallons (tank failure)	250 gpm	Accumulates on floor of room. No floor drain.	Lip at doorway. Room serves as secondary containment. A supply of absorbent materials is maintained in the room.
N10-1-South Test Cell	Laboratory for Electromagnetic & Electronic Systems	One 55 gallon drum dielectric oil, and one 55 gallon drum used dielect.	Drum failure, leak or spill or equipment failure	55 gallons (drum failure)	55 gpm	Accumulates on floor. Overfill buckets located beneath taps of working drums of oil. No floor drain.	Lip at doorway. Room serves as secondary containment. Drums are in secondary containment. A supply of absorbent materials is maintained in the room.
N10-1-Transformer Test Bay	Laboratory for Electromagnetic & Electronic Systems	55 gallons drum of dielectric oil	Drum failure	55 gallons (drum failure)	55 gpm	Bay equipped with secondary containment. Accumulates on floor. No floor drain. Leak to water pipe of heat exchanger could enter drain and sanitary sewer system.	Units within secondary containment. A supply of absorbent materials is maintained in the room.
N10-2	Laboratory for Electromagnetic & Electronic Systems	Two large oil filled electrical units with 200 gallons each	Unit failure or leak	200 gallons (assumed complete unit failure)	200 gpm	Accumulates on floor of room. No floor drain.	Room serves as secondary containment. A supply of absorbent materials is maintained in the room.
N16	Facilities (Central Utility Plant)	Two fill ports to No. 6 fuel oil underground storage vaults	Vault overfill or spill during unloading	3,000 gallons (maximumcapacity of tanker compartment)	300 gpm (assumed flow rate from tanker truck)	Minor overfills collected at fill port. Larger spill could accumulate on pavement. Major spill could flow to parking lot catch basin (70 ft. away) or to Albany St.	Fill ports equipped with overfill catchment basins. The tanks are gravity fed. A supply of absorbent materials is maintained in the building and on truck. Oil deliveries are performed under the supervision of CUP personnel.
N42-003	Facilities	Elevator #2 hydraulic fluid reservoir with approximately 100 gallons	Reservoir or piping failure or leak	100 gallons (reservoir failure)	100 gpm	Accumulates on floor. No floor drain.	A supply of absorbent materials is maintained in the room.
N52-018	Facilities	One transformer (305 gallons)	Unit failure or leak	305 gallons (unit failure)	305 gpm	Accumulates on floor. No floor drain.	Room serves as secondary containment. A supply of absorbent materials in maintained is the room.

TABLE 2
Oil Storage Equipment and Area Inventory

Bldg./ Room	Department	Source	Major Type of Failure	Total Quantity	Flow Rate	Direction of Flow	Secondary Containment or Other Controls
N9-Outside in yard	Facilities	Two G&W switches (107 gallons each) and one transformer (832 gallons)	Unit failure or leak	832 gallons (assumed complete unit failure)	832 gpm	Accumulates in pit under switches. Transformer oil would accumulate on gravel. Major release could flow towards storm drain located 50 ft. away.	Curb at transformer will keep major release of oil from reaching storm drain. A supply of absorbent materials is maintained in Bldg. N9.
N9-yard near Albany St.	Facilities	One transformer (650 gallons)	Unit failure or leak	650 gallons (unit failure)	650 gpm	Accumulates on gravel (a low point).	Transformer located at a low point.
NW10-000L	Facilities	Elevator hydraulic fluid reservoir (elevator #2) with approximately 250 gallons	Reservoir or piping failure or leak	250 gallons (reservoir failure)	250 gpm	Accumulates on floor. No floor drain.	Room serves as secondary containment. A supply of absorbent materials is maintained in the room.
NW10-016	Facilities	Elevator hydraulic fluid reservoir (elevator #3) with approximately 250 gallons	Reservoir or piping failure or leak	250 gallons (reservoir failure)	250 gpm	Accumulates on floor. No floor drain.	Room serves as secondary containment. A supply of absorbent materials is maintained in the room.
NW10-032C	Facilities	Elevator hydraulic fluid reservoir (elevator #1) with approximately 200 gallons	Reservoir or piping failure or leak	200 gallons (reservoir failure)	200 gpm	Accumulates on floor. No floor drain.	Room serves as secondary containment. A supply of absorbent materials is maintained in the room.
NW10-Outside	Facilities	Fill port/vent to no. 2 fuel oil emergency generator tank	Spill during loading or overfill of tank via vent pipe	275 gallons (assumed maximum truck spill)	200 gpm (assumed flow rate from tanker truck)	Accumulates on loading dock or adjacent paved driveway. Nearest storm drain over 100 ft away at Purrington St.	Audible vent whistle sounds during fill. Tank equipped with top mounted level gauge. A supply of absorbent materials maintained in oi truck and near tank.
NW13-141A	Radiation Protection	Trash compactor with approximately 40 gallons of hydraulic oil	Hydraulic line leak	40 gallons	1 gpm	Accumulates on floor. No floor drain.	Room serves as secondary containment. A supply of absorbent materials is maintained in the room.
NW13-Outside	Facilities	Trash compactor with approximately 25 gallons of hydraulic oil	Tank or hose failure	25 gallons (tank failure)	25 gpm	Accumulates on ground.	A sign with emergency information is on compactor unit.
NW14-1219	Facilities	Four PCB transformers (280 gallons each)	Unit failure or leak	280 gallons (unit failure)	280 gpm	Accumulates on floor. Could enter floor drain in room.	Curbs at doors contain oil in room, and floor drain is protected. A supply of absorbent materials is maintained in the room.

TABLE 2
Oil Storage Equipment and Area Inventory

Bldg./ Room	Department	Source	Major Type of Failure	Total Quantity	Flow Rate	Direction of Flow	Secondary Containment or Other Controls
NW14-outside	Plasma Science and Fusion Center	Fill port/vent to #2 fuel oil emergency generator tanks	Spill during loading or overfill of tank via vent pipe	500 gallons (assumed maximum truck spill)	200 gpm (assumed flow rate from tanker truck)	Accumulates on ground. No storm drains in vicinity.	Audible vent whistle sounds during fill. Tank has top mounted level gauge. A supply of absorbent materials maintained in oil truck and near tanks.
NW14-outside substation	Plasma Science and Fusion Center	Five transformers (dielectric fluid). Oil capacities 1000 to 2300 gallons	Unit failure or leak	2300 gallons (unit failure)	2300 gpm	Leaks and minor releases remain within curbed area. Major release could go over curb on east side and enter catch basin (this is unlikely).	Yard surrounded by concrete curb 1 to 6 inches high. A supply of absorbent materials is maintained in or near all oil storage areas.
NW15-outside	Facilities	Fill port/vent to #2 fuel oil emergency generator tank	Spill during loading or overfill of tank via vent pipe	1,000 gallons (assumed maximum truck spill)	200 gpm (assumed flow rate from tanker truck)	Accumulates in containment area.	Oil fill pipe is in containment area. Audible vent whistle sounds during fill. Tank has top mounted level gauge. A supply of absorbent materials maintained in oil truck.
NW16-outside	Facilities	Fill port/vent to #2 fuel oil tank (serves boiler)	Spill during loading or overfill of tank via vent pipe	1,000 gallons (assumed maximum truck spill)	200 gpm (assumed flow rate from tanker truck)	Accumulates on ground or in stairwell. No storm drains in vicinity.	Audible vent whistle sounds during fill. Tank has top mounted level gauge. A supply of absorbent materials maintained in oil truck and near tank.
NW20	Plasma Science and Fusion Center	Five 55 gallon drums of turbine oil and alternator lube oil	Drum failure, leak or spill	55 gallons (drum failure)	55 gpm	Accumulates is secondary containment pallet. No floor drain.	Drums stored on secondary containment pallets. A supply of absorbent materials is maintained in the room.
NW20	Plasma Science and Fusion Center	Three 1,000 gallons alternator lube oil tanks connected to sump	Tank or piping failure	1,000 gallons (tank failure)	1000 gpm	Accumulates in secondary containment or in sump.	Tanks in secondary containment and area beneath tanks drains to closed sump. A supply of absorbent materials is maintained in the room.
NW21-120	Plasma Science and Fusion Center	Two 55 gallons and one 30 gallons power supply	Drum failure, leak or spill or equipment failure	55 gallons (drum failure)	55 gpm	Accumulates on floor of lead lined shield room. No floor drain.	Located in lead lined shield room w/ wooden floor and a 1-inch lip at the doorway. Room serves as secondary containment. A supply of absorbent materials is maintained in the room.
NW21-122	Plasma Science and Fusion Center	One 55 gallon drum of transformer oil and one transformer (30 gallons)	Drum failure, leak or spill or equipment failure	55 gallons (drum failure)	55 gpm	Accumulates in secondary containment.	A supply of absorbent materials is maintained in the room.
NW21-122	Plasma Science and Fusion Center	800 gallons dielectric oil storage tank	Tank failure or leak	800 gallons (tank failure)	800 gpm	Accumulates in closed sump.	Tank in diked room equipped with closed sump. A supply of absorbent materials is maintained in the room.

TABLE 2
Oil Storage Equipment and Area Inventory

Bldg./ Room	Department	Source	Major Type of Failure	Total Quantity	Flow Rate	Direction of Flow	Secondary Containment or Other Controls
NW21-133B	Plasma Science and Fusion Center	One 120 gallons transformer	Unit failure or leak	120 gallons (transformer failure)	120 gpm	Accumulates in containment pan. No floor drain.	12 inch high secondary containment pan. A supply of absorbent materials is maintained in the room.
NW21-151	Plasma Science and Fusion Center	One 55 gallons drum of vacuum pump oil	Drum failure, leak or spill	55 gallons (drum failure)	55 gpm	Accumulates in secondary containment pallet. Floor drain 10 ft away.	Drum stored on secondary containment pallet. A supply of absorbent materials is maintained in the room.
NW21-152	Plasma Science and Fusion Center	One 55 gallons Transformer and three 30 gallons Transformers	Unit failure or leak	55 gallons	55 gpm	Transformer leak accumulate in spill pan. No floor drain.	Spill pan located under transformer. Room serves as secondary containment. A supply of absorbent materials is maintained in the room.
NW21-156	Plasma Science and Fusion Center	Eight large capacitors and one 55 gallons power supply	Drum failure, leak or spill or equipment failure	55 gallons (drum failure)	55 gpm	Accumulates in containment barrels. No floor drain.	Drums stored in secondary containment barrels. Room serves as secondary containment. A supply of absorbent materials is maintained in the room.
NW21-194	Plasma Science and Fusion Center	Two DNB power transformers (1,000 gallons dielectric oil in each transformer)	Unit failure or leak	1,000 gallons (transformer failure)	1,000 gpm	Accumulates in containment pan. No floor drains.	Transformers stored within 3 to 4 foot high steel secondary containment pans. A supply of absorbent materials is maintained in the room.
NW21-194	Plasma Science and Fusion Center	Two Alcator C-Mod transformers (840 gallons dielectric oil in each transformer)	Unit failure or leak	840 gallons (transformer failure)	840 gpm	Accumulates in containment dike. No floor drain.	Transformers stored within 1 foot high concrete walled secondary containment. A supply of absorbent materials is maintained in the room.
NW21-Outside	Plasma Science and Fusion Center	One empty 2,500 gallonswater/dielec. oil overflow tank to provide storage for potentially oily water overflow during fire.	Tank or piping failure	2,500 gallons (tank failure)	2,500 gpm	Accumulates in containment dike.	Tank serves as containment for potential building fire water flows. Tank is stored within concrete walled secondary containment. A supply of absorbent materials is maintained in building.
NW21-Outside	Plasma Science and Fusion Center	1 out-of-service transformer (approximately 1,000 gal of dielectric oil)	Unit failure or leak	1,000 gallons (transformer failure)	1,000 gpm	Accumulates in containment dike.	Transformer stored within concrete walled secondary containment. A supply of absorbent materials is maintained in building.
NW21-Penthouse	Plasma Science and Fusion Center	One transformer (170 gallons)	Unit leak or failure	170 gallons (transformer failure)	170 gpm	Accumulates in dike or drains to overflow tank.	Transformer stored in diked area with drain leading down to overflow storage tank at rear of building. A supply of absorbent materials is maintained in building.

TABLE 2
Oil Storage Equipment and Area Inventory

Bldg./ Room	Department	Source	Major Type of Failure	Total Quantity	Flow Rate	Direction of Flow	Secondary Containment or Other Controls
NW21-penthouse	Plasma Science and Fusion Center	One 55 gallons drum of waste oil, three 55 gallon drums of dielectric oil, & three power supplies (30 gallons each)	Drum failure, leak or spill or equipment failure	55 gallons (drum failure)	55 gpm	Accumulates on floor. No floor drain.	Drums are stored in diked area with drain leading down to overflow storage tank at rear of building.. A supply of absorbent materials is maintained in the room.
NW21-Penthouse	Plasma Science and Fusion Center	Thirty-three 55 gallon drums of dielectric oil	Drum failure, leak or spill	55 gallons (drum failure)	55 gpm	Accumulates within the diked area. Spill could enter floor drain which discharges to overflow tank located outdoors at rear of building.	Drums stored in diked area with drain leading down to overflow storage tank at rear of building. A supply of absorbent materials is maintained in the room.
NW22-045	Facilities	Elevator hydraulic fluid reservoir with approximately 200 gallons	Reservoir or piping failure or leak	200 gallons (reservoir failure)	200 gpm	Accumulates on floor. No floor drain.	Room serves as secondary containment. A supply of absorbent materials is maintained in the room.
NW22-Hydraulic pump room	Plasma Science and Fusion Center	Three 55 gallon drums of hydraulic oil	Drum failure, leak or spill	55 gallons (drum failure)	55 gpm	Accumulates on floor. No floor drain.	Four out of six drums are on spill pallets. Room serves as secondary containment. A supply of absorbent materials is maintained in the room.
NW30-outside	Facilities	Fill port/vent to #2 fuel oil emergency generator tank	Spill during loading or overfill of tank via vent pipe	1,000 gallons (assumed maximum truck spill)	200 gpm (assumed flow rate from tanker truck)	Accumulates on ground. Storm drains 50 ft. away.	Audible vent whistle sounds during fill. Tank has top mounted level gauge. A supply of absorbent materials maintained in oil truck and near tank.
NW30-outside	Facilities	Trash compactor with approximately 25 gallons of hydraulic oil	Tank or hose failure	25 gallons (tank failure)	25 gpm	Accumulates on ground. Total release could flow towards storm drain 50 ft. away.	A sign with emergency information is on compactor unit.
NW62-1	Facilities	Eleven 55 gallon drums of motor oil, waste oil, kerosene, diesel fuel, and hydraulic oil.	Drum failure, leak or spill	55 gallons (drum failure)	55 gpm	Accumulates in secondary containment barrel. Spill to floor could enter floor drain but would be captured by oil/water separator.	Drums stored in secondary containment barrels in a bermed area with a floor drain which discharges to oil/ water separator and then to sanitary sewer (confirmed via dye testing). A supply of absorbent materials is maintained in the garage. No soap is discharged into the oil/water separator.
via 48-030	Facilities	Elevator hydraulic fluid reservoir with approximately 150 gallons	Reservoir or piping failure or leak	150 gallons	150 gpm	Accumulates on floor. Floor sump 25 feet away.	A berm was installed to contain spills. A supply of absorbent materials is maintained in the room.
W01-010C	Facilities	One G&W switch (107 gallons)	Unit failure or leak	107 gallons (unit failure)	107 gpm	Accumulates on floor under switch.	Floor drain is protected. A supply of absorbent materials is maintained in the room.

TABLE 2
Oil Storage Equipment and Area Inventory

Bldg./ Room	Department	Source	Major Type of Failure	Total Quantity	Flow Rate	Direction of Flow	Secondary Containment or Other Controls
W01-outside	Res Life	Trash compactor with approximately 25 gallons of hydraulic oil	Tank or hose failure	25 gallons (tank failure)	25 gpm	Accumulates on ground. Storm drain over 30 ft. away.	A sign with emergency information is on compactor unit. A supply of absorbent materials is maintained inside W1.
W02-0	Facilities	Elevator hydraulic fluid reservoir with approximately 200 gallons	Reservoir or piping failure or leak	approximately 200 gallons (reservoir failure)	200 gpm	Accumulates in drip pan under reservoir. No floor drain.	Drip pans placed under reservoir. Room serves as secondary containment. A supply of absorbent materials is maintained in the room.
W04-outside	Facilities	Fill port/vent to diesel oil emergency generator tank	Spill during loading or overfill of tank via vent pipe	275 gallons (assumed maximum truck spill)	200 gpm (assumed flow rate from tanker truck)	Accumulates on lawn adjacent to building.	Audible vent whistle sounds during fill. Tank has top mounted level gauge. A supply of absorbent materials maintained in oil truck and near tank.
W07-001	Facilities	Elevator #2 hydraulic fluid reservoir with 132 gallons	Reservoir or piping failure or leak	132 gallons (reservoir failure)	132 gpm	Accumulates on floor. No floor drain.	Room serves as secondary containment. A supply of absorbent materials is maintained in the room.
W07-Outside	Facilities	Fill port/vent to diesel emergency generator tank.	Spill during loading or overfill of tank via vent pipe	275 gallons (assumed maximum truck spill)	200 gpm (assumed flow rate from tanker)	Accumulates in dumpster parking area. Major spill could run downgradient toward storm drain 80 ft. away.	Audible vent whistle sounds during fill. Tank has top mounted level gauge. A supply of absorbent materials maintained in oil truck.
W07-Outside	Food Services	Two 55 gallons drum of used cooking oil on loading dock.	Drum failure, leak or spill	55 gallons (drum failure)	55 gpm	Accumulates on dock or on paved surface below.	A supply of absorbent materials is maintained building W7.
W07-outside	Res Life	Trash compactor with approximately 25 gallons of hydraulic oil	Tank or hose failure	25 gallons (tank failure)	25 gpm	Accumulate on dock or pavement below.	A sign with emergency information is on compactor unit. A supply of absorbent materials is maintained in Building W7.
W08-1	Athletics	One 55 gallons drum of marine oil.	Drum failure, leak or spill or equipment failure	55 gallons (drum failure)	55 gpm	Accumulates on floor. There is a berm at the doorways and a 6 -inch collar around the floor drain.	Room serves as secondary containment. A supply of absorbent materials is maintained in building.
W08-outside	Facilities	Fill port/vent to #2 fuel oil aboveground storage tank serving rowing machine.	Spill during loading or overfill of tank via vent pipe	250 gallons (assumed maximum truck spill)	200 gpm (assuming flow rate from tanker truck)	Accumulates in overfill basin. Could overflow basin to bridge and possibly enter river.	Fill port has 5 gallons overfill catchment basin and is secure. Audible vent whistle sounds during fill. Tank has top mounted level gauge. A supply of absorbent materials maintained in oil truck and near tank.

TABLE 2
Oil Storage Equipment and Area Inventory

Bldg./ Room	Department	Source	Major Type of Failure	Total Quantity	Flow Rate	Direction of Flow	Secondary Containment or Other Controls
W16-006	Facilities	Elevator hydraulic fluid reservoir with approximately 100 gallons	Reservoir or piping failure or leak	100 gallons (reservoir failure)	100 gpm	Accumulates on floor in secondary containment pan. Could enter floor opening or floor drain if pan capacity is exceeded.	Two inch drip pan under reservoir. A supply of absorbent materials is maintained in the room.
W16-023	Facilities	Elevator #2 hydraulic fluid reservoir with approximately 125 gallons	Reservoir or piping failure or leak	125 gallons (reservoir failure)	125 gpm	Accumulates in secondary containment pan. Room has floor drain.	Two inch deep drip pan under reservoir. A supply of absorbent materials is maintained in the room.
W20-019G	Facilities	Elevator hydraulic fluid reservoir (elevator #5) with approximately 150 gallons	Reservoir or piping failure or leak	150 gallons (reservoir failure)	150 gpm	Accumulates on floor. No floor drain.	Room serves as secondary containment. A supply of absorbent materials is maintained in the room.
W20-020	Office of Campus Dining	Four 55 gallon drums of used cooking oil	Drum failure, leak or spill	55 gallons (drum failure)	55 gpm	Accumulates in a spill pallet.	Drums stored on secondary containment pallet.
W20-outside	Facilities	Fill port/vent to #2 fuel oil emergency generator aboveground storage tank	Spill during loading or overfill of tank via vent pipe	275 gallons (assumed maximum truck spill)	200 gpm (assumed flow rate from tanker truck)	Accumulates on soil surfaces of landscaped courtyard between W20 and W32. No storm drain in this area.	Audible vent whistle sounds during fill. Tank has top mounted level gauge. A supply of absorbent materials maintained in oil truck and near tank.
W20-Outside	Facilities	Trash compactor with approximately 25 gallons of hydraulic oil	Tank or hose failure	25 gallons (tank failure)	25 gpm	Accumulates on ground surface. Could flow towards storm drain located 30 ft. away.	A sign with emergency information on compactor unit. A supply of absorbent materials is maintained in W20.
W31-032	Facilities	Elevator hydraulic fluid reservoir with approximately 200 gallons	Reservoir or piping failure or leak	200 gallons (reservoir failure)	200 gpm	Accumulates on floor in area of reservoir and possibly into elevator pit.	A supply of absorbent materials is maintained in the room.
W31-Outside	Facilities	Fill port/vent to #2 fuel oil emergency generator above ground storage tank	Tank or piping failure	275 gallons (assumed maximum truck spill)	200 gpm (assumed flow rate from tanker truck)	Accumulates on grassed lawn. Unlikely to reach nearest catch basin (6 ft. away)	Audible vent whistle sounds during fill. Tank has top mounted level gauge. A supply of absorbent materials maintained in oil truck and near tank.
W34-M43	Facilities	One G&W switch (107 gallons)	Unit failure or leak	107 gallons (unit failure)	107 gpm	Accumulates on floor or trench under switch. No floor drain.	Room serves as secondary containment. A supply of absorbent materials is maintained in the room.

TABLE 2
Oil Storage Equipment and Area Inventory

Bldg./ Room	Department	Source	Major Type of Failure	Total Quantity	Flow Rate	Direction of Flow	Secondary Containment or Other Controls
W34-outside	Facilities	Fill port/vent to #2 fuel oil emer. generator above ground storage tank	Spill during loading or overfill of tank via vent pipe	100 gallons (assumed maximum truck spill)	200 gpm (assumed flow rate from tanker truck)	Accumulates on paved surface of loading area. Could flow downhill towards trench drain located 50 ft. away along Vassar St.	Audible vent whistle sounds during fill. Tank has top mounted level gauge. A supply of absorbent materials maintained in oil truck and near tank.
W51-outside	Res Life	BFI trash compactor with approximately 25 gallons of hydraulic oil	Tank or hose failure	25 gallons (tank failure)	25 gpm	Accumulates on ground. Could flow to storm drain 30 ft. away.	A sign with emergency information is on compactor unit. A supply of absorbent materials is maintained in Building W51.
W59-051J	Facilities	Elevator hydraulic fluid reservoir with approximately 125 gallons	Reservoir or piping failure or leak	125 gallons (reservoir failure)	125 gpm	Accumulates on floor. No floor drain.	Room serves as secondary containment. A supply of absorbent materials is maintained in the room.
W59-outside	Facilities	Two 200 gallons Self-contained emergency generator day tanks in mobile trailers	Tank or piping failure	200 gallons	200 gpm	Accumulates in trailer. No storm drains in area.	Trailer serves as secondary containment.
W70-113	Facilities	One G&W switch (107 gallons)	Unit failure or leak	107 gallons (unit failure)	107 gpm	Accumulates on floor. No floor drain.	Room serves as secondary containment. A supply of absorbent materials maintained in the room.
W70-outside	Res Life	BFI trash compactor with approximately 25 gallons of hydraulic oil	Tank or hose failure	25 gallons (tank failure)	25 gpm	Accumulates on pavement. Could flow to storm drain 25 ft. away.	A sign with emergency information on compactor unit. A supply of absorbent materials maintained inside W70.
W71-005	Facilities	Elevator hydraulic fluid tank (elevator #3) with approximately 100 gallons	Reservoir or piping failure or leak	100 gallons (reservoir failure)	100 gpm	Accumulates on floor. No floor drain.	Room serves as secondary containment. A supply of absorbent materials is maintained in the room.
W71-032E	Facilities	One G&W switch (107 gallons)	Unit failure or leak	107 gallons (unit failure)	107 gpm	Accumulates on floor. No floor drain.	Room serves as secondary containment. A supply of absorbent materials is maintained in the room.
W71-040	Facilities	Two elevator hydraulic fluid reservoirs with approximately 100 gallons each (for Elevators #1 and #2)	Reservoir or piping failure or leak	100 gallons (reservoir failure)	100 gpm	Accumulates on floor. No floor drain.	Room serves as secondary containment. A supply of absorbent materials is maintained in the room.

TABLE 2
Oil Storage Equipment and Area Inventory

Bldg./ Room	Department	Source	Major Type of Failure	Total Quantity	Flow Rate	Direction of Flow	Secondary Containment or Other Controls
W71-outside	Facilities	Fill port/vent to #2 fuel oil emergency generator tank	Spill during loading or overfill of tank via vent pipe	275 gallons (assumed maximum truck spill)	200 gpm (assuming flow rate from tanker truck)	Accumulates on paved surface of loading area. Could flow toward storm drain about 15 ft away.	Audible vent whistle sounds during fill. Tank has top mounted level gauge. A supply of absorbent materials maintained in oil truck and near tank.
W71-outside	Food Services	One 200 gallons container of used cooking oil	Container failure, leak or spill	200 gallons (container failure)	200 gpm	Accumulates on pavement and soil. Could flow to storm drain 20 ft. away.	A supply of absorbent material maintained in building.
W71-outside	Res Life	Trash compactor with approximately 25 gallons of hydraulic oil	Tank or hose failure	25 gallons (tank failure)	25 gpm	Accumulates on pavement and soil. Hose failure could flow to storm drain 50 ft. away.	A sign with contact information is on compactor unit. A supply of absorbent materials is maintained in the building.
W84-007	Facilities	One G&W switch (107 gallons)	Unit failure or leak	107 gallons (unit failure)	107 gpm	Accumulates on floor. Floor drain in room.	Curb at door provides containment. Floor drain is blocked.
W84-outside	Facilities	Trash compactor with approximately 25 gallons of hydraulic oil	Tank or hose failure	25 gallons (tank failure)	25 gpm	Accumulates on ground. Could flow to storm drain 50 ft. away.	A sign with emergency information is on compactor unit. A supply of absorbent materials is maintained inside W84.
W85-006A	Facilities	Elevator hydraulic fluid reservoir with approximately 125 gallons	Reservoir or piping failure or leak	125 gallons (reservoir failure)	125 gpm	Accumulates on floor. Floor drain in room appears to be plugged. Potential for spill to reach second drain approximately 25 ft. from tank.	Second floor drain is blocked. A supply of absorbent materials is maintained inside room.
W91-164	Facilities	2 Nelson H.V. switches (115 gallons each)	Unit failure	115 gallons (unit failure)	115 gpm	Accumulates on floor. No floor drain.	Room serves as secondary containment.
W91-outside	Facilities	Fill port/vent to #2 fuel oil emergency generator above ground storage tank	Spill during loading or overfill of tank via vent pipe	300 gallons (assumed maximum truck spill)	300 gpm (assumed flow rate from tanker truck)	Accumulates on pavement. Could flow towards storm drain at Audrey St., 100 ft. away.	Audible vent whistle sounds during fill. Tank has top mounted level gauge. A supply of absorbent materials maintained in oil truck and near tank.

TABLE 1

Oil Storage Tank and Reservoir Inventory

TANK #	BUILDING	PRODUCT	CAPACITY (GALLONS)	TANK LOCATION	TANK TYPE	PIPING TYPE	CORROS. PROTECT.	LEAK DETECT. SYSTEM	TANK SECONDARY CONTMT.	FILL PORT SECONDARY CONTMT.	OVERFILL PROTECT.
1	16	NO. 2 FUEL OIL (EMERG. GEN.)	2 @ 280	ABOVEGROUND	DOUBLE WALLED STEEL	STEEL	NONE REQUIRED	INTERSTITIAL LEAK DETECT.	DOUBLE WALLED TANK	NONE	HI-LEVEL ALARM
2	16	NO. 2 FUEL OIL (EMERG. GEN.DAY TANK)	60	ABOVEGROUND	STEEL	STEEL	NONE REQUIRED	NONE	STEEL CONTAINMENT WALL	N/A	N/A
3	32	DIESEL OIL (EMERG. GEN.)	1,000	ABOVEGROUND	DOUBLE WALLED STEEL	STEEL	NONE REQUIRED	INTERSTITIAL LEAK DETECT.	DOUBLE WALLED TANK	NONE	NONE
4	32	DIESEL OIL (EMERG. GEN. DAY TANK)	60	ABOVEGROUND	STEEL	STEEL	NONE REQUIRED	NONE	NONE	N/A	N/A
5	42	NO. 2 FUEL OIL (EMERG. GEN. DAY TANK)	100	ABOVEGROUND	STEEL	STEEL	NONE REQUIRED	NONE	NONE	N/A	N/A
6	42	NO. 2 FUEL OIL (GAS TURBINE DAY TANK)	200	ABOVEGROUND	STEEL	STEEL	NONE REQUIRED	NONE	NONE	N/A	N/A
7	42	LUBE OIL (GAS TURBINE RESERVOIR)	2,000	ABOVEGROUND	STEEL	STEEL	NONE REQUIRED	NONE	ROOM SERVES AS CONTAINMENT	N/A	N/A
8	42	NO. 2 FUEL OIL	30,000	UNDERGROUND	FIBERGLASS REINF. PLASTIC	DOUBLE-WALLED FIBERGLASS	NONE REQUIRED	INTERSTITIAL LEAK DETECT.	DOUBLE WALLED TANK	CATCHMENT BASIN	HI-LEVEL ALARM
9	42	NO. 2 FUEL OIL	30,000	UNDERGROUND	FIBERGLASS REINF. PLASTIC	DOUBLE-WALLED FIBERGLASS	NONE REQUIRED	INTERSTITIAL LEAK DETECT.	DOUBLE WALLED TANK	CATCHMENT BASIN	HI-LEVEL ALARM
10	42	NO. 2 FUEL OIL	30,000	UNDERGROUND	FIBERGLASS REINF. PLASTIC	DOUBLE-WALLED FIBERGLASS	NONE REQUIRED	INTERSTITIAL LEAK DETECT.	DOUBLE WALLED TANK	CATCHMENT BASIN	HI-LEVEL ALARM

TABLE 1

Oil Storage Tank and Reservoir Inventory

TANK #	BUILDING	PRODUCT	CAPACITY (GALLONS)	TANK LOCATION	TANK TYPE	PIPING TYPE	CORROS. PROTECT.	LEAK DETECT. SYSTEM	TANK SECONDARY CONTMT.	FILL PORT SECONDARY CONTMT.	OVERFILL PROTECT.
11	48	NO. 2 FUEL OIL (EMERG. GEN.)	300	ABOVEGROUND	DOUBLE WALLED STEEL	STEEL	NONE REQUIRED	INTERSTITIAL LEAK DETECT.	DOUBLE WALLED TANK	NONE	NONE
12	51	NO. 2 FUEL OIL	275	ABOVEGROUND	STEEL	STEEL	NONE REQUIRED	NONE	DEDICATED SECONDARY CONTAINMENT	NONE	N0NE
13	68	NO. 2 FUEL OIL (EMERG. GEN.)	660	ABOVEGROUND	STEEL	STEEL	NONE REQUIRED	NONE	STEEL CONTAINMENT WALL	NONE	NONE
14	62/64	DIESEL OIL (EMERG. GEN.)	200	ABOVEGROUND	DOUBLE WALLED STEEL	STEEL	NONE REQUIRED	INTERSTITIAL LEAK DETECT.	DOUBLE WALLED TANK	NONE	VENT WHISTLE
15	68	NO. 2 FUEL OIL (EMERG. GEN.)	660	ABOVEGROUND	STEEL	STEEL	NONE REQUIRED	NONE	STEEL CONTAINMENT WALL	NONE	NONE
16	E02	NO. 2 FUEL OIL (EMERG. GEN.)	275	ABOVEGROUND	STEEL	STEEL	NONE REQUIRED	NONE	STORED IN CONTAINED ROOM	NONE	NONE
17	E15	NO. 2 FUEL OIL (EMERG. GEN.)	275	ABOVEGROUND	STEEL	STEEL	NONE REQUIRED	INTERSTITIAL LEAK DETECT.	CONCRETE CONTAINMENT WALL	NONE	YES
18	E15	NO. 2 FUEL OIL (EMERG. GEN. DAY TANK)	60	ABOVEGROUND	STEEL	STEEL	NONE REQUIRED	NONE	DOUBLE WALLED TANK	N/A	N/A
19	E19	NO. 2 FUEL OIL (EMERG. GEN.)	300	ABOVEGROUND	DOUBLE WALLED STEEL	STEEL	NONE REQUIRED	INTERSTITIAL LEAK DETECT.	DOUBLE WALLED TANK	NONE	NONE
20	E23	NO. 2 FUEL OIL (EMERG. GEN.)	450	ABOVEGROUND	STEEL	STEEL	NONE REQUIRED	NONE	CONCRETE BLOCK CONTAINMENT WALL	NONE	NONE

TABLE 1

Oil Storage Tank and Reservoir Inventory

TANK #	BUILDING	PRODUCT	CAPACITY (GALLONS)	TANK LOCATION	TANK TYPE	PIPING TYPE	CORROS. PROTECT.	LEAK DETECT. SYSTEM	TANK SECONDARY CONTMT.	FILL PORT SECONDARY CONTMT.	OVERFILL PROTECT.
21	E40	NO. 2 FUEL OIL (EMERG. GEN.)	275	ABOVEGROUND	STEEL	STEEL	NONE REQUIRED	NONE	CONCRETE BLOCK CONTAINMENT WALL	NONE	NONE
22	E51	NO. 2 FUEL OIL (EMERG. GEN.)	275	ABOVEGROUND	STEEL	STEEL	NONE REQUIRED	NONE	CONCRETE BLOCK CONTAINMENT WALL	NONE	NONE
23	N16	NO. 6 FUEL OIL	131,000	UNDERGROUND	CONCRETE VAULT	STEEL	ABOVEGRD. PIPING	TANK LEVEL CONTROL	NONE	CATCHMENT BASIN	TANK LEVEL CONTROL
24	N16	NO. 6 FUEL OIL	131,000	UNDERGROUND	CONCRETE VAULT	STEEL	ABOVEGRD. PIPING	TANK LEVEL CONTROL	NONE	CATCHMENT BASIN	TANK LEVEL CONTROL
25	N52	NO. 2 FUEL OIL (EMERG. GEN.)	275	ABOVEGROUND	STEEL	STEEL	NONE REQUIRED	NONE	CONCRETE BLOCK CONTAINMENT WALL	NONE	NONE
26	N9	NO. 2 FUEL OIL (MOBILE EMERG. GEN. TANK)	200	ABOVEGROUND	STEEL	N/A	NONE	NONE	NONE	NONE	NONE
27	N9	NO. 2 FUEL OIL (MOBILE EMERG. GEN. TANK)	200	ABOVEGROUND	STEEL	N/A	NONE	NONE	NONE	NONE	NONE
28	NW10	NO. 2 FUEL OIL (EMERG. GEN.)	275	ABOVEGROUND	STEEL	STEEL	NONE REQUIRED	NONE	BRICK CONTAINMENT WALL	NONE	NONE
29	NW14	NO. 2 FUEL OIL (EMERG. GEN.)	500	ABOVEGROUND	DOUBLE WALLED STEEL	STEEL	NONE REQUIRED	INTERSTITIAL LEAK DETECT.	DOUBLE WALLED TANK	NONE	NONE

TABLE 1

Oil Storage Tank and Reservoir Inventory

TANK #	BUILDING	PRODUCT	CAPACITY (GALLONS)	TANK LOCATION	TANK TYPE	PIPING TYPE	CORROS. PROTECT.	LEAK DETECT. SYSTEM	TANK SECONDARY CONTMT.	FILL PORT SECONDARY CONTMT.	OVERFILL PROTECT.
30	NW14	NO. 2 FUEL OIL (EMERG. GEN.)	500	ABOVEGROUND	DOUBLE WALLED STEEL	STEEL	NONE REQUIRED	INTERSTITIAL LEAK DETECT.	DOUBLE WALLED TANK	NONE	NONE
31	NW15	NO. 2 FUEL OIL (EMERG. GEN.)	1,000	ABOVEGROUND	STEEL	STEEL	NONE REQUIRED	NONE	CONCRETE CONTAINMENT WALL	FILL PORT WITHIN CONTAINMENT WALL	NONE
32	NW20	LUBE OIL - 1	1,000	ABOVEGROUND	STEEL	STEEL	NONE REQUIRED	NONE	CLOSED SUMP	FILL PORT ABOVE SUMP	NONE
33	NW20	LUBE OIL - 2	1,000	ABOVEGROUND	STEEL	STEEL	NONE REQUIRED	NONE	CLOSED SUMP	FILL PORT ABOVE SUMP	NONE
34	NW20	LUBE OIL - 3	1,000	ABOVEGROUND	STEEL	STEEL	NONE REQUIRED	NONE	CLOSED SUMP	FILL PORT ABOVE SUMP	NONE
35	NW21	DIELECTRIC OIL	800	ABOVEGROUND	STEEL	STEEL	NONE REQUIRED	NONE	CLOSED SUMP	FILL PORT ABOVE SUMP	NONE
36	NW21	DIELECTRIC OIL/WATER OVERFLOW TANK	2,500	ABOVEGROUND	STEEL	STEEL	NONE REQUIRED	NONE	NONE	N/A	N/A
37	NW30	NO. 2 FUEL OIL (EMERG. GEN.)	1,000	ABOVEGROUND	DOUBLE WALLED STEEL	STEEL	NONE REQUIRED	INTERSTITIAL LEAK DETECT.	DOUBLE WALLED TANK	YES	YES
38	NW86	DIESEL OIL (EMERG. GEN.)	500	ABOVEGROUND	DOUBLE WALLED STEEL	STEEL	NONE REQUIRED	INTERSTITIAL LEAK DETECT.	DOUBLE WALLED TANK	YES	YES
39	W04	NO. 2 FUEL OIL (EMERG. GEN.)	275	ABOVEGROUND	STEEL	STEEL	NONE REQUIRED	NONE	CONCRETE BLOCK CONTAINMENT WALL	NONE	NONE

TABLE 1

Oil Storage Tank and Reservoir Inventory

TANK #	BUILDING	PRODUCT	CAPACITY (GALLONS)	TANK LOCATION	TANK TYPE	PIPING TYPE	CORROS. PROTECT.	LEAK DETECT. SYSTEM	TANK SECONDARY CONTMT.	FILL PORT SECONDARY CONTMT.	OVERFILL PROTECT.
40	W07	NO. 2 FUEL OIL (EMERG. GEN.)	120	ABOVEGROUND	DOUBLE WALLED STEEL	STEEL	NONE REQUIRED	INTERSTITIAL LEAK DETECT.	DOUBLE WALLED TANK W/ CONCRETE CONTAINMENT	NONE	ALARM
41	W08	NO. 2 FUEL OIL (ROWING MACHINE)	2 @ 275	ABOVEGROUND	STEEL	STEEL	NONE REQUIRED	NONE	STORED IN CONTAINED ROOM	CATCHMENT BASIN	NONE
42	W20	NO. 2 FUEL OIL (EMERG. GEN.)	275	ABOVEGROUND	STEEL	STEEL	NONE REQUIRED	NONE	CONCRETE BLOCK CONTAINMENT WALL	NONE	NONE
43	W20	NO. 2 FUEL OIL (EMERG. GEN. DAY TANK)	60	ABOVEGROUND	STEEL	STEEL	NONE REQUIRED	NONE	NONE	N/A	N/A
44	W31	NO. 2 FUEL OIL (EMERG. GEN.)	275	ABOVEGROUND	STEEL	STEEL	NONE REQUIRED	NONE	CONCRETE BLOCK CONTAINMENT WALL	NONE	NONE
45	W34	NO. 2 FUEL OIL (EMERG. GEN.)	500	ABOVEGROUND	STEEL	STEEL	NONE REQUIRED	NONE	CONCRETE BLOCK CONTAINMENT WALL	NONE	NONE
46	W71	NO. 2 FUEL OIL (EMERG. GEN.)	275	ABOVEGROUND	STEEL	STEEL	NONE	NONE	CONCRETE BLOCK CONTAINMENT WALL	NONE	NONE
47	W79	DIESEL OIL (EMERG. GEN.)	3,000	ABOVEGROUND	STEEL	STEEL	NONE	INTERSTITIAL LEAK DETECT.	DOUBLE WALLED TANK	NONE	NONE

TABLE 1

Oil Storage Tank and Reservoir Inventory

TANK #	BUILDING	PRODUCT	CAPACITY (GALLONS)	TANK LOCATION	TANK TYPE	PIPING TYPE	CORROS. PROTECT.	LEAK DETECT. SYSTEM	TANK SECONDARY CONTMT.	FILL PORT SECONDARY CONTMT.	OVERFILL PROTECT.
48	W79	DIESEL OIL (EMERG. GEN.DAY TANK)	60	ABOVEGROUND	STEEL	STEEL	NONE	NONE	ROOM SERVES AS CONTAINMENT	NONE	NONE
49	W91	NO. 2 FUEL OIL (EMERG. GEN.)	300	ABOVEGROUND	DOUBLE WALLED STEEL	STEEL	NONE REQUIRED	INTERSTITIAL LEAK DETECT.	CONCRETE BLOCK CONTAINMENT WALL	NONE	NONE
50	W92	DIESEL OIL (EMERG. GEN.)	400	ABOVEGROUND	DOUBLE WALLED STEEL	STEEL	NONE REQUIRED	YES	DOUBLE WALLED TANK	YES	YES

APPENDIX D
Regulatory Cross Reference

US EPA Oil Pollution Prevention Regulations

Regulatory Citation	Plan Reference
40 CFR 112.1(a)	Section 1.1
40 CFR 112.1(b)	Section 1.1
40 CFR 112.1(c)	Not Applicable
40 CFR 112.1(d)	Section 1.1
40 CFR 112.1(e)	Section 1.1
40 CFR 112.1(f)	Not Applicable
40 CFR 112.3(a)	Section 1.3, Appendices B-1, B-2
40 CFR 112.3(b)	Not Applicable
40 CFR 112.3(c)	Not Applicable
40 CFR 112.3(d)	Section 1.2
40 CFR 112.3(e)	Section 1.4
40 CFR 112.3(f)	Not Applicable
40 CFR 112.4(a)	Section 4.0, Appendix E
40 CFR 112.4(b)	Section 14.4
40 CFR 112.4(c)	Section 14.4
40 CFR 112.4(d)	Section 1.3, Appendices B-1, B-2
40 CFR 112.4(e)	Section 1.3, Appendices B-1, B-2
40 CFR 112.4(f)	Not Applicable
40 CFR 112.5(a)	Section 1.3, Appendices B-1, B-2
40 CFR 112.5(b)	Section 1.3, Appendices B-1, B-2

APPENDIX D
Regulatory Cross Reference

US EPA Oil Pollution Prevention Regulations

Regulatory Citation	Plan Reference
40 CFR 112.5(c)	Section 1.2
40 CFR 112.7(a)(1)	Entire Plan
40 CFR 112.7(a)(2)	Entire Plan
40 CFR 112.7(a)(3)	Section 3.1, Figures
40 CFR 112.7(a)(4)	Sections 14.1
40 CFR 112.7(a)(5)	Section 14.0 (Entire Section)
40 CFR 112.7(b)	Section 5.0 (Entire Section), Appendix C
40 CFR 112.7(c)	Section 5.0 (Entire Section), Appendix C
40 CFR 112.7(d)	Not Applicable
40 CFR 112.7(e)	Section 11.0
40 CFR 112.7(f)(1)	Section 13.0
40 CFR 112.7(f)(2)	Section 2.0
40 CFR 112.7(f)(3)	Section 13.0
40 CFR 112.7(g)	Section 12.0
40 CFR 112.7(h)	Section 9.0 (Entire Section)
40 CFR 112.7(i)	Not Applicable
40 CFR 112.7(j)	Section 5.0 (Entire Section), Appendix C
40 CFR 112.8(a)	Entire Plan
40 CFR 112.8(b)	Section 6.0 (Entire Section)
40 CFR 112.8(c)(1)	Section 7.1

APPENDIX D
Regulatory Cross Reference

US EPA Oil Pollution Prevention Regulations

Regulatory Citation	Plan Reference
40 CFR 112.8(c)(2)	Section 7.2
40 CFR 112.8(c)(3)	Section 7.3
40 CFR 112.8(c)(4)	Section 7.4
40 CFR 112.8(c)(5)	Section 7.4
40 CFR 112.8(c)(6)	Section 10.0 (Entire Section)
40 CFR 112.8(c)(7)	Section 7.5
40 CFR 112.8(c)(8)	Section 7.6
40 CFR 112.8(c)(9)	Section 7.7
40 CFR 112.8(c)(10)	Section 7.8
40 CFR 112.8(c)(11)	Section 7.8
40 CFR 112.8(d)(1)	Section 8.1
40 CFR 112.8(d)(2)	Section 8.2
40 CFR 112.8(d)(3)	Section 8.3
40 CFR 112.8(d)(4)	Section 11.0
40 CFR 112.8(d)(5)	Section 9.1
40 CFR 112.9	Not Applicable
40 CFR 112.10	Not Applicable
40 CFR 112.11	Not Applicable
40 CFR 112.12	Not Applicable
40 CFR 112.13	Not Applicable

APPENDIX D
Regulatory Cross Reference

US EPA Oil Pollution Prevention Regulations

Regulatory Citation	Plan Reference
40 CFR 112.14	Not Applicable
40 CFR 112.15	Not Applicable
40 CFR 112.20	Not Applicable
40 CFR 112.21	Not Applicable
40 CFR 112, Appendix A	Not Applicable
40 CFR 112, Appendix B	Not Applicable
40 CFR 112, Appendix C	Section 1.5, Appendix F
40 CFR 112, Appendix D	Not Applicable
40 CFR 112, Appendix E	Not Applicable
40 CFR 112, Appendix F	Not Applicable

APPENDIX C
Certification Of Substantial Harm Determination Form

Facility Name: Massachusetts Institute of Technology

Facility Address: Boston, Massachusetts

1. Does the facility have a maximum storage capacity greater than or equal to 42,000 gallons and do the operations include over water transfers of oil to or from vessels?

   Yes_____ No__X__

2. Does the facility have a maximum storage capacity greater than or equal to one million (1,000,000) gallons and is the facility without secondary containment for each aboveground storage area sufficiently large to contain the capacity of the largest aboveground storage tank within the storage area?

   Yes_____ No__X__

3. Does the facility have a maximum storage capacity greater than or equal to one million (1,000,000) gallons and is the facility located at a distance such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments as defined in 40 CFR 112?

   Yes_____ No__X__

4. Does the facility have a maximum storage capacity greater than or equal to one million (1,000,000) gallons and is the facility located at a distance such that a discharge from the facility would shut down a public drinking water intake?

   Yes_____ No__X__

5. Does the facility have a maximum storage capacity greater than or equal to one million (1,000,000) gallons and within the past 5 years, has the facility experienced a reportable spill in any amount greater than or equal to 10,000 gallons?

   Yes_____ No__X__

FACILITY REPRESENTATIVE 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.

_____ _____

(Signature) (Title)

_____ _____

(Name) (Date)

APPENDIX B
History of Oil Spills

January 16, 2000

On January 16, 2000 at approximately 9:15PM, the Central Utilities Plant (CUP) experienced a fuel spill of Number 6 fuel oil inside and outside Building N-16. The second of four 7,800 gallon loads had been pumped into the USTs beneath Building N-16 by the truck service company for Global Oil. The truck driver completing the delivery noticed oil coming out of one of the fill pipes. The CUP control room was notified and an assistant watch engineer visited N-16 and noticed oil on the floor. Oil had seeped out of two floor plates and spread out over the floor. It was estimated that 250 gallons was on the floor inside the building and between 3 and 15 gallons had leaked out of the fill pipe and onto the ground outside the building.

The following were called to the site: the Massachusetts Department of Environmental Protection (DEP), the Cambridge chief electrical inspector, Fire and Police, MIT Police, MIT Safety Office and Clean Harbors to assist in cleaning up the spill. The oil that spilled onto the ground near the fill pipes congealed almost instantly due to the extremely cold weather. The small quantity of oil spilled outside was contained. On January 17, 2000, Clean Harbors completed the clean-up both inside and on the exterior portions of the building. MIT completed the required regulatory reporting.

October 21, 1998

An oil spill was reported at Building 20 and Vassar Street. Upon investigation, workmen pumped an abandoned oil separator to prepare for demolition. An oily substance was found at the pump discharge. The discharge made its way across the sidewalk and onto Vassar Street. Total spill estimated at 5 gallons. MIT Safety Office responded to the scene. Cambridge Fire was called by MIT Safety to the scene. Clean Harbors was called by MIT to perform the cleanup. All free oil was recovered; no discharge to storm drain occurred.

August 14, 1997

An oil slug on the Charles River in the vicinity of MIT's Sailing Pavilion was reported to MIT's Safety Office and Physical Plant Dispatcher on August 14, 1997, both of which responded. MIT notified the Massachusetts Department of Environmental Protection of the presence of the oil, and deployed booms and absorbent material to contain it. MIT also retained Clean Harbors to assist in the remediation and to

investigate all sources of possible discharge from MIT or from Cambridge storm drains. None were found. It was later determined by the Massachusetts DEP that the spill had most likely originated on the opposite side of the Charles River and been driven by the wind to the shore near MIT.

July 27, 1997

On July 27, 1997 an operator observed oil leaking onto the roof of the Central Utility Plant from a vent pipe. The vent pipe was connected to an approximately 180 gallon fuel oil tank. After responding to the condition causing the release, spill socks and absorbent pads were immediately placed around a roof drain located approximately 30 feet from the release. A small quantity (less than 10 gallons) of fuel oil was released. A portion of the oil was contained and removed, but MIT estimated that 5-8 gallons of fuel oil may have entered the roof drain. The roof drain is ultimately connected to the combined sanitary/storm sewer system in Cambridge. Because weather conditions were dry, MIT concluded that there was no possibility of oil reaching the Charles River. Subsequently it was diagnosed that a faulty water injection valve had allowed water to fill the oil day tank. The valve has been replaced and the vent now dumps to the oil/water separator.

April 24, 1997

A hydraulic line in a BFI dumpster truck failed, spraying hydraulic oil onto an area of pavement about 20 yards from the East corner of Building 20 (C wing). Two representatives from the Safety Office responded. A storm drain approximately 10 yards from the truck may have received a small amount of oil, but no sheen was observed. Spill pillows were placed around the drain, and absorbent material placed on the oil. Campus police was called in to redirect traffic through the loading dock and parking areas. Clean-up was completed within one hour. It was estimated that approximately 8 gallons of hydraulic oil were released from the line.

July 1, 1996

An oil leak from the power supply equipment in Building 4-031 (a laboratory of the Materials Science Department) resulted in a quantity of less than one liter of oil pooling on the floor. After discussion with the Industrial Hygiene Office, the Department's Chemical Hygiene Officer and its Safety Coordinator, the laboratory occupant obtained spill absorbent materials from Industrial Hygiene and removed the oil from the floor.

October 20, 1995

The contents of a 5 gallon container of fuel additive (NCC Sludge Solvent) leaked onto the plywood floor in the mechanical room of the MIT Sailing Pavilion (Building 51). A representative from the Industrial Hygiene Office responded on the scene at the request of the Safety Office. The MSDS for the substance indicated that it was 89% petroleum distillates. Air sampling revealed negligible vapor concentrations, and the spilled chemical was covered with absorbent material and removed from the floor.

April 14, 1995

A representative from the Industrial Hygiene Office responded to a call regarding the discovery of a spill of 1-2 liters of a reddish liquid on the floor of the furnace room in the basement of Building W45. The material was covered with absorbent and removed. The spill material could not be identified with certainty since none of the chemical containers in the area were leaking. The nearest container to the spill location was a cleaning agent that tested negative for petroleum products with the Spill-Fyter Chemical Classifier. A representative from Physical Plant thought that the spilled material resembled elevator hydraulic fluid, although the elevator mechanic stated that the fluid had not been handled at that location for some time.

September 1, 1994

A representative from the Industrial Hygiene Office responded to an anonymous call alleging that an operator of one of the food trucks parked behind Building 20 and the East Parking Garage was dumping liquid on the pavement. Investigation revealed that while the food vendor did have cooking oil on the truck, the liquid was actually water from the coolers used by one or more of the food vendors at that location to store drinks.

June 6, 1994

An electrical transformer in the penthouse above the West Cell of Building NW21 overheated, and transformer oil was spilling out of the top of the equipment and into a secondary catch basin. Some of the oil was on the floor and had reached a floor drain at that location. The floor drain is directly piped through the West Cell and out the rear of the building (south wall) to a holding tank in a secured fenced area. Testing of a bulk

sample of the spilled oil confirmed that it was free of PCBs. Three employees from the MIT Plasma Fusion Center used absorbent materials to clean and remove the spill. They estimated that less than 5 gallons of the oil had been spilled.

August 11, 1993

During renovation of a laboratory (Building 16-115), some oil spilled out of a vacuum pump that was being moved. A representative from the Industrial Hygiene Office responded to a call from the Safety Office reporting the situation. The spill was cleaned and disposed. While the quality was not documented, it is unlikely that the amount could have exceeded one gallon.