REED COLLEGE

3203 SE Woodstock Blvd, Portland, Oregon 97202

Spill Prevention, Control, and Countermeasure Plan (SPCC)

Document Prepared in 2004 by:
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Document Amended in 2009, 2010, 2014, 2016, 2017, 2019 by:
EHS Departmental Associates

Original Plan Certification by:
William E. Lawson, P.E.
Environmental Engineer
Portland General Electric Co.
Phone: 503-464-8030 Fax: 503-464-7503

Original Implementation Date of Plan: November 2, 2004.
This plan is fully implemented under Reed College management approval and direction. Reed College management personnel must review and evaluate this plan at least once every five years or whenever there is a change in design, operation, or maintenance that could significantly affect the plan. After this review and evaluation, school personnel must amend the SPCC Plan within six months of the review. Current copies of the Plan are readily available at the Community Safety Office, the Environmental Health and Safety Office, and the Facilities Services Office.
[40 CFR Parts 112.3 & 112.5]

Reed College Emergency Telephone Numbers

[40 CFR Parts 112.7(a)(3)(vi)]

Reed Community Safety Emergency	503-788-6666, ext. 6666
Fire/Police	911
NRC Environmental (Clean-up Contractors)	1-800-337-7455 Or 503-283-1150
Chemtrec (Specialty Spill Responders)	1-800-424-9200
Poison Control	1-800-222-1222
Safety & Supply Co. (Supplies and Equipment)	503-283-9500
National Response Center	1-800-424-8802
Oregon State Emergency Response System	1-800-452-0311
Portland General Electric Outage /Emergency Response (24 Hrs)	503-464-7777 OR 1-800-544-1795

Primary Contact	April Sams, Director, Environmental Health and Safety	971-284-4534 (cell)
Alternate #1	Townsend Angell, Director, Facilities Operations	503-777-7763/503-777-7283 503-421-0011 (cell)
Alternate #2:	Kori Lay EHS Specialist	503-517-7931
Alternate #3:	Gary Granger Director, Community Safety	503-777-7379

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AN INTRODUCTION TO SPCC

What is the SPCC all about?

The Spill Prevention Control & Countermeasure or "SPCC" Plan describes all applicable oil-containing equipment at our facility and establishes the necessary practices to prevent a spill (also called a "release") of oil to the environment. It sets up procedures necessary for proper response, such as containment, clean up, and notification activities, in order to minimize harm to the environment in case of an accidental spill or release.

This Plan contains four main sections:

Section I: General Information explains the regulatory scope and purpose of a Spill Prevention, Control and Countermeasure Plan, site-specific information about the oil products stored at Reed College, and the administration of our plan. It includes definitions of terms, information about management's responsibilities, a registered professional engineer's certification of the plan, procedures for distribution of the plan, periodic reviews, and recording amendments to the plan.

Section II - Spill/Release Countermeasures and Response Procedures describes information about the surface water drainage system at Reed College, the potential causes of oil spills/discharges, and appropriate countermeasures based on the physical properties of various oils. It provides specific information about what to do during a spill/release: how to report a spill, guidance on mitigation and cleanup of a release, proper disposal of related waste, and materials and equipment maintained by Reed College for use in emergency situations.

Section III - Spill/Release Prevention and Control identifies policies and procedures designed to reduce the potential for a spill/release. It provides: information on past oil releases and response measures; establishes schedules and procedures for inspecting storage areas and equipment containing oil; a description of annual SPCC training; general delivery and storage procedures.

Section IV- Appendices contain emergency contact information; more detailed information about the facility and oil-containing equipment; training and maintenance records; reference and suggested training documents.

Where to find copies of the SPCC Plan:

Reed College maintains complete and current copies of our plan in the Environmental Health & Safety (EHS) Office (located in Room C106 of the Chemistry Building), at the Community Safety Dispatch Desk (in the 28 West Building), in Food Service (GCC Lower Commons, the Executive Chef's office), and in the Facilities Services Office (upstairs at the Physical Plant Building.) During normal business hours, anyone may review the plans kept in the EHS and Facilities Services offices. The copy in the Community Safety Office is available for 24-hour emergency reference.

I. GENERAL INFORMATION

A. PURPOSE AND SCOPE / REGULATORY BACKGROUND

Reed College staff have prepared this Spill Prevention Control and Countermeasures (SPCC) Plan to meet the United States Environmental Protection Agency's (US EPA) Oil Pollution Prevention Regulations [Title 40 Code of Federal Regulations Part112]. This SPCC Plan establishes preparedness and prevention measures, plans to ensure effective response, and notification procedures as currently required by law. Reed College personnel will implement this plan in order prevent or mitigate a discharge that could violate applicable water quality standards. This plan also establishes guidelines for activities to prevent recurrence of any oil spill.

By definition, a facility that stores, transfers, distributes, uses or consumes oil[1] is subject to SPCC regulations if: the total aboveground storage capacity exceeds 1,320 gallons; and if, due to its location, the facility could reasonably be expected to discharge oil into or upon the navigable waters[2] of the United States or adjoining shorelines. Penalties for not complying with these laws can be as high as $32,500 per day.[3]

Our SPCC plan must be available for on-site review by the EPA regional staff during normal working hours. If Reed College were to release more than:

- 1,000 gallons of oil into or upon navigable waters of the United States or adjoining shorelines in a single event; or

- 42 gallons of oil in each of two spill events within any twelve-month period,

Reed College management must submit this SPCC plan within 60 days to the U.S. EPA Region 10 Administrator along with other information specified in 40 CFR 112.7 (a)(1-9).

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[1] "Oil" is defined in [40 CFR 112.2] as "oil of any kind or in any form, including, but not limited to: fats, oils, or greases of animal, fish, or marine mammal origin; vegetable oils, including oils from seeds, nuts, fruits, or kernels; and, other oils and greases, including petroleum, fuel oil, sludge, synthetic oils, mineral oils, oil refuse, or oil mixed with wastes other than dredged spoil."

[2] "Navigable waters" of the U.S. are defined in Section 502(7) of the Federal Water Pollution Control Act (FWPCA), and include:

- All navigable waters of the U.S., as defined in judicial decisions prior to the passage of the 1972 amendments to the FWPCA, and the tributaries of such waters; and interstate waters (including interstate wetlands).

- Interstate waters (including wetlands) such as intrastate lakes, rivers, and streams which are utilized by interstate travelers for recreational or other purposes; and intrastate lakes, rivers, and streams from which fish or shellfish are taken and sold in interstate commerce.

[3] If an administrative action is filed, the penalty can be up to $137,500. There is no limit if a federal judicial case is filed.

The Federal statute requires that facilities amend their SPCC plan within six months of changes in facility design, construction, operation, or maintenance that materially affect the facility's spill potential. Otherwise, a manager, who can commit the necessary resources to implement the programs and procedures, must review the plan at least once every five years (Certification Forms A-1 and A-2 in this section.). The amended plan must include "more effective prevention and control technology," if such technology has been field-proven to "significantly reduce" the likelihood of a spill event.

At the time of Reed College's original plan certification in November 2004, a registered Professional Engineer (PE) was required to certify all changes to Sections I, II, and III of the plan (Certification Forms B-1 and B-2 in this section.) In December 2006, the US EPA streamlined some of their requirements for facilities, such as Reed College, that have smaller oil storage capacities and specific types of equipment. The revised rule allows Reed College to prepare a self-certified SPCC Plan instead of one that a Professional Engineer reviews and certifies.

B. REED COLLEGE FACILITY INFORMATION AND TOPOGRAPHIC MAP

[40 CFR Part 112.7(a)(3)]

Facility Name:	REED COLLEGE
Street/Mailing Address:	3203 SE WOODSTOCK BOULEVARD PORTLAND, OREGON 97202-8199
Owner/ Operator:	THE REED INSTITUTE
NAICS CODE:	6113 (College)

Location: Reed College is an institution of higher education located within the city of Portland, Oregon. The 116-acre campus includes the headwaters of Crystal Springs Creek, Reed Lake, and the 26-acre Reed College Canyon wetlands: tributaries of the Willamette River. SE Steele Street borders the facility to the north; SE 37th Avenue to the east; SE Woodstock Boulevard to the south; and SE 28th Avenue to the west.
Latitude: 45º 28' 45.1199"
Longitude: -122º 37' 49.44"

ATTACHMENT B: MAPS show the property boundaries, topography, and location of buildings, drains, surface water features, and oil storage sites.

Proximity to Navigable Water

The Reed College campus is located approximately 1.1 miles due east of the Willamette River. Oil-filled equipment is located around the banks of Reed Lake. Storm water drains from the various generator and oil equipment sites to Reed Lake by way of on-site storm drains and/or overland flow. The water from Reed Lake flows out as Crystal Springs Creek, which contributes to Johnson Creek to the south. The confluence of Johnson Creek and the Willamette River is located on the West Side of the intersection of Front and Monroe Streets in Milwaukie, Oregon, approximately 3 miles south of campus.

Topography and Soil Condition of the Site

The Reed College campus surrounds Reed Lake. The Multnomah County, Oregon Soil Survey by the U.S. Soil Conservation Service describes the soil at this campus as "Urban land: moderately well drained to poorly drained loams and silt loams." The typical equipment locations are protected from erosion by asphalt surfacing, concrete, or landscaping materials.

C. CERTIFICATION FORM A-1 – ORIGINAL MANAGEMENT APPROVAL

[40 CFR Part 112.3(g)]

Facility: Reed College
3203 SE Woodstock Boulevard
Portland, Oregon 97202
503-777-6666 (On-site Community Safety Dispatch)

Management Approval:

Name: Ed McFarlane

Contact Information: 503-777-7506 (Office)

Title: Vice President and Treasurer

Signature: On File

Date: (Signed 11/02/2004)

I certify that I have authority to commit the necessary resources to implement the programs and procedures in this **Spill Prevention, Control, and Countermeasure (SPCC) Plan**. Management approves the full implementation of this SPCC Plan. In addition, management shall review and evaluate this plan at least once every five years, amending the plan to include more effective, field-proven technology, if it would be expected to reduce the likelihood of a spill event at the facility. A Registered Professional Engineer shall certify all amendments.

ADDITIONAL PLAN REVIEWS:

As set forth in 40 CFR Part 112.5(a) and (b), Reed College will amend and re-certify this SPCC Plan whenever:

- It is required by the Regional Administrator of the US-EPA;
- Applicable regulations are revised or added; or
- A change in facility design, construction, operation, or maintenance materially affects the facility's potential for the discharge of oil into or upon the navigable waters of the United States or adjoining shorelines.

Management will show evidence of the required plan reviews in the following table.

D. CERTIFICATION FORM A-2 - RECORD OF PLAN REVIEWS

[40 CFR Part 112.5]

Manager's Name & Title	**Manager's Signature**	**Reason for Review** (*See codes, below)	**Plan Updated?** (Yes/ No)	**Engineer's Certification Obtained?** (Yes/ No)	**New Certification Date**
Edwin McFarlane, V.P. / Treasurer	On File	1 and 3	YES	YES	December 21, 2009
Lorraine Arvin, V.P. and Treasurer	On File	1 and 3	YES	NO	July 31, 2014
Lorraine Arvin, VP and Treasurer	On File	3	NO	NO	July 29, 2019

***Reason for Review Codes:**

1. **Change in facility design, construction, operation, or maintenance affecting potential discharge of oil.**
2. **Revision of applicable regulations.**
3. **5-year review / evaluation of plan (minimum required).**
4. **Other**

E. CERTIFICATION FORM B-1 - ENGINEER APPROVAL

[40 CFR Part 112.3(d)(1)]

Facility:	Reed College 3203 SE Woodstock Boulevard Portland, Oregon 97202 Primary Contact Person: April Sams (Environmental Health and Safety Director) 503-777-7788 (Office)
Owner:	Reed Institute, Inc. 3203 SE Woodstock Boulevard Portland, OR 97202
Implementation Date:	11/02/2004

This plan has been reviewed and approved by William E. Lawson, a registered Professional Engineer, as required by 40 CFR 112.

Certification: I, WILLIAM E. LAWSON, a registered Professional Engineer, hereby certify that I have examined these facilities and, being familiar with the provisions of 40 CFR, Part 112, attest that this **SPCC Plan** has been prepared in accordance with good engineering practices.

Signature:	**ON FILE**
Name:	William E. Lawson
Date:	January 8, 2004
State of Registration:	Oregon
Registration Number:	9682
SEAL:	**ON FILE**

F. CERTIFICATION FORM B-2 - PLAN REVISION APPROVALS

[40 CFR Part 112.5(a - c)]

Engineer	By Date	Description of Change	Checked	Approved

G. PLAN DISTRIBUTION LIST

[40 CFR Part 112.3(e)(1 - 2)]

The following individuals and departments have copies of this plan:

Name	Title	Department
Lorraine Arvin	Vice President and Treasurer	Treasurer (College Officer/Administrator)
April Sams	EHS Director	Environmental Health & Safety
Townsend Angell	Facilities Operations Director	Facilities Services
Kori Lay	EHS Specialist	Environmental Health and Safety
Gary Granger	Community Safety Director	Community Safety
Matt Talavera	General Manager	Food Services

H. DEPARTMENT MANAGER RESPONSIBILITIES

[40 CFR Part 112.7(d)(2)]

Reed College is committed to providing all the properly trained personnel, equipment, and materials required to prevent oil spills and, if necessary, to expeditiously control and responsibly counteract any oil spilled. Managers in Community Safety, Facility Services, and Food Services must:

- Allocate necessary resources (e.g. employee time and equipment) to complete site-specific SPCC Plan implementation and corrective measures as identified.
- Communicate issues of concern regarding SPCC plan implementation to site personnel as appropriate.
- Identify and properly train all employees involved with handling oil products.
- Maintain appropriate training and drill records.
- Schedule regular maintenance inspections.
- Meet all record-keeping requirements for fuel- or oil-containing equipment.
- Ensure that appropriate spill-mitigation equipment is maintained and available.
- Maintain up-to-date information on site-specific oil storage and use.
- Provide timely, updated information to Reed's EHS Department.
- Coordinate with Reed's EHS Department on technical issues.
- Provide additional site security in areas affected by a "major" spill (for instance, by using barrier tape and traffic cones to designate an emergency exclusion zone.)

I. OIL STORAGE SUMMARY

[40 CFR Part 112.7(b)]

Aboveground Fuel Oil Storage:

Fixed, diesel-powered backup generators

Unit Number	**Location**	**Volume** (Gallons)
G-1	Chemistry Building	75
G-2	Physics Building	475
G-3	Eliot Hall	(40)
G-4	Educational Technology Center	392
G-5	Foster/Scholz Dormitory Complex	146
G-6	Gray Campus Center/The Commons	110
G-7	Physical Plant Building	100
G-8	Bragdon Dormitory Complex	85
G-9	Sullivan Dormitory	(40)
G-10	Grove Dormitory Complex/Quad	185
G-11	Psychology Building	226
G-12	Vollum College Center	145
G-13	Performing Arts Building	416
Total of Diesel Stored in Generators with volumes ≥ 55 gallons		**2355**

See **ATTACHMENT C** for details about the petroleum-powered **GENERATORS.**

Used Cooking Oil:

Used Cooking Oil (S-1) is stored prior to disposal at the Gray Campus Center /The Commons area in a metal, waste-oil drum with a capacity in gallons of:	**55**

Biodiesel:

Biodiesel (S-2) is stored in two 55-gallon drums in the north end bay in the grounds shop. A secondary containment tray holds both drums and can handle up to 55 gallons.	
Total Biodiesel Storage (in gallons)	**110**

Diesel:

Diesel (S-4) is stored in a 5000-gallon tank on the northwest side of the Physical Plant building. An secondary containment tank contains the inner tank and can handle up to 900 gallons.	
Total Diesel Not Stored in Generators (in gallons)	**5000**

Other petroleum products (ATTACHMENT D: OIL STORAGE) including gasoline, diesel, lubricants, waste oils, and horticultural oils are stored aboveground in metal barrels or safety storage cans with volumes of less than 55 gallons per container:

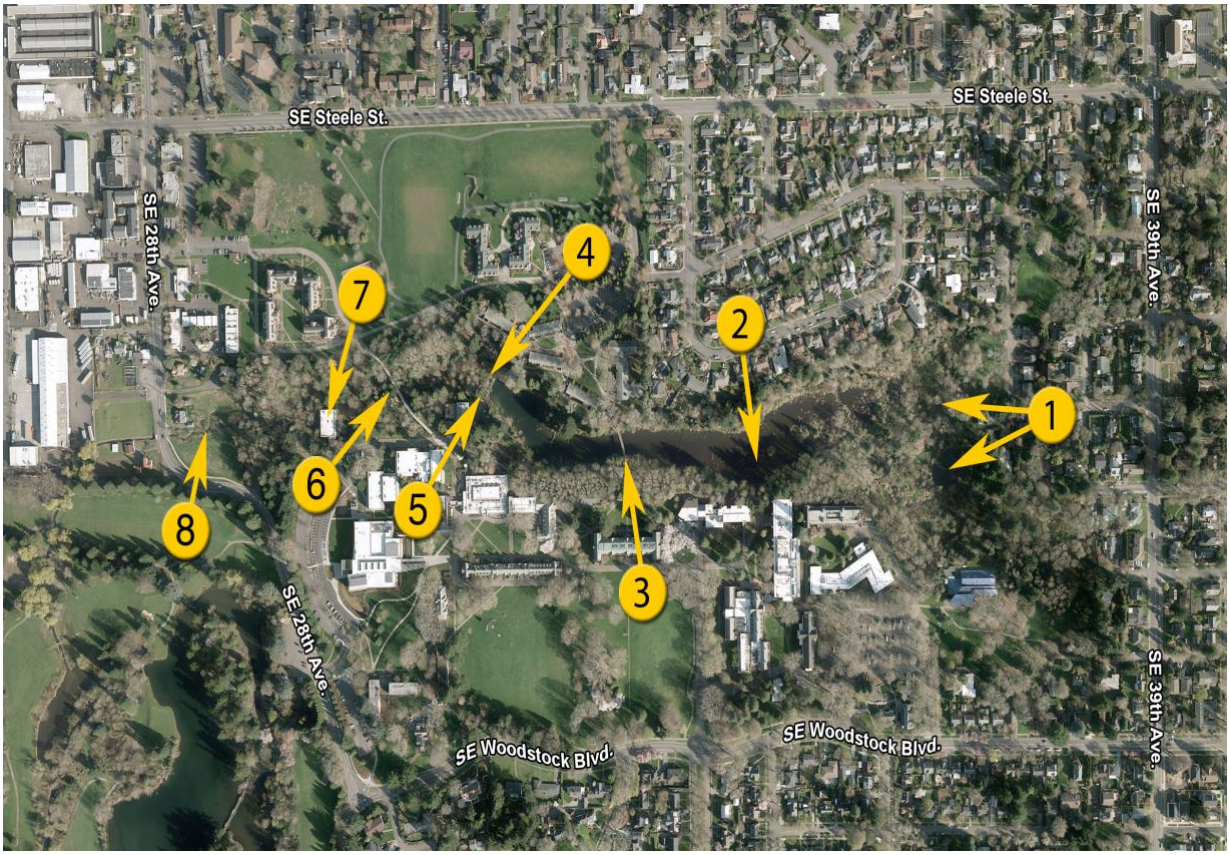
- In and around the Physical Plant Building: the "gas-shack" (S-3), the grounds shop (S-2) – gasoline, diesel fuel, biodiesel fuel, waste oils, lubricants;
- At the Facilities Warehouse Complex on SE 28th Street (S-5) – fuels and lubricants;

At least forty-two electrical transformers, owned by our utility-provider Portland General Electric, exist on campus. All of these, identified as (TO-1) through (TO-32), contain oil as an insulator. (TO-26, TO-28, TO-31, and TO-32 have three transformers each in their locations. TO-29 and TO-30 have two in their locations.) We have not included these in the total oil-storage calculations but have included emergency scenarios for response planning and training purposes in **ATTACHMENT E: ELECTRICAL TRANSFORMER DETAILS AND SCENARIOS.**

Total Qualifying Aboveground Oil Storage	**7520 Gallons**

II. SPILL/RELEASE COUNTERMEASURES & RESPONSE PROCEDURES

A. REED CANYON MAP



1. **Crystal Springs.** The water issues from an underground aquifer at several points on the eastern end of Reed Lake. The output averages between 4-7 cubic feet/second.
2. **Reed Lake.** The Johnson Creek Basin Protection Plan recognizes Reed Lake as the only naturally occurring pond (or lake) remaining in the inner city of Portland area.
3. **East Canyon Bridge.** The east canyon bridge provides an accessible pedestrian link across the lake. Built in 1992, this bridge replaced an older version that had stairs at each end.
4. **The Dam.** Beaver may have built it first, but people constructed an earthen dam (with vehicle access road) around the turn of the twentieth century.
5. **The Fish Ladder.** In the location of Reed's former outdoor swimming pool (built before 1933 and was removed in 2000), a fish ladder and an "open stream meander" link the upper lake habitat with Crystal Springs Creek.
6. **West Canyon Bridge.** The west canyon bridge built in 2008 provides a second accessible pedestrian way to cross the canyon.
7. **Greenwood.** Built in 1972, it spans the Crystal Springs Creek in the Lower Reed Canyon.
8. **Crystal Springs Creek.** From the western end of campus, the water flows through Crystal Springs Lake (at the City of Portland's Rhododendron Gardens), through Eastmoreland Golf Course and Westmoreland Park, and south to its confluence with Johnson Creek at Johnson Creek Park. Johnson Creek flows on to join the Willamette River in the city of Milwaukie, at the foot of SE Harrison Street.

B. PHYSICAL PROPERTIES OF OIL PRODUCTS

Oil products at Reed College consist primarily of petroleum-based fuels of various grades for heat generation, for powering the emergency generator units, and for powering facilities maintenance equipment. In addition, we use and store petroleum-based lubricating oils, transformer oil, vegetable-based cooking oils, and bio-diesel fuel. (Only oils that are stored in quantities greater than 55 gallons are included below.) See SDSs in **ATTACHMENT H** for more information about the hazards associated with these products.

#2 Diesel Fuel (CAS# 68476-34-6) used in the emergency generators, tractors, and some other equipment.

Specific Weight of 7.28 pounds per gallon
Specific Gravity (average) of 0.83-0.876 g/ml @ 60 °F (16 °C) (lighter than water).
Vapor density is greater than 1 (heavier than air).
The minimum flash point is >125 ºF (>52 °C) (P.M. Closed Cup).
Auto-ignition temperature is 494 ºF (257 °C).
Flammable range is 0.6% to 7.5% concentration.
Minimum SUS viscosity @ 40 ºC (104 ºF) is: 1.9 cSt - 4.1 cSt.

#6 Fuel Oil (CAS# 68553-00-4) is stored underground and burned to heat "the boiler" at the Physical Plant is classified as a "middle distillate" petroleum hydrocarbon product.

Specific Gravity of 0.876-1.00 g/ml @ 60 ºF.
Minimum flash point is 141 ºF (60 ºC) (P.M. Closed Cup).
Auto-ignition temperature is (greater than) 765 ºF (>407 °C).
No data were available on the SDS for Upper and Lower Flammability Limits.
Minimum viscosity @ 50 ºC (122 ºF) is 3.80 cSt.

Biodiesel (Chemical Family CAS# 67784-80-9) is a non-petroleum, plant source-based fuel product used in some facilities equipment.

Specific Gravity (average) of 0.86 g/ml (lighter than water).
Vapor Density is greater than 1 (heavier than air).
Minimum flash point is >270 ºF (>130 °C) (P.M. Closed Cup).
No data were available on the SDS for Upper and Lower Flammability Limits, or Viscosity.

Transformer (Insulating) Oil (CAS# 64742-46-7) used as an insulator or coolant in our public utility's transformers (TO-1 through TO-33) is a "hydro treated (solvent refined) middle petroleum distillate."

Specific Gravity of 0.89 g/ml @ 59 °F (15 °C) (lighter than water).
The minimum flash point is 563 ºF (295°C) (Cleveland Open Cup).
Auto-ignition temperature is (greater than) 315 ºC (599 ºF).
Flammable range is 1.0% to 10.0% concentration.
Viscosity @ 40 ºC. (104 ºF.) is 12.0 cSt.

Cooking Oil and Grease is used by Food Services personnel, who store it before disposal in a special metal dumpster located outside the kitchen at the Gray Campus Center / The Commons on a concrete surface.

Specific Weight varies, but is generally about 7.3 pounds per gallon.
Specific Gravity of about 0.90 g/ml (lighter than water.)

C. POTENTIAL CAUSES FOR OIL DISCHARGES

The capacity of individual containers in gallons, predicted failure flow-rates (in gallons per minute), and "fail-safe" engineering features vary with each unit. The maps in **ATTACHMENT B** show the direction of flow from each piece of equipment or oil storage location. **ATTACHMENTS C, D, and E** provide specific information about each unit by category. Many of the campus storm drains flow directly into Reed Lake.

Implementing routine procedures that minimize the "everyday" potential for spilling/ discharging oil comprises the main part of this SPCC plan. The plan also addresses catastrophic failures – the "worst-case scenarios" in terms of possible environmental pollution – that we are committed to preventing and/or mitigating through planning, training, and preparation.

Routine Operations

Small fuel-oil discharges can occur during equipment fueling, servicing, or maintenance. Fuel-oil hose connectors, pipes, and valves can develop leaks. Transformer Oil (possibly containing trace amounts of PCB's) can leak from defective gaskets or punctures in the coolant reservoir and/or radiator fins of the electric transformers. Facilities maintenance and housekeeping practices require that personnel clean up the surfaces under such leaks and avoid further contamination by repairing or replacing the leaking part. Employees must handle and dispose all oil-contaminated material as hazardous waste.

Transferring waste cooking oil into the disposal dumpster (by food-service employees) or out of the dumpster (by the disposal contractor) requires that personnel observe routine procedures to avoid and/or mitigate accidental spills.

For routine fueling protocols and training records, see **ATTACHMENT G: REFERENCE DOCUMENTS.**

Catastrophic Failure

Catastrophic failure of large vessels containing oil is generally caused by pressure building up (sometimes resulting from electrical arcing) within the vessel. When this occurs faster than relief valves can reduce the pressure, tank rupture results. Vandalism or natural disasters such as earthquakes may also cause catastrophic tank failure.

Transformers - Up to two-thirds of the oil (as much as 200 gallons) may be discharged from a transformer because of catastrophic failure. Approximately 70 percent of the discharge could occur explosively.

Emergency Generators - Catastrophic failure of these devices may cause most of the fuel oil to discharge immediately. A puncture or "venting tank failure" could also release significant amounts of fuel oil. Failure of hose connections would release fuel oil inside the unit, but it is likely to leak out on to the ground.

Cooking Oil Storage Dumpster and Miscellaneous Tanks - Catastrophic failure of these vessels – through puncturing, dropping, or tipping-over – may cause the entire contents to be discharged immediately. The cooking oil storage tank could discharge all 200+ gallons during transfer.

D. ANALYSIS OF SECONDARY CONTAINMENT

[40 CFR Part 112.7(c)]

Containment:

Currently, a "major" spill/ release of fuel oil could occur from emergency generators tanks supported by flat concrete foundations (without curbs or berms). These spills would require intervention by trained personnel to prevent oil products from reaching Reed Lake or its shores. In addition, not all units are in secured areas. Emergency generator units on the campus grounds are not normally energized and thus are not likely to spill oil when in stand–by mode. However, personnel test the generator units each week. A contracted fuel supplier refuels the units regularly as required. Some of these tanks have built-in secondary containment in the fuel-storage areas but nothing to contain fuel that could spill outside of the unit.

Method of Detecting Oil Discharges

Facilities maintenance personnel will mitigate incidental leaks, drips and small spills during regular maintenance checks. If a catastrophic failure occurs at a generator, transformer, or other oil-containing unit, Reed College Community Safety will activate the Oil Spill **EMERGENCY PROCEDURES. (See ATTACHMENT A.)**

Types, Locations and Dimensions of Containment Systems

Some of the generator units have built-in secondary containment. **ATTACHMENT C** provides other details about the generator units.

Equipment with Secondary Containment		Equipment with No Secondary Containment	
G-2	Physics Buildings	G-1	Chemistry Building
G-3	Eliot Hall	S-1	Cooking oil storage drum
G-4	Educational Technology Building	S-2	Occasional 3rd Biodiesel drum, Physical plant bldg.
G-5	Foster-Scholz Dorms		
G-6	Gray Campus Center / The Commons		
G-7	Physical Plant Building		
G-8	Bragdon Hall Dorms		
G-9	Sullivan Dorms		
G-10	Grove Dorm Complex/Quad		
G-11	Psychology Building		
G-12	Vollum College Center		
G-13	Performing Arts Building		
S-2	2 x 55 gal. Biodiesel, Physical Plant Building, 55 gal. containment tray		
S-4	Facilities Storage Tank		

E. DRAINS AND OUTFALLS: THE NUMBERING SYSTEM

Small green and white numbered signs mark the outfall locations of drains into Reed Lake. Surface drains each have small, numbered, aluminum or stainless steal plaques. Maps of oil storage locations show numbered drains and outfalls as well as oil storage locations. The chart below links the numbered outfalls with connecting surface drains.

Outfall Numbers & Location at Reed Canyon, Reed Lake or Crystal Spring Creek		Drain (by Number) Connecting to Outfall
#1	Reed Canyon: North of Art Building	#71, 72, 73
#2	Reed Canyon: East of Psychology Building	#1
#3	Reed Canyon: Northeast of Chemistry Building	#2-7, 65-67, 69-70, 92-102
#4	Reed Lake: North of Vollum College Center & Physics Building	#8-10, 44-54, 56-64, 105, 135
#5	Reed Lake: North of Vollum College Center	#74-77, 134
#6	Reed Lake: Northeast of Eliot Hall	#11, 43, 103
#7	Reed Canyon: Gravel Swale Northeast of GCC/Student Union	#12, 78
#8	Reed Lake: North of GCC/Commons	#24, 25, 29,104. Possibly 26 & 27, 36 & 37(see [4]). Possibly 38-41, 68 & 79 (see [5])
#9	Reed Lake: East of Amphitheater	#13-19, 28, 30-35, 80. Possibly 26 & 27 (see [4])
#10	Reed Lake: (by the Dam/north canyon-access road) Northeast of Physical Plant Building	#42
#11	Crystal Springs Creek: Northwest of Physical Plant Building	#81, 82
#11A	Crystal Springs Creek: Northwest of Physical Plant Building, west of footbridge	#132, 133

[4] Unable to determine exact path for Drains #26 and 27 (#36 & 37 are connected to #26)

[5] Drain lines for Drains #38-41, 68, and 79 not indicated on map. These drains may connect to Outfall #8 or the sanitary sewer.

#12	Crystal Springs Creek: Under Greenwood Building	#20, 21
#13	Near Crystal Springs Creek: West End of Botsford Drive	#22, 23
#14	Reed Canyon: South of Woodbridge Dormitory & Near Naito/Sullivan	#83, 84, & 106-111, 136, 137
#15	Reed Canyon: Southwest of Chittick Dormitory (north canyon area)	#85,88,89
#16	Reed Canyon: Southwest Corner of Chittick Dormitory (north canyon area)	#90,91
#17	Reed Canyon: Southeast of Chittick	#86,87

- Drains #44, 45, 46, and 55 connect to a French drain west of to the Bio/Physics building.

- Drain lines for Outfalls #8 and #9 appear to connect at the SE area of the GCC/Commons courtyard. Spills affecting one of these outfalls could also affect the other.

- Drains 106-111 and 136 empty to Naito detention pond, when pond reaches limit it then drains to outfall 14.

To the best of our knowledge, drains that are not listed on the map go to the City of Portland Combined Sanitary Sewer System.

F. SURFACE DRAIN CONCERNS

(Amended from the "Campus Drain Project" document.)

All of the following drains empty directly into Reed Lake, onto the adjoining shoreline above the Lake, or into Crystal Springs Creek:

- Drains #2, #3, 92, & 96 (96 is under cargo lift) in the Chemistry loading dock area connect to Outfall #3 in Reed Lake. These drains do not have an internal oil/water separator that could retain small quantities of leaking gas and oil. They have the potential to collect anything that might spill on the roadway, spill during a delivery at the loading dock, or spill from Unit G-1 (Chemistry Building emergency generator), Unit G-11 (Psychology Building emergency generator) or the two nearby PGE transformers (TO-1 & TO-2). Two drain-blocking mats stored in the southeast entrance of Chemistry near the loading dock would seal these drains if personnel acted quickly enough in the event of a spill. Unit G-1 needs secondary containment.

- Drains around the ETC Building, particularly Drain #70, (down-gradient from Unit G-4 generator) connect with the East Parking Lot drain system. Although Unit G-4 has secondary containment for internal leaks, a spill during fueling could enter Reed Lake Canyon at Outfall #3. Use the drain-blocking mat stored inside the gate of the garbage recycling area next to Generator #4 or available from Community Safety.

- Drain #11 in Eliot Circle receives surface run-off from the main entrance and Vollum College Center, directly depositing it into Reed Lake at Outfall #6. This drain does not have an internal oil/water separator that could retain small quantities of leaking gas and oil from the main entrance roadway. Any uncontained spills flowing east from the refueling of Unit G-3 (behind Eliot Hall) would enter Drain #43, then Reed Lake at Outfall #6. A drain-blocking mat stored in the mechanical room in Vollum (CC014) would seal this drain if personnel acted quickly enough in the event of a spill.

- Drain #15, in the food service dumpster-area behind GCC/Commons, empties into Reed Lake through Outfall #9. This drain has the risk of receiving used cooking oil (from S-1), a spill from the Unit G-6 generator, or transformer oil from Units TO-8 and TO-9. Both an oil spill kit in the GCC dumpster area by the west gate and drain-blocking mat in the kitchen at GCC are available for use in the event of a spill.

- Drain #16, a "trench drain" at the bottom of the loading dock ramp at GCC/Commons, has no oil water separator and directly empties into Outfall #9. This drain has the risk of receiving fuel and oil from leaking vehicles.

- Drains on Botsford Drive, currently the major food, fuel, and supply delivery entrance, have the greatest potential for accidental spills. Drains #132 & 133, on Botsford Drive in front of the Sports Center, directly empty into Crystal

Springs Creek at Outfall #11A. Neither of them have an oil/water separator. In addition, Drains #20 & 21 in front of Greenwood empty into Crystal Springs Creek at Outfall #12. Drains #22 & 23, at the West End of Botsford Drive, join the Creek at Outfall #13. Thousands of gallons of fuel oil for the boiler are delivered to the underground storage tank through a fill-box on Botsford. Large quantities of waste cooking oil (up to 275 gallons per trip) are removed from behind the GCC/Commons by this route. Two drain-blocking mats are available at the Physical Plant Building for use in a spill-emergency. Each of the gasoline-powered Community Safety vehicles has a drain mat.

- Drain #82 is located directly below the Unit G-7 generator at the Physical Plant Building. It is also the closest drain to the piping system connecting the fuel-oil fill box to the underground storage tank for the boiler. #82 drains directly to the steep, canyon wall above Crystal Springs Creek at Outfall #11. In case of a spill-emergency, a drain-blocking mat is available inside the south second floor door at the Physical Plant Building.

- Drain #42 & Outfall # 10 flow directly into Reed Lake just above the Dam/ North Shore access road. Located at the bottom of a steep, paved driveway in a parking area east of the Grounds Department Shop/Physical Plant Building, this drain/outfall is down-gradient from two main fuel and lubricant storage areas -- the Grounds Department's Biodiesel storage area (S-2) inside the north end bay at the Physical Plant Building and the "Gas Shack"(S-3). Only a few feet of pipe separates this drain from its outfall. A drain-blocking mat is available by the Grounds office at the Physical Plant Building.

- The west parking lot bioswale is, just East of SE 28th Ave. This collects water from Kaul and PAB roofs, as well as, run-off from the parking lot itself. G-13 is located at top of parking lot, surrounded by a brick wall. TO-33 is located next to G-13, with no containment. In the event of a spill, the closest drain mat is stored in GCC. The swale is designed with plants specifically chosen to filter and contain oils, but in the event of an overflow, the swales on the far west could flow into 28th and potentially into Crystal Springs.

G. INTERNAL RESPONSE AND REPORTING

[40 CFR Part 112.7(a)(3)(iv)]

In the event of a spill/release, the person discovering it must first determine if the spill is **incidental** or **major**.

An **INCIDENTAL** spill/release meets the following criteria:

A small quantity with which personnel in the immediate area are familiar and prepared for the hazards of handling and that can be quickly absorbed, or otherwise safely controlled at the time of release. It does not pose an emergency or significant threat to the safety and health of employees in the immediate vicinity or the environment.

Spills that do not meet the definition of "incidental" are considered **MAJOR** spills/releases. These include:

- Spilled/released material that reaches the environment including discharges to a floor drain or storm drain, that enters a body of water or discharges to a soil surface;
- Spilled/released material with which personnel are not familiar or are unprepared to safely handle;
- A spill/ release that has resulted in an injury (actual or suspected);
- Any spill/release that cannot be readily absorbed, neutralized, or otherwise controlled at the time of release and for which a prudent person would request backup help.

If the spill/release is small and can be safely cleaned up, trained personnel should contain and clean up the spill immediately.

If personnel determine that the spill/release is **major**, the individual discovering the spill must immediately report it to the Community Safety Office at **503-788-6666 (On campus: ext. 6666**). He or she should make the call from a safe location. The Community Safety Office will report the spill/release to the Environmental Health and Safety (EHS) coordinator or designee and initiate the College's **EMERGENCY RESPONSE PROCEDURES** (see **ATTACHMENT A**) until the EHS Director or designee assumes responsibility for the College's response to the spill/release.

H. SPILL CONTAINMENT EQUIPMENT

[40 CFR 112.7(c)(1)]

Spill Equipment Requirements

All buildings/facilities with oil storage or oil-containing equipment must maintain the following minimum level of spill response equipment:

- Spill absorbent (such as "Ultrasorb")
- Oil spill wipe pads
- Portable oil berms or dikes
- Oil-absorbent pillows
- Drain cover mat(s)
- Personal protective equipment (neoprene gloves and boots, goggles)

Trained personnel will:

- Maintain equipment in a "kit" in a readily accessible area.
- Regularly inspect the kits to ensure that they are fully stocked.

Only SPCC-trained personnel can use spill response equipment.

Supervisors will ensure that auxiliary oil storage areas - such as the used cooking oil dumpster (behind "the Commons"), the "Gas Shack" (east of the Physical Plant building), the Facilities Warehouse Complex (west of 28th Street), and the 28 West / Community Safety Headquarters - have sufficient absorbent materials and personal protective equipment immediately available to handle incidental spills.

Spill Equipment Suppliers

Suppliers who can offer spill response equipment include:

- Safety & Supply Co. 503-283-9500
- New Pig Corporation 1-800-HOT-HOGS
- Lab Safety Supply 1-800-356-0783

Other Equipment Information

Absorbent materials including Ultrasorb™, kitty litter, oil-absorbing pads, pillows, booms, and personal protective equipment are currently stockpiled for emergency use at three main locations on campus:

- The Hazardous Waste Storage Shed east of the Chemistry Building
- The mezzanine level of the Physical Plant Building
- 28 West Building / Community Safety Headquarters

Generic Spill kits containing Ultrasorb™ and basic personal protective equipment are placed throughout campus, including in the trunks of or behind the seats of Reed College campus security and maintenance vehicles.

Drain-blocking mats are located in the following places:

Department	Room	Location	Quantity
Chemistry	Chem. loading dock	Inside chemistry door	2
Community Safety	2 CSO vehicles	Trunk	2
EHS	Hazmat shed	Next to kit	1
Facilities	Grounds shop	Grounds hallway	1
Facilities	Maintenance	Maintenance hallway	1
Food Services	Oil dumpster	Inside west door	1
PAB	Loading dock	Inside PAB door	1
Physics	Loading dock	Inside physics door	1
Vollum	Mechanical room	CC014	1
East Parking lot	Dumpster area	NW corner of dumpster area	1

ATTACHMENT C lists the containment features for each of the generators.

I. CLEANUP PROCEDURES

In the event of a spill or release of oil:

1. Extinguish all sources of ignition and isolate incompatible or reactive chemical substances.

2. Determine if the spill/release is **INCIDENTAL** or **MAJOR** (see "Frequently Asked Questions About Spills" – page H-1.)

3. For **INCIDENTAL** spills/releases – stop or contain the spill/release at the source without endangering yourself or others. Numerous spill kits are on site, which contain personal protective equipment, appropriate absorbent materials, and forms for documenting a spill event.

4. For **MAJOR** spills/releases - immediately report the spill/release to the Community Safety Dispatch Desk at 503-788-6666 (On campus: Ext. 6666). Community Safety will notify the EHS Director or alternate and initiate the Oil Spill **EMERGENCY RESPONSE PROCEDURES** (see **ATTACHMENT A**) that outlines steps to control spills and remove the oil. Community Safety may also contact spill response vendors if requested to do so.

5. Isolate all potential environmental receptors including drains, sumps, soil, etc.

6. The EHS Director or designee will conduct any necessary reporting to one or more outside agencies.

    - If a spill/release of oil exceeds 10 gallons and has entered the environment, it must be reported to the state Department of Environmental Quality.
    - If spill/release migrates off Reed properties and/or results in personal injury, also report to the state emergency response agency.
    - If spill/release enters a storm water drain system or sewer system, report to the City of Portland Water Bureau.
    - If spill/release causes a sheen or discoloration of navigable waters or adjoining shorelines, report to the National Response Center (NRC).

7. Recover all material spilled and used to clean up the spill area.

8. Decontaminate tools and equipment. Collect all absorbents, solvents, soiled personal protective equipment, and debris for disposal as hazardous waste.

9. Under the guidance of the EHS Coordinator, dispose of waste materials in accordance with applicable regulations and College procedures.

10. The EHS Director will conduct any required follow-up notifications to applicable agencies, conduct an incident analysis, and develop plans to prevent recurrence.

III. SPILL/RELEASE PREVENTION

A. OVERVIEW OF FACILITY'S SPILL HISTORY

[40 CFR 112.7(a)]

DATE: 12/5/16:
Approximately 5 gallons of biodegradable hydraulic oil was spilled when the Chemistry loading dock lift gate broke. Approximately 1 teaspoon of oil reached the nearby surface drain which outfalls into Reed Lake tributary.

Corrective Actions Taken: Lift gate hydraulic system replaced and PM scheduled. Gate is set for removal.

Plan to Prevent Reoccurrence: PM schedule and gate removal.

DATE: 6/14/2016:
Approximately 5 gallons of biodegradable hydraulic oil was spilled when Rose City's hydraulic system gave out. The spill was spotted by the foreman of the Reimers & Jolivette (R&J) Construction, who prevented it from entering the drains.

Corrective Actions Taken: The Reed Grounds Department and EHS staff used absorbent materials to pick up the spill. (See full report in Attachment F.)

Plan to Prevent Reoccurrence: The Reed staff has agreed to provide contractors effective ways to communicate emergencies to the relevant staff.

DATE: 1/21-22/2002:
Approximately 20 Gallons was spilled by a food service employee transferring used cooking oil into the oil recycling dumpster at the Commons loading dock behind Grey Campus Center. The oil entered a storm drain with outfall into Reed Lake.

Corrective Actions Taken: Spilled oil was picked up with absorbent materials by Reed Grounds Dept. and EHS staff, assisted by Foss Environmental. (See full report in Attachment F.)

Plan to Prevent Reoccurrence: Reed personnel and Food Service contractors agreed to implement administrative controls to avoid and mitigate any future problems.

DATE: 11/25/1997:
An overflow occurred during a refueling of the 20,000 Gallon Underground Storage Tank located west of the Physical Plant building.

Corrective Actions Taken: In-house personnel cleaned-up the spilled fuel oil.

Plan to Prevent Reocurrence: An overflow alarm was installed that activates at 90% capacity. Administrative procedures were established in the Facilities Department involving employees and contract vendors to prevent recurrence. See **ATTACHMENT G**: Notice to Fuel Vendors, Loading/Unloading Procedures, Facility Fuel Oil Transfer Operations, and Oil Delivery Truck Unloading Procedures.

B. INSPECTIONS AND RECORDS

[40 CFR 112.7(e)]

The following general guidelines must be part of the monthly inspection program.

Inspectors will:

- Examine all storage tanks and oil-containing equipment, aboveground foundation and tank structure supports for evidence of leaks from seams, rivets, bolts, and gaskets and for signs of damage to or deterioration of the tank (such as discoloration, corrosion, or cracks.)
- Check all associated piping for dripping, loose joints, damage to supports, and pipe deflection.
- Inspect all connections for leakage, drainage, tightness, and appropriate capping.
- Check all pumps for evidence of leakage, improper operation, and damage.
- Inspect all storage areas and containment systems for integrity and the accumulation of stored product. If oil or petroleum product is observed in the containment system, the source will be immediately determined and corrected and the product cleaned up.
- Note the security of the tanks. For example, whether equipment is secured and doors to tank or container storage areas are properly locked. Note the presence of graffiti or any other signs of tampering or vandalism.
- If a problem is detected during an inspection, the inspector will promptly notify the appropriate Facilities Management supervisor who will initiate and implement corrective action.

Currently, EC Power Systems of Portland, Oregon contracts to perform the annual maintenance checks on all ten of Reed's generators. Maintaining "usual and customary" business records regarding inspection procedures for a minimum of three years satisfies the requirements of this section. Copies of these records will be kept with the Facilities Services copy of the SPCC plan. See Attachment G: REFERENCE DOCUMENTS.

C. SECURITY

[40 CFR 112.7(g)]

Security fences with lockable gates surround two of the ten of the generator units – Eliot Hall and the Education Technology Center (ETC) generator in East Parking Lot. See Attachment B: MAPS. These gates are kept locked at all times, except when authorized Reed College Facilities Services personnel perform regular inspections or activate the units.

However, the Reed College Community Safety Department personnel patrol the campus twenty-four hours a day, seven days a week. Currently, the department director leads eleven full-time officers, one part-time officer, three full-time dispatchers, and two part-time dispatchers. Additional security equipment and procedures are recommended to prevent or mitigate spills at night and/or due to vandalism.

D. PERSONNEL TRAINING AND EXERCISES

[40 CFR 112.7(f)]

Studies cited by the Environmental Protection Agency (EPA) indicate that a significant number of oil spills at fixed facilities are caused by operator errors, such as failing to close valves or overfilling tanks during transfer operations. The Federal EPA requires that owners and operators subject to Oil Pollution Prevention regulations conduct training on facility-specific oil spill prevention and response measures. Because operator error is more likely to be a factor in causing spills, training and briefings are critical for the safe functioning of a facility.

Reed College personnel whose job duties involve the handling or management of oil products must complete the SPCC training program within 30 days of hire or of the implementation of this plan. Currently, this includes individuals from the Facilities Services and Community Safety Departments. In addition, private contractors such as for Food Services, whose duties involve the handling of oil products, must also provide annual proof of training on oil spill prevention, control, and countermeasures for their employees who handle oil.

Supervisors will ensure that training on oil spill prevention, containment, and retrieval methods is provided annually to all employees involved in oil-handling activities and that personnel under their supervision have an adequate understanding of the SPCC Plan and their role in preventing and mitigating any accidental spill. New employees who will be involved in oil-handling or management activities, will receive an initial training prior to working unsupervised, generally within the first 40-hours of work.

Training will include:

- Reed's facility-specific spill prevention procedures (such as requirements for inspections and record-keeping), and spill response procedures and proper use of spill cleanup materials and equipment;
- How to comply with applicable federal, state and local oil pollution-prevention laws and regulations;
- The health, safety, and environmental hazards associated with oil products used on site;
- The proper protocols for operation and maintenance of oil-containing equipment to prevent discharges of oil;
- Yearly briefings to include a discussion of any past spill events, an evaluation of practice drills, maintenance practices or any other concerns, and details of any changes in equipment or recently developed precautionary measures;
- Periodic unannounced practice drills to prepare for effective spill response (See section on Exercises/Drills below).

The Facilities Services and Community Safety management will maintain records of spill-prevention training, briefings, and exercises and send copies to Human Resources and the Environmental Health and Safety office to be kept with the SPCC plan.

An EPA Publication: "Understanding Oil Spills in Freshwater Environments" is included as a recommended supplementary text for our training program.

EXERCISES/DRILLS

In order to evaluate the effectiveness of the SPCC Plan, Reed College will conduct periodic exercises and drills that attempt to simulate real spill/release scenarios and to test the readiness and preparedness of the responding personnel. The exercises will involve appropriate personnel who would respond to an actual spill. By conducting these unannounced drills, actual response personnel can determine and correct potential inefficiencies and problems with the SPCC procedures.

Periodic briefings for operations personnel will keep them informed of current oil spill control techniques, absorbent materials, containment materials, protective clothing, and equipment. Current SPCC Plan requirements and pollution control laws, rules, and regulations are included in these briefings. Periodic informational training sessions are held for other employees who might be involved in oil containment and cleanup operations.

The training program outlines steps to alert various Reed College departments, governmental agencies, and cleanup personnel. The EMERGENCY PROCEDURES (see Attachment A) and REFERENCE DOCUMENTS (see Attachment G) provide further information.

IV. ATTACHMENTS

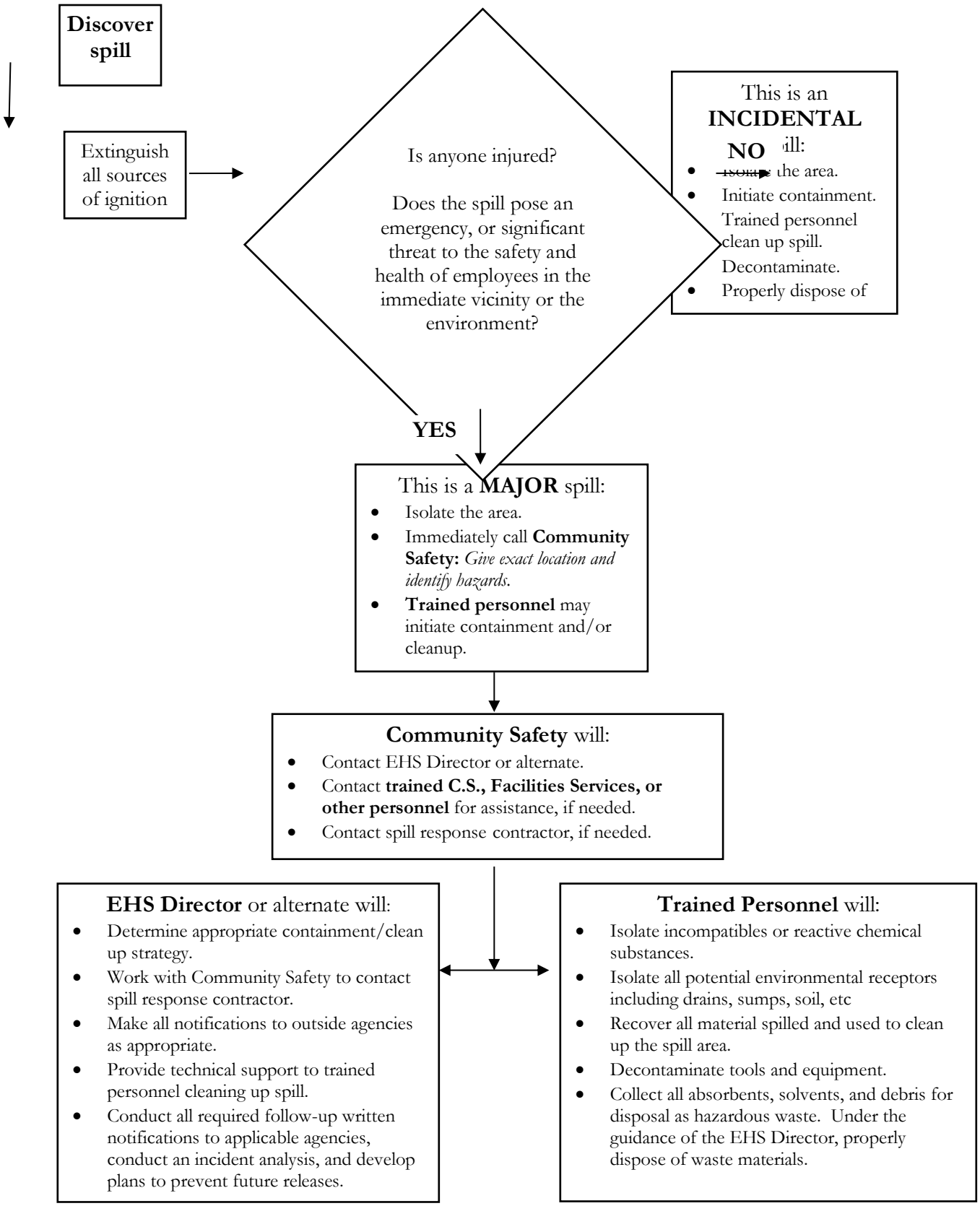
A. EMERGENCY PROCEDURES

1. Reed College Emergency Telephone Numbers and Response Flowchart

[40 CFR Part 112.7(a)(3)(vi)]

Reed Community Safety Dispatch	503-788-6666, ext. 6666
Fire/Police	911
April Sams, Environmental Health & Safety Director	971-284-4534
NRC Environmental (Clean-up Contractors)	1-800-337-7455 Or 503-283-1150
Chemtrec (Specialty Spill Responders)	1-800-424-9200
Poison Control	1-800-222-1222
Safety & Supply Co. (Supplies and Equipment)	503-283-9500
National Response Center	1-800-424-8802
Oregon State Emergency Response System	1-800-452-0311
Portland General Electric Outage /Emergency Response (24 Hrs.)	503-464-7777

Primary Contact	April Sams, EHS Director	971-284-4534
Alternate #1	Townsend Angell, Director, Facilities Operations	503-777-7763/503-777-7283 503-774-2818 Cell: 503-421-0011
Alternate #2:	Kori Lay EHS Specialist	503-517-7931
Alternate #3:	Gary Granger Director, Community Safety	503-777-7379


Discover spill
Extinguish all sources of ignition
Is anyone injured?
Does the spill pose an emergency, or significant threat to the safety and health of employees in the immediate vicinity or the environment?
This is an INCIDENTAL
NO
ill:
the area.
Initiate containment.
Trained personnel clean up spill.
Decontaminate.
Properly dispose of
YES
This is a MAJOR spill:
Isolate the area.
Immediately call Community Safety: Give exact location and identify hazards.
Trained personnel may initiate containment and/or cleanup.
Community Safety will:
Contact EHS Director or alternate.
Contact trained C.S., Facilities Services, or other personnel for assistance, if needed.
Contact spill response contractor, if needed.
EHS Director or alternate will:
Determine appropriate containment/clean up strategy.
Work with Community Safety to contact spill response contractor.
Make all notifications to outside agencies as appropriate.
Provide technical support to trained personnel cleaning up spill.
Conduct all required follow-up written notifications to applicable agencies, conduct an incident analysis, and develop plans to prevent future releases.
Trained Personnel will:
Isolate incompatibles or reactive chemical substances.
Isolate all potential environmental receptors including drains, sumps, soil, etc
Recover all material spilled and used to clean up the spill area.
Decontaminate tools and equipment.
Collect all absorbents, solvents, and debris for disposal as hazardous waste. Under the guidance of the EHS Director, properly dispose of waste materials.

2. Reed College Emergency Procedures Handbook

Reed College Emergency Numbers:

Community Safety	503-788-6666
Physical Plant Maintenance	503-777-7283
Environmental Health and Safety	503-777-7788
Health Center	503-777-7281
Telecommunications	503-777-7570
Media Relations	503-517-7815

Off Campus Emergency Numbers

Police, Fire, Ambulance	911
Poison Control Center	1-800-222-1222
Northwest Natural Gas	1-800-882-3377
Portland General Electric (PGE)	503-464-7777 OR 1-800-544-1795
Mental Health Crisis Line	503-988-4888
Cascade Employee Assistance Program	1-800-433-2320
Women's Crisis Line	503-235-5333

BOMB THREATS

If you observe a suspicious object...

- Do not handle the object
- Immediately clear the area and/or the building.
- Call Community Safety or 911 immediately and follow the instructions of emergency responders.

If you receive a bomb threat by phone...

Note the telephone number on the caller I.D.

Call Community Safety (extension 6666) immediately after you are disconnected, but first attempt to obtain as much information as possible and take notes if you can.

- **Ask the caller:**

1. When is the bomb going to explode?
2. Where is it right now?
3. What does it look like?
4. What kind of bomb is it?
5. What will cause it to explode?
6. Did you place the bomb?
7. Why?
8. Who are you?
9. Where are you?

- **Remember as much as you can about the voice. Would you call it...**

Male? Female?
Calm? Angry? Excited?
Slow? Rapid?
Soft? Loud?
Laughing? Crying?
Youthful? Elderly?
Accented? Slurred? Nasal?
Stuttering? Lisped?
Raspy? Deep? Breathy? Cracking?
Disguised? Familiar to you?

- **Try to note if there are background sounds such as:**

Street noises
Machinery or vehicles
Animal noises
A PA system
Music
Static or hollowness associated with cell or speakerphones

- **Try to note the exact words of the threat and the tone of the message. Is it...**

Well-spoken?
Foul or vulgar?
Taped?
In street talk?
Read from a script?

BUILDING EVACUATION

- Evacuate a building when you hear an alarm or are ordered to by authorized person.
- Be aware of the evacuation plan posted in your building. When the alarm sounds or you are otherwise directed to evacuate, leave by the nearest exit.
- If you are the last one out of a room, shut the door. (In case of a fire, this limits the spread of smoke or fire.)
- Do not use elevators in case of earthquake or fire.
- Assist disabled persons in exiting the building or notify emergency responders that someone needs assistance.
- Once outside, move at least 300 feet from the building. If possible, assemble at your department's pre-determined meeting site. (This will help your departmental emergency coordinator determine if everyone is out of the building.)
- Avoid blocking sidewalks, hydrants, streets, and fire lanes. Emergency vehicles must have clear access. Do not reenter the building unless told to do so by a CSO.

CIVIL DISTURBANCE

Most campus protests and demonstrations, such as marches, gatherings, picketing, and rallies, are peaceful and not obstructive or destructive. However, if any of the following conditions exist, notify community safety immediately:

- Interference with the normal operations of the college
- Prevention of access to offices, buildings, or other college facilities
- Threat of physical harm to people or damage to college facilities

EARTHQUAKE

In case of an earthquake, remain calm and quickly follow the steps outlined below.

During the quake . . .

- If you are indoors, seek refuge in the corner of the room against the wall or under a desk or table. Stay away from glass windows, shelves, and heavy equipment. If you are under a table or desk, hold on to the furniture so it cannot move away from you.
- If you are outdoors, move quickly away from buildings, utility poles, and other structures. Caution: always avoid power or utility lines because they may be energized.
- If you are in an automobile, stop in the safest place available, preferably away from power lines and trees. Remain in the vehicle for the shelter it offers.

Immediately following the quake . . .

- If you are indoors, carefully leave the building. Protect yourself at all times and be prepared for aftershocks. Move at least 500 feet away from buildings to avoid falling masonry, glass, or other hazards. Keep streets, fire lanes, hydrants, and walkways clear for emergency vehicles and crews.
- Remain calm. Assist anyone disabled or injured in exiting the building. Do not use elevators.
- Do not use the telephone (except in cases of emergency, when you can call extension 7533 for help). If there is an emergency and the phones are down, send a runner to the Community Safety Office.
- Do not return to an evacuated building unless told to do so by a CSO.

After that . . .

- Notify the Community Safety (extension 6666) and Facilities Services (extension 7283) offices of damaged facilities. Note: gas leaks and power failures create special hazards. Please report them as soon as possible.
- If requested, assist emergency crews as necessary.
- If a campus emergency command post has been established, please keep clear of it unless you have official business.

FIRE

If you see flames

- Sound the alarm by pulling the closest fire alarm pull station.
- Immediately evacuate the building.
- Call 911 and report the fire, giving information as requested by the dispatcher. Stay on the line until released by the dispatcher.
- Notify Community Safety (extension 6666).

If you hear a fire alarm

- Evacuate the building immediately (see evacuation procedures above).
- If smoke is present, keep low to the floor.
- Before opening a door, feel the upper portion of the door or the doorknob. If they are hot, do not open the door.
- If you cannot leave the room, keep the door closed and open windows to let out smoke and heat. Seal the crack around the door if possible. Hang an object out the window to attract attention.
- After the last person leaves a room, close the door to slow the spread of smoke and fire.
- Do not use elevators.

If you smell smoke or have any other indication of fire

- Immediately call Community Safety at extension 6666. Describe the situation and give your name and exact location.
- Alert other building occupants in the immediate area to prepare for evacuation.
- Evacuate the building if the situation gets worse or if directed by a CSO or the Portland Fire Bureau.
- Follow the building evacuation procedures outlined above.
- Fire extinguisher training is available through Environmental Health and Safety, extension 7788.

HAZARDOUS MATERIALS

If hazardous materials are involved in a fire

Follow evacuation procedures, and then call ext. 6666 with this information:

1. What is the exact location of the fire?
2. What hazardous materials are involved?
3. How much hazardous material is involved?
4. How close is the fire to other hazardous materials?

If there is a significant spill involving hazardous materials

Isolate the area and follow evacuation procedures, then call ext. 6666 with this information:

1. What is the exact location of the spill?
2. What hazardous materials are involved?
3. How much hazardous material is involved?
4. How close is the spill to other hazardous materials?
5. If outside and headed to a drain, what is the number on the drain plaque?

If you may be contaminated with a hazardous material

- Avoid contact with others as much as possible.
- Use emergency showers and/or eyewashes.
- Call ext. 6666 to report your name and location, and request medical care.
- If you must leave the immediate area to begin decontamination, make sure a CSO knows where you are.

If there is an incidental spill involving hazardous materials

An incidental spill is one that has caused no injury; poses no significant threat to anyone's health or safety or to the environment, and can be cleaned up safely without help. In such a case:

- Isolate the affected area.
- Call ext. 6666 or 7788 with the following information:
  1. What is the exact location of the spill?
  2. What hazardous materials are involved?
  3. How much hazardous material is involved?
  4. How close is the spill to other hazardous materials?
  5. If outside and headed to a drain, what is the number on the drain plaque?
- Leave the immediate area and keep others from entering until cleanup is complete.

INFECTIOUS DISEASE/PANDEMIC

If this is an emergency, call 911 or Community Safety.

- Watch for symptoms which could signal possible illness, such as fever, significant cough, vomiting, diarrhea, or muscle aches not related to working out or other physical activity.
- If you are sick: stay home from classes and work.
- Be sure to call your supervisor to report your absence. In addition, you are advised to contact your health care provider.
- Limit contact with others to keep from infecting them. If you cannot avoid close contact, wear a surgical mask when you are around other others, if you can tolerate it.
- Avoid touching your eyes, nose, and mouth. Germs spread that way.
- Clean commonly touched surfaces routinely and items that people touch with their hands. Additional cleaning may be needed.
- Protect yourself: Never sneeze or cough into your hands. Cover your cough or sneezes with your arm or tissue. Put the tissue into the trash.
- Wash your hands frequently with soap and water. Turn water on and wet hands thoroughly. Apply liquid or foam soap to hands. Vigorously lather with soap, covering all surfaces of hands, fingers, and thumb. Use friction, one hand upon the other with fingers interlaced for at least 15 seconds. (Imagine singing "Happy Birthday" twice to a friend). Rinse hands thoroughly under running water. Dry hands with a clean, dry paper towel. Use a paper towel to turn off the water faucet and open the door. Alcohol-based cleaners may also be effective.
- Get plenty of sleep, exercise, eat well, and manage chronic conditions.
- Stay informed by visiting web resources such as the Center for Disease Control and Prevention at http://www.cdc.gov. Also, in the event of outbreak of illness within the Reed community, please check for status reports on the Reed homepage.

Additional advice for students

- Students may contact health & counseling services (9 a.m.–5 p.m., Monday–Friday) at 503/777-7281. For after-hours medical needs, call Careline (an RN-staffed, medical advice line for students; whenever the HCC is closed) 800/607-5501.

MEDIA

- Only an authorized college spokesperson—the President or Dean of the Faculty, the Director of Public Affairs (extension 7289), or the Director of Strategic Communications (extension 7815)—will meet or talk with the media on behalf of the college.
- Only factual information is released; no speculation is offered.
- The director of public affairs, in consultation with the president and other senior administrators, will develop an institutional response to the emergency for release to the media, including periodic media updates.
- After business hours or on weekends, call community safety (extension 7533) to page the director of public affairs or the director of strategic communications.

OCCUPATIONAL HEALTH AND SAFETY

If this is an emergency, call 911 or Community Safety.

Otherwise, if Monday through Friday, 8 a.m. to 5 p.m., have your supervisor call **Providence Occupational Health–Clackamas** at 503-216-7960 to make an appointment at 9290 SE Sunnybrook Blvd, Suite 210, Clackamas or **Kaiser On-the-Job** at 503-813-4133.

At all other times or for medical emergencies, go to the nearest emergency room at:

Providence Portland Emergency Room
4805 NE Glisan Street, Portland

After returning from treatment, work with your supervisor to fill out the incident form.

SUSPICIOUS MAIL OR PACKAGES

Suspicious parcel or object is anything that is out of place and cannot be accounted for, or any item suspected of being an explosive device.

Indicators that may make a letter or package suspicious

- The object has powdery substance, oily stains, major discoloration, or crystallization on the outside.
- Mailer is unfamiliar, the return address does not match the postmarked address, postage is excessive, or the mailer has not provided a return address.
- The information is poorly handwritten or typed, or common words are misspelled.
- The object has a weight disproportional to its size; is excessively bulky, lopsided, or oddly shaped; or has been sealed with an unusual amount of tape.
- The object has a strange odor.
- The object is addressed to someone who is no longer in your organization, incorporates an incorrect title, or otherwise reflects outdated personal information concerning addressee.

- The object bears restrictive endorsements, such as "personal" or "to be opened only by addressee."

If you receive or discover a suspicious letter or package

- Do not open or tamper with the suspicious item. Do not shake or bump the letter or package. Do not show it to others or allow others to examine it.
- Call Community Safety (503/788-6666) or 911 immediately and report your concerns.
- Calmly alert others in the area about the suspicious package or envelope. Leave the area, close any doors, and take actions to prevent others from entering the area. If possible, shut off the ventilation system.
- Do not handle the item unless specifically directed to do so by a CSO or authorized person.
- Community safety will determine if evacuation or another action is necessary.
- *Wash* hands with soap and water to prevent spreading potentially infectious material to face or skin. Seek additional instructions for exposed or potentially exposed persons.
- If possible, list all the people who were in the room or area, especially those who had actual contact with the powder. Give this list to the emergency responders.

UTILITY FAILURE

If there is an electrical, natural gas, or plumbing failure . . .

- During regular business hours, call 7283. After business hours, call ext. 6666.
- In the event of a gas leak, vacate the area. Do not turn lights on or off or use any electrical device where gas can be detected.
- If you are in an elevator that fails, use the emergency button to establish voice communication with the community safety office. If you learn of an elevator failure, call ext. 6666 immediately.
- If there is a plumbing problem or flood condition, turn off electrical equipment if you can safely do so, then call ext. 7283. Vacate the area if there is danger.
- If there is an electrical failure, emergency lighting will allow you to safely exit the building. Call ext. 7283. Vacate the area if there is danger.

VIOLENT OR CRIMINAL BEHAVIOR

Active Shooter

- Protect yourself—then Call Community Safety (503-788-6666) or 911 immediately. Use the most appropriate action below:
- **Run:** flee the area and go to a safe place—then call for help.
- **Hide:** go to or remain in an area where you are not visible, ideally one that can be locked from inside or barricaded—then call for help.
- **Fight:** if you are unable to flee or hide, use any available means to prevent a shooter from injuring you until you can flee or help arrives.
- If you are able to call for help, stay on the line with emergency responders as long as possible and provide as much information as you can.
- Avoid unnecessary calls to emergency responders unless you have specific information about the shooter so that emergency lines remain open. Avoid use of social media or using other communication resources to that they are available for emergency responders and notifications.
- Follow all instructions given through emergency notification systems or by emergency responders.

To reduce the risk of crime . . .

- Do not leave your valuables (purse, wallet, backpack) unattended in an unlocked location.
- Lock residence, office, and car doors whenever you leave.
- Avoid walking or jogging in poorly lighted areas.
- Keep a record of all credit cards and serial numbers to personal property.
- When walking at night to the parking lot, have your keys ready. Escorts are available. Call Community Safety at ext. 6666.

If you see or sense a suspicious situation...

Call Community Safety (ext. 6666) using your campus extension or one of several emergency outdoor campus phones. If possible, provide the following information:

1. Your location or the location of the incident.
2. Nature of the incident.
3. Description of person(s) involved.
4. Description of property involved.
5. Location of people involved or direction they are headed.
6. Call back or contact information for you.

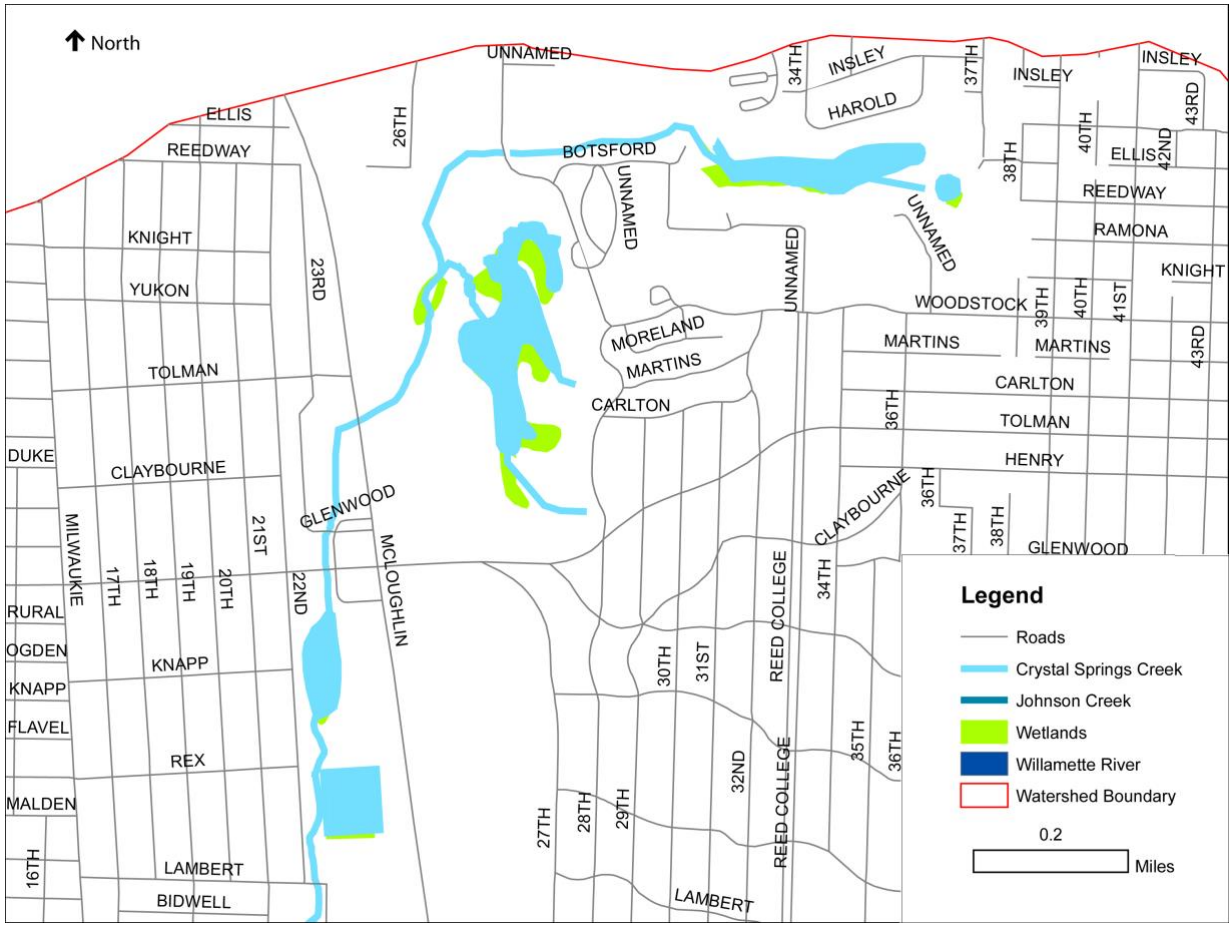
If you are describing a person, try to note the individual's

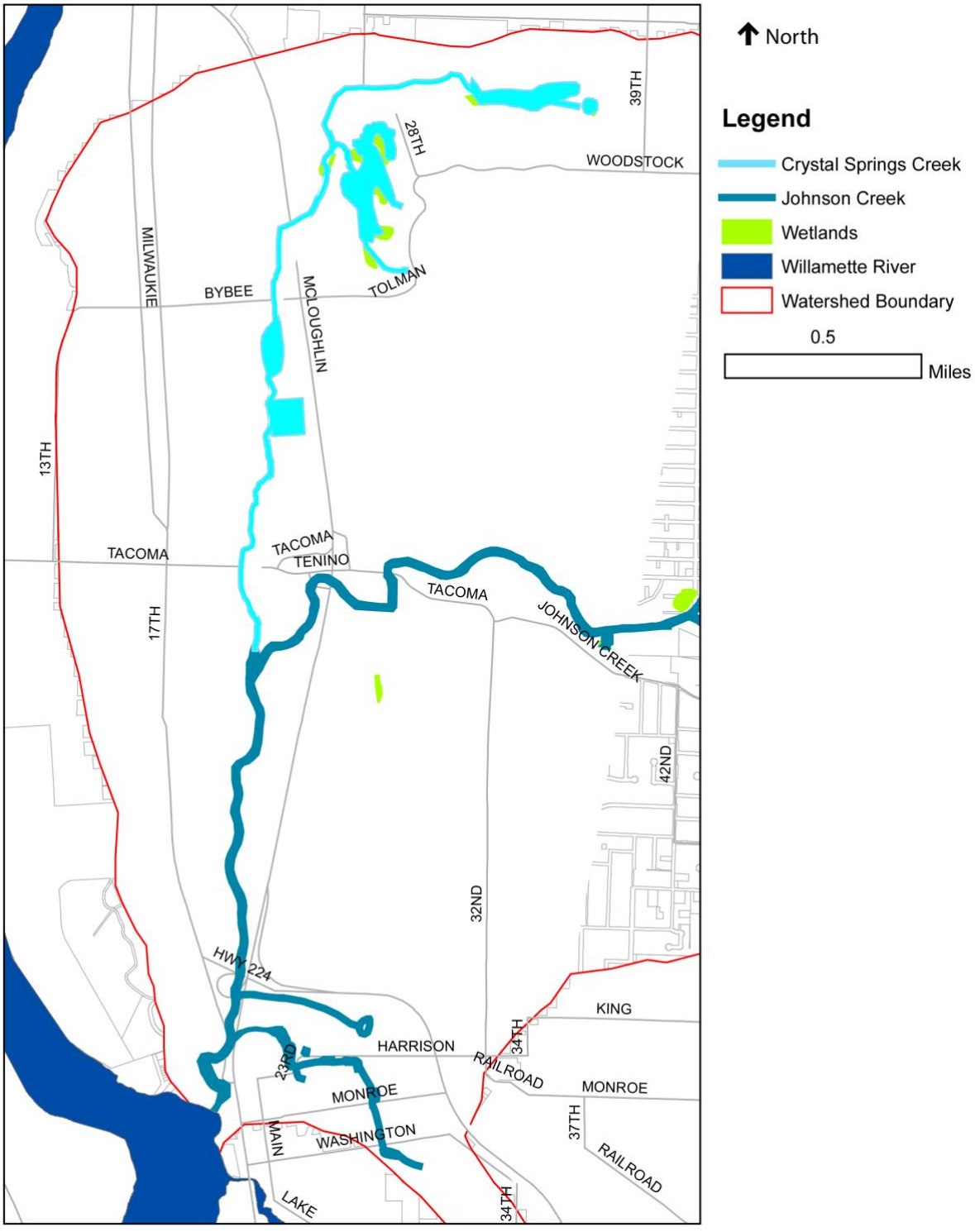
- gender, race, and age.
- height, weight, hair color, and style.
- complexion and any tattoos or scars.
- wearing apparel and accessories.

If there is a vehicle involved, try to note

- the license state and number
- make and model
- color and dents or marks
- the direction it headed

B. MAPS


North
UNNAMED
ELLIS
REEDWAY
KNIGHT
YUKON
TOLMAN
DUKE
CLAYBOURNE
RURAL
OGDEN
KNAPP
KNAPP
FLAVEL
REX
MALDEN
16TH
LAMBERT
BIDWELL
MILWAUKIE
17TH
18TH
19TH
20TH
21ST
22ND
23RD
26TH
GLENWOOD
MCLOUGHLIN
BOTSFORD
UNNAMED
MORELAND
MARTINS
CARLTON
27TH
28TH
29TH
30TH
31ST
32ND
REED COLLEGE
REED COLLEGE
LAMBERT
34TH
INSLEY
HAROLD
UNNAMED
UNNAMED
37TH
INSLEY
38TH
40TH
ELLIS
42ND
INSLEY
43RD
REEDWAY
RAMONA
KNIGHT
WOODSTOCK
39TH
40TH
41ST
43RD
MARTINS
MARTINS
CARLTON
36TH
TOLMAN
HENRY
36TH
37TH
38TH
GLENWOOD
CLAYBOURNE
34TH
35TH
36TH
Legend
Roads
Crystal Springs Creek
Johnson Creek
Wetlands
Willamette River
Watershed Boundary
0.2
Miles


North
Legend
Crystal Springs Creek
Johnson Creek
Wetlands
Willamette River
Watershed Boundary
0.5
Miles
39TH
28TH
WOODSTOCK
MILWAUKIE
BYBEE
TOLMAN
MCLOUGHLIN
13TH
TACOMA
TACOMA
TENINO
TACOMA
JOHNSON CREEK
17TH
42ND
32ND
HWY 224
KING
HARRISON
34TH
RAILROAD
23RD
MONROE
MONROE
37TH
MAIN
WASHINGTON
RAILROAD
LAKE
34TH

[total map color coded]

[back of total map color coded]

[map 1 front]

[map 1 back]

[map 2 front]

[map 2 back]

[map 3 front]

[map 3 back]

Map 4 front

Map 4 back

Map 5 front

Map 5 back

[map 6 front]

[map 6 back]

[map 7 front]

Spill kit front

[spill kit back]

C. GENERATOR SPECIFICATIONS AND SPILL SCENARIOS

1. Generator Specifications

UNIT # G-1: CHEMISTRY BUILDING

MAKE/MODEL NUMBER: Genset Onan/60DGCB

SERIAL#: H910414703

TANK FUEL CAPACITY: 75 GAL.

TANK DIMENSIONS: 48" x 13" x 28"

Containment & Diversionary structures:	YES	NO	NOTES:
UL-listed tank?		X	
Rupture container?		X	
Inner tank leak alarm?			N/A
Basin drain?	X		
Heavy-gauge construction?	X		
Integral sub-up area?	X		
Removable end channel/access to sub-up area?	X		
Lockable fill cap and riser? (2-inch NPT)		X	
Outer tank: emergency pressure relief vent?			N/A VENTED TANK
Inner tank: emergency pressure relief vent?			N/A
Mechanical fuel gauge?	X		
Normal vent with riser & mushroom?	X		
Fuel supply and return openings?	X		
High fuel-level light?		X	
Low fuel level alarm?	X		
Explosion vent?		X	
Fuel leak detector?		X	
Rupture tank alarm?		X	

UNIT # G-2: PHYSICS BUILDING

MAKE/MODEL NUMBER:
KOHLER/150REOZJ

SERIAL#: 0667817

TANK FUEL CAPACITY: 475 GAL.

TANK DIMENSIONS: 138" x 26" x 38".

Containment & Diversionary structures:	YES	NO	NOTES:
UL-listed tank?	X		(UL NUMBER?)
Rupture container?	X		
Inner tank leak alarm?		X	
Basin drain?	X		
Heavy-gauge construction?	X		
Integral sub-up area?	X		
Removable end channel/access to sub-up area?	X		
Lockable fill cap and riser? (2-inch NPT)		X	
Outer tank: emergency pressure relief vent?	X		
Inner tank: emergency pressure relief vent?	X		
Mechanical fuel gauge?	X		
Normal vent with riser & mushroom?	X		
Fuel supply and return openings?		X	
High fuel-level light?		X	
Low fuel level alarm?	X		
Explosion vent?		X	
Fuel leak detector?		X	
Rupture tank alarm?		X	

UNIT # G-3: ELIOT HALL

MAKE/MODEL NUMBER:
Kohler/20ROZJ (double wall)

SERIAL#: 0646630

SPEC. #: PA-189036

TANK FUEL CAPACITY: 40 GAL.

TANK DIMENSIONS: 60" x 23" x 12".

Containment & Diversionary structures:	YES	NO	NOTES:
UL-listed tank?	X		A643807
Rupture container?	X		110 %
Inner tank leak alarm?	X		
Basin drain?	X		
Heavy-gauge construction?	X		
Integral sub-up area?	X		
Removable end channel/access to sub-up area?	X		
Lockable fill cap and riser? (2-inch NPT)	X		
Outer tank: emergency pressure relief vent?	X		
Inner tank: emergency pressure relief vent?	X		
Mechanical fuel gauge?	X		
Normal vent with riser & mushroom?	X		
Fuel supply and return openings?	X		
High fuel-level light?		X	
Low fuel level alarm?	X		
Explosion vent?	X		
Fuel leak detector?	X		
Rupture tank alarm?		X	

UNIT # G-4: EDUCATIONAL TECHNOLOGY BUILDING

MAKE/MODEL NUMBER: Olympian/D200P4

SERIAL#: OLY 00000HNN500297

TANK FUEL CAPACITY: 392 GAL.

TANK DIMENSIONS: 24" x 26" x 120".

Containment & Diversionary structures:	YES	NO	NOTES:
UL-listed tank?	X		#508574
Rupture container?	X		
Inner tank leak alarm?	X		
Basin drain?	X		
Heavy-gauge construction?	X		
Integral sub-up area?	X		
Removable end channel/access to sub-up area?	X		
Lockable fill cap and riser? (2-inch NPT)	X		
Outer tank: emergency pressure relief vent?	X		
Inner tank: emergency pressure relief vent?	X		
Mechanical fuel gauge?	X		
Normal vent with riser & mushroom?	X		
Fuel supply and return openings?	X		
High fuel-level light?	X		
Low fuel level alarm?	X		
Explosion vent?		X	
Fuel leak detector?		X	
Rupture tank alarm?	X		

UNIT # G-5: FOSTER/SCHOLZ DORMS

MAKE/MODEL NUMBER: Caterpillar / D60-6

SERIAL#: D-321,326

TANK FUEL CAPACITY: 146 GAL.

TANK DIMENSIONS: 19.6" X 39.4" X 107.3"

Containment & Diversionary structures:	YES	NO	NOTES:
UL-listed tank?	X		UL#142
Rupture container?	X		5 gal. spill containment
Inner tank leak alarm?	X		
Basin drain?	X		
Heavy-gauge construction?	X		14 gauge steel
Integral sub-up area?	X		
Removable end channel/access to sub-up area?	X		
Lockable fill cap and riser? (2-inch NPT)	X		
Outer tank: emergency pressure relief vent?		X	Emergency vent for main tank
Inner tank: emergency pressure relief vent?	X		
Mechanical fuel gauge?	X		
Normal vent with riser & mushroom?	X		
Fuel supply and return openings?	X		
High fuel-level light?	X		
Low fuel level alarm?	X		
Explosion vent?	X		Vent main tank
Fuel leak detector?	X		
Rupture tank alarm?	X		

UNIT # G-6: GRAY CAMPUS CENTER

MAKE/MODEL NUMBER:
Katolight/D60FFP4

SERIAL#: LM220761

SPEC. #: E-44036

TANK FUEL CAPACITY: 110 GAL.

TANK DIMENSIONS: 18" x 28" x 78".

Containment & Diversionary structures:	YES	NO	NOTES:
UL-listed tank?	X		Label not legible
Rupture container?	X		110 %
Inner tank leak alarm?	X		
Basin drain?	X		
Heavy-gauge construction?	X		
Integral sub-up area?	X		
Removable end channel/access to sub-up area?	X		
Lockable fill cap and riser? (2-inch NPT)	X		
Outer tank: emergency pressure relief vent?		X	Holes there but capped off.
Inner tank: emergency pressure relief vent?		X	
Mechanical fuel gauge?	X		
Normal vent with riser & mushroom?		X	
Fuel supply and return openings?			Not marked (?)
High fuel-level light?		X	
Low fuel level alarm?	X		
Explosion vent?		X	
Fuel leak detector?		X	
Rupture tank alarm?		X	

UNIT # G-7: PHYSICAL PLANT BUILDING

MAKE/MODEL NUMBER:
Kohler/50ROZ81

SERIAL#: 277993

SPEC. # 189301-81

TANK FUEL CAPACITY: 100 GAL.

TANK DIMENSIONS: 82" x 18" x 23".

Containment & Diversionary structures:	YES	NO	NOTES:
UL-listed tank?	X		UL#2200
Rupture container?	X		
Inner tank leak alarm?		X	
Basin drain?	X		
Heavy-gauge construction?	X		
Integral sub-up area?	X		
Removable end channel/access to sub-up area?	X		
Lockable fill cap and riser? (2-inch NPT)	X		
Outer tank: emergency pressure relief vent?	X		
Inner tank: emergency pressure relief vent?	X		
Mechanical fuel gauge?	X		
Normal vent with riser & mushroom?	X		
Fuel supply and return openings?	X		
High fuel-level light?		X	
Low fuel level alarm?	X		
Explosion vent?		X	
Fuel leak detector?		X	
Rupture tank alarm?	X		

UNIT # G-8: BRAGDON HALL DORMS

MAKE/MODEL NUMBER:
Kohler/30R0ZP81

SERIAL#: 391933

SPEC.#: PA-192110-81

TANK FUEL CAPACITY: 85 GAL.

TANK DIMENSIONS: 60" x 23" x 23".

Containment & Diversionary structures:	YES	NO	NOTES:
UL-listed tank?	X		UL# A529139
Rupture container?	X		
Inner tank leak alarm?	X		
Basin drain?	X		
Heavy-gauge construction?	X		
Integral sub-up area?	X		
Removable end channel/access to sub-up area?	X		
Lockable fill cap and riser? (2-inch NPT)	X		
Outer tank: emergency pressure relief vent?	X		
Inner tank: emergency pressure relief vent?	X		
Mechanical fuel gauge?	X		
Normal vent with riser & mushroom?	X		
Fuel supply and return openings?	X		
High fuel-level light?	X		
Low fuel level alarm?	X		
Explosion vent?		X	
Fuel leak detector?		X	
Rupture tank alarm?		X	

UNIT # G-9: SULLIVAN DORM

MAKE/MODEL NUMBER:
KOHLER/20ROZ81

SERIAL#: 385472

TANK FUEL CAPACITY: 40 GAL.

TANK DIMENSIONS: 63" x 23" x 18".

Containment & Diversionary structures:	YES	NO	NOTES:
UL-listed tank?	X		UL#1944291
Rupture container?	X		
Inner tank leak alarm?		X	
Basin drain?	X		
Heavy-gauge construction?	X		
Integral sub-up area?	X		
Removable end channel/access to sub-up area?	X		
Lockable fill cap and riser? (2-inch NPT)	X		(explosion-proof cap)
Outer tank: emergency pressure relief vent?	X		
Inner tank: emergency pressure relief vent?	X		

Mechanical fuel gauge?	X		
Normal vent with riser & mushroom?	X		
Fuel supply and return openings?	X		
High fuel-level light?	X		
Low fuel level alarm?	X		
Explosion vent?		X	
Fuel leak detector?		X	
Rupture tank alarm?	X		(rupture basin leak alarm)

UNIT # G-10: Grove Dormitory Complex/Quad

MAKE/MODEL Number:
CATERPILLAR/D100-4

SERIAL#: CAT 00C44KN4E 00920

TANK CAPACITY: FUEL 185 GAL.

TANK DIMENSIONS: 102.5" x 44.4" x 88.8".

Containment & Diversionary structures:	YES	NO	NOTES:
UL-listed tank?	X		UL#2200
Rupture container?	X		
Inner tank leak alarm?	X		
Basin drain?	X		
Heavy-gauge construction?	X		8 gauge steel.
Integral sub-up area?	X		
Removable end channel/access to sub-up area?	X		
Lockable fill cap and riser? (2-inch NPT)		X	Behind a locked panel
Outer tank: emergency pressure relief vent?		X	
Inner tank: emergency pressure relief vent?	X		Emergency vent for main tank
Mechanical fuel gauge?	X		
Normal vent with riser & mushroom?	X		
Fuel supply and return openings?	X		
High fuel-level light?		X	
Low fuel level alarm?	X		
Explosion vent?	X		
Fuel leak detector?	X		
Rupture tank alarm?		X	

UNIT # G-11 Psychology BUILDING

MAKE/MODEL#: CATERPILLAR/ D80-4

SERIAL#: CATOOC44CN4EO1173

TANK FUEL CAPACITY: 226 gal.

TANK DIMENSIONS: 110.4" x 43.3" x 85.8"

Containment & Diversionary structures:	YES	NO	NOTES:
UL-listed tank?	X		UL#142
Rupture container?	X		
Inner tank leak alarm?	X		
Basin drain?	X		
Heavy-gauge construction?	X		8 gauge steel.
Integral sub-up area?	X		
Removable end channel/access to sub-up area?	X		
Lockable fill cap and riser? (2-inch NPT)		X	Behind a locked panel
Outer tank: emergency pressure relief vent?		X	
Inner tank: emergency pressure relief vent?	X		Emergency vent for main tank
Mechanical fuel gauge?	X		
Normal vent with riser & mushroom?	X		
Fuel supply and return openings?	X		
High fuel-level light?		X	Alarm
Low fuel level alarm?	X		
Explosion vent?	X		Vent main tank
Fuel leak detector?	X		
Rupture tank alarm?		X	

Containment & Diversionary Structures:	YES	NO	NOTES:
UL-Listed?	X		UL#2200
Rupture Container?	X		
Inner Tank Leak Alarm?	X		
Basin drain?	X		
Heavy-gauge construction?	X		14 Gauge steel
Integral sub-up area?	X		
Removable end channel/access to sub-up area?	X		
Lockable fill cap and riser? (2-inch NPT)		X	Behind a locked panel
Outer tank: emergency pressure relief vent?		X	
Inner tank: emergency pressure relief vent?	X		Emergency vent for main tank
Mechanical fuel gauge?	X		
Normal vent with riser & mushroom?	X		
Fuel supply and return openings?	X		
High fuel-level alarm?		X	
Low fuel-level alarm?	X		
Explosion vent?	X		Vent main tank
Fuel leak detector?	X		
Rupture tank alarm?	X		

UNIT # G-13: Performing Arts Building
UNIT # G-12: Vollum Hall Building

MAKE/MODEL NUMBER: Cummins 175
MAKE/MODEL NUMBER: Caterpillar/D50-6 DSGAD

SERIAL #: CAT00C44TGLD01164
SERIAL#: J120410063

TANK FUEL CAPACITY: 145 Gal.
TANK FUEL CAPACITY: 416 Gal.

TANK DIMENSIONS: 90" X 44" X 80"
DIMENSIONS: 151" X 65.5" X 19"

Containment & Diversionary Structures:	YES	NO	NOTES:
UL-Listed?	X		UL#2200
Rupture Container?	X		
Inner Tank Leak Alarm?		X	
Basin drain?	X		
Heavy-gauge construction?	X		14 Gauge steel
Integral sub-up area?		X	
Removable end channel/access to sub-up area?		X	
Lockable fill cap and riser? (2-inch NPT)	X		Behind a locked panel

Outer tank: emergency pressure relief vent?	X		
Inner tank: emergency pressure relief vent?	X		Emergency vent for main tank
Mechanical fuel gauge?	X		
Normal vent with riser & mushroom?	X		
Fuel supply and return openings?	X		
High fuel-level alarm?	X		Alarm
Low fuel-level alarm?	X		
Explosion vent?		X	Vent main tank
Fuel leak detector?	X		
Rupture tank alarm?		X	

2. Generator Spill Scenarios

Generator Location: Unit #G-1: Chemistry Building

Potential Event	Spill Direction	Potential Volume Released
Complete failure of a full tank	To Drain #2, #3, #92, & #96 /Outfall #3 in Reed Lake; Or downhill N/NE into Reed Canyon	75 Gal.
Partial failure of a full tank		<75 Gal.
Tank overfill		1-2 Gal.
Pipe failure		1 cup
Leaking pipe or valve		1 cup
Tank truck leak or failure	To Drain #2, #3, #92, & #96 /Outfall #3 in Reed Lake; Or downhill into Reed Canyon	Up to total quantity in the tank truck
Hose / Pipe leaking during loading		1 Gal.
Pump rupture or failure		Up to total quantity in the tank truck.

Notes on countermeasure plans:

Seal affected drains with drain mat(s) stored in yellow tubes inside the southeast/loading dock entrance to the Chemistry Building. Use absorbent materials from the oil spill emergency kit, stored inside the hazardous waste storage shed by the Chemistry loading dock, to contain any spilled oil. If oil enters drain, monitor Outfall #3 and use equipment to prevent oil from entering Reed Lake.

Additional Notes:

_____

_____

_____

Generator Location: Unit #G-2: Physics Building

Potential Event	Spill Direction	Potential Volume Released
Complete failure of a full tank	North: down slope to Reed Canyon or to Drain #10 /Outfall # 4 in Reed Lake	475 Gallons
Partial failure of a full tank		<475 Gallons
Tank overfill		1 – 2 Gal.
Pipe failure		(no pipe)
Leaking pipe or valve		(no pipe or valves)
Tank truck leak or failure	North: down slope to Reed Canyon or to Drain #10 /Outfall # 4 in Reed Lake	Up to total quantity in truck.
Hose / Pipe leaking during loading		1 Gal.
Pump rupture or failure		Up to total quantity in truck.

Notes on countermeasure plans:

Seal Drain #10 with the drain mat, which is stored in a yellow tube inside the west (loading dock) entrance to the physics building. Use absorbent materials from an oil spill emergency kit, available from Community Safety or Facilities Services, to contain any spilled oil. If oil enters the drain, monitor Outfall #4 and use equipment to prevent oil from entering Reed Lake.

Additional Notes:

_____

_____

_____

Generator Location: Unit #G-3: Eliot Hall

Potential Event	Spill Direction	Potential Volume Released
Complete failure of a full tank	Fairly level; toward Drain #103, / Outfall #6 in Reed Lake	40 Gal.
Partial failure of a full tank		<40 Gal.
Tank overfill		1 – 2 Gal.
Pipe failure		(no pipe)
Leaking pipe or valve		(no pipe or valves)
Tank truck leak or failure	#103 / Outfall #6 in Reed Lake	Up to total quantity in truck.
Hose / Pipe leaking during loading		1 Gal.
Pump rupture or failure		Up to total quantity in truck.

Notes on countermeasure plans*:*

Seal any affected drain (#103 and possibly #43) with the drain mat, which is available from Community Safety or Facilities Services. Use absorbent materials from an oil spill emergency kit, available from Community Safety or Facilities Services, to contain any spilled oil. If oil enters Drain #103 or #43, monitor Outfall #6 and use equipment to prevent oil from entering Reed Lake.

A drain west of Unit #G-3 hooks up to the sanitary sewer.

Additional Notes:

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Generator Location: Unit #G-4 Educational Technology Center

Potential Event	Spill Direction	Potential Volume Released
Complete failure of a full tank	NW toward Drain #70/ Outfall #3 in Reed Lake	392 Gal.
Partial failure of a full tank		<392 Gal.
Tank overfill		1 – 2 Gal.
Pipe failure		1 cup
Leaking pipe or valve		1 Gal.
Tank truck leak or failure	NW toward Drain #70/ Outfall #3 in Reed Lake	Up to total quantity in truck.
Hose / Pipe leaking during loading		1 Gal.
Pump rupture or failure		Up to total quantity in truck.

Notes on countermeasure plans*:*

Seal any affected drain (#70 in the east parking lot is closest) with a drain mat, which is stored inside the gate of the garbage recycling area next to Generator #4 or is available from Community Safety. Use absorbent materials from an oil spill emergency kit, available from Community Safety or Facilities Services, to contain any spilled oil. If oil enters Drain #70, monitor Outfall #3 and use equipment to prevent oil from entering Reed Lake.

Additional Notes:

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Generator Location: Unit #G-5: Foster/Scholz Dormitories

Potential Event	Spill Direction	Potential Volume Released
Complete failure of a full tank	W/SW: Into the soil or down-gradient towards West Parking Lot	146 Gal.
Partial failure of a full tank		<146 Gal.
Tank overfill		1 – 2 Gal (8 gal drip pan in place) and overfill prevention valve
Pipe failure		1 cup
Leaking pipe or valve		1 gal (5 gal spill containment in place and leak detection switch)
Tank truck leak or failure		Up to total quantity in truck.
Hose / Pipe leaking during loading		1 Gal.
Pump rupture or failure		Up to total quantity in truck.

Notes on countermeasure plans*:*

Contain oil with trench or berm or use oil-absorbent materials such as "Ultrasorb," pads, or pillows.

Additional Notes:

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Generator Location: Unit #G-6: Gray Campus Center

Potential Event	Spill Direction	Potential Volume Released
Complete failure of a full tank	Down gradient to Drains #15 and #16 / Outfall #9 in Reed Lake; or down the road to Drain #42 / Outfall #10 in Reed Lake	110 Gallons
Partial failure of a full tank		<110 Gallons
Tank overfill		1 – 2 Gal.
Pipe failure		1 cup
Leaking pipe or valve		(no pipe)
Tank truck leak or failure	Down gradient to Drains #15 and #16 / Outfall #9 in Reed Lake; or down the road to Drain #42 / Outfall #10 in Reed Lake	Up to total quantity in truck.
Hose / Pipe leaking during loading		1 Gal.
Pump rupture or failure		Up to total quantity in truck.

Notes on countermeasure plans*:*

This unit has a double-walled tank with an auditory rupture alarm inside Gray Campus Center. Cover drains with drain mats from tubes stored inside west kitchen entry of the Commons. Contain oil with oil-absorbent materials such as "Ultrasorb," pads, or pillows, available in the oil spill emergency kit in commons' kitchen. If oil enters drain, monitor Outfall #9 and use equipment to prevent oil from entering Reed Lake.

Additional Notes:

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Generator Location: Unit #G-7: Physical Plant Building

Potential Event	Spill Direction	Potential Volume Released
Complete failure of a full tank	Down slope to Drain #82 /Outfall #11 above Crystal Springs Creek; check Drain # 81	100 Gallons
Partial failure of a full tank		<100 Gallons
Tank overfill		1 – 2 Gal.
Pipe failure		(no pipe)
Leaking pipe or valve		(no pipe or valves)
Tank truck leak or failure	To Drain 81 and down slope to Drain #82 / Outfall #11 above Crystal Springs Creek	Up to total quantity in truck.
Hose / Pipe leaking during loading		1 Gal.
Pump rupture or failure		Up to total quantity in truck.

Notes on countermeasure plans*:*

Seal any affected drains (#81 & #82 west of the physical plant are closest) with drain mat(s), stored in a yellow tube inside the Grounds Shop. Use absorbent materials from an oil spill emergency kit, available from Community Safety or Facilities Services, to contain any spilled oil. If oil enters either drain, monitor Outfall #11 and use equipment to prevent oil from entering Crystal Springs Creek.

Additional Notes:

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Generator Location: Unit #G-8: Bragdon Dormitory

Potential Event	Spill Direction	Potential Volume Released
Complete failure of a full tank	S/SW down Northern Shoreline of Reed Canyon.	85 Gal.
Partial failure of a full tank		<85 Gal.
Tank overfill		1-2 Gal.
Pipe or Valve Failure or Leak		1 cup
Tank truck leak or failure		Up to total quantity in truck.
Hose / Pipe leaking during loading		1 Gal.
Pump rupture or failure		Up to total quantity in truck.
Complete failure of a full tank	S/SW down Northern Shoreline of Reed Lake Canyon.	85 Gal.

Notes on countermeasure plans*:*

Contain oil with trench or berm or use oil-absorbent materials such as "Ultrasorb," pads, or pillows.

Additional Notes:

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Generator Location: Unit #G-9: Sullivan Dormitory

Potential Event	Spill Direction	Potential Volume Released
Complete failure of a full tank	S/SE Toward city combined storm sewer.	40 Gal.
Partial failure of a full tank		<40 gal.
Tank overfill		1 – 2 Gal.
Pipe or Valve Failure or Leak		(no pipe)
Tank truck leak or failure		(no pipe or valves)
Hose / Pipe leaking during loading		Up to total quantity in truck.
Pump rupture or failure		1 Gal.
Complete failure of a full tank		Up to total quantity in truck.

Notes on countermeasure plans*:*

Use absorbent materials from an oil spill emergency kit, available from Community Safety or Facilities Services, to contain any spilled oil. Seal any affected drain (combined sanitary sewer in upper north parking lot are closest) with a drain mat, which is available from Community Safety or Facilities Services

Additional Notes:

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Generator Location: Unit #G-10: Grove Dormitory Complex/Quad

Potential Event	Spill Direction	Potential Volume Released
Complete failure of a full tank	W/SW towards 28 West and 28th Ave.	185 Gal.
Partial failure of a full tank		<185 gal.
Tank overfill		1 – 2 Gal.
Pipe failure		(no pipe)
Leaking pipe or valve		(no pipe or valves)
Tank truck leak or failure		Up to total quantity in truck
Hose / Pipe leaking during loading		1 Gal.
Pump rupture or failure		Up to total quantity in truck

Notes on countermeasure plans*:*

Use absorbent materials from an oil spill emergency kit, available from Community Safety or Facilities Services, to contain any spilled oil. Seal any affected drain (combined sanitary sewer in recycle/garbage area, west side of adjoining wall) with a drain mat, which is available from Community Safety or Facilities Services.

Additional Notes:

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Generator Location: Unit #G-11: Psychology Building

Potential Event	Spill Direction	Potential Volume Released
Complete failure of a full tank	North down slop to Drains #2, #3, #92 & #96/Outfall 3	226Gal.
Partial failure of a full tank		< 226 gal.
Tank overfill		1 – 2 Gal.
Pipe failure		(no pipe)
Leaking pipe or valve		(no pipe or valves)
Tank truck leak or failure	To Drains #2, #3, #92 & #96/Outfall 3	Up to total quantity in truck
Hose / Pipe leaking during loading		1 Gal.
Pump rupture or failure		Up to total quantity in truck

Notes on countermeasure plans*:*

Contain oil with trench or berm or use oil-absorbent materials such as "Ultrasorb," pads, or pillows. Seal affected drains with drain mat(s) stored in yellow tubes inside the southeast/loading dock entrance to the Chemistry Building. Use absorbent materials from the oil spill emergency kit, stored inside the hazardous waste storage shed by the Chemistry loading dock, to contain any spilled oil. Block and or cover drains #2, #3, #92 & #96 If oil enters drain, monitor Outfall #3 and use equipment to prevent oil from entering Reed Lake.

Additional Notes:

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Generator Location: Unit #12: Vollum Hall Building

Potential Event	Spill Direction	Potential Volume Released
Complete failure of a full tank	To Drain #134/Outfall #5 in Reed Lake; Or downhill N/NE into Reed Canyon	145 Gal.
Partial failure of a full tank		<145 Gal.
Tank Overfill		1-2 Gal.
Pipe failure		(no pipe)
Leaking pipe or valve		(no pipe or valves)
Tank truck leak or failure	To Drain #134/Outfall #5 in Reed Lake; Or downhill N/NE into Reed Canyon	Up to total quantity in the tank truck
Hose/Pipe leaking during loading		1 Gal.
Pump rupture or failure		Up to total quantity in the tank truck

Notes on countermeasures plan:

Seal affected drains with drain mat(s) stored in yellow tubes inside Vollum Hall in the E Mechanical Room. Use absorbent materials from the oil spill emergency kit, stored in E Mechanical Room in Vollum Hall, to contain any spilled oil. If oil enters drain, monitor Outfall #4 and use equipment to prevent oil from entering Reed Lake.

Additional Notes:

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Generator Location: Unit #G-13: Performing Arts Building

Potential Event	Spill Direction	Potential Volume Released
Complete failure of a full tank	To west parking lot bioswale; Or across 28th to Crystal Creek	416 Gal.
Partial failure of a full tank		<416 Gal.
Tank Overfill		1-2 Gal.
Pipe Failure		1 Cup
Leaking pipe or valve		1 Cup
Tank truck leak or failure	To west parking lot bioswale bioswale; Or across 28th to Crystal Creek	Up to total quantity in the tank truck
Hose/Pipe leaking during loading		1 Gal.
Pump rupture or failure		Up to total quantity in the tank truck

Notes on the countermeasure plans:

Seal affected drains with drain mat(s) stored in yellow tubes inside West Door of Food Services in Grey Campus Center. Use absorbent materials from the oil spill emergency, stored inside the oil dumpster in the NW corner of GCC, to contain any spilled oil. If oil enters bioswale, monitor the far west bioswale's large diameter turquoise pipe and use equipment to prevent oil from entering Crystal Creek.

Additional Notes:

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D. OIL STORAGE SPILL SCENARIOS

Oil Storage Location: Gray Campus Center / "The Commons" (S-1) – Used Cooking Oil

Potential Event	Spill Direction	Potential Volume Released
Complete failure of a full storage bin	Towards Drains #15 / Outfall #9 in Reed Lake; down road to Drains #42, #81, & #82 /Outfalls #10 & #11	55 Gallons
Partial failure of a full storage bin		<55 Gal.
Storage bin overfill		<55 Gal.
Leaking storage bin		<55 Gal.
Pump truck leak or spill	Towards Drains #15 / Outfall #9 in Reed Lake; down road to Drains #42, #81, & #82 /Outfalls #10 & #11	Up to total quantity in truck.

Notes on countermeasure plans*:*

Cover drains with drain mats from yellow tubes stored inside west kitchen entry of the Commons. Contain oil with oil-absorbent materials such as "Ultrasorb," pads, or pillows, available in oil spill emergency kit in Commons' kitchen. If oil enters drain, monitor Outfall #9, #10 and #11 and use equipment to prevent the contamination of Reed Lake.

Additional Notes:

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Oil Storage Location: Physical Plant Building: Biodiesel Bay (S-2)

Potential Event	Spill Direction	Potential Volume Released
Complete failure of a full tank	Down gradient to Drain #42, Outfall #10, near the dam at west end of Reed Lake.	2 X 55 Gallons
Partial failure of a full tank		Less than 55 Gallons
Tank overfill		<1 Gal.
Hose / Pipe leaking during loading		No pipe. <1 Gal. from hose
Pump rupture or failure		Up to total quantity in fill truck.

Notes on countermeasure plans*:*

Refuel in containment area. Keep oil spill emergency kit (and generic spill kits) handy in refueling areas and in facilities vehicles. If a spill occurs, use oil-absorbent materials to prevent oil from reaching drains. If oil escapes containment, seal drain #42 with the drain mat available in the grounds shop. Monitor Outfall #10 and prevent oil from contaminating Reed Lake.

Additional Notes:

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Oil Storage Location: "The Gas Shack" (S-3)

Potential Event	Spill Direction	Potential Volume Released
Complete failure of a full storage bin	Down gradient towards Reed Lake or to Drain #42/Outfall #10 near the dam at west end of Reed Lake.	Less than 55 Gallons
Partial failure of a full storage bin		Less than 55 gallons
Storage bin overfill		1 – 2 Gal.
Leaking storage bin		1 cup
Pump truck leak or spill		Up to total quantity in fill truck.

Notes on countermeasure plans*:*

Refuel in containment area. Keep oil spill emergency kit (and generic spill kits) handy in refueling areas and in facilities vehicles. If a spill occurs, use oil-absorbent materials to prevent oil from reaching drains. If oil escapes containment, seal drain #42 with the drain mat available in the grounds shop. Monitor Outfall #10 and prevent oil from contaminating Reed Lake.

Additional Notes:

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UNIT # S-4: Facilities Storage Tank

MAKE/MODEL NUMBER: Modern Welding Fireguard E-77383

SERIAL#: 34476

TANK FUEL CAPACITY: 5000 Gal.

DIMENSIONS: 102" X 168"

Containment & Diversionary Structures:	YES	NO	NOTES:
UL-Listed?	X		UL#2085, 142
Rupture Container?	X		
Inner Tank Leak Alarm?	X		
Basin drain?	X		
Heavy-gauge construction?	X		7 Gauge steel
Integral sub-up area?		X	N/A
Removable end channel/access to sub-up area?		X	N/A
Lockable fill cap and riser? (2-inch NPT)	X		4-inch
Outer tank: emergency pressure relief vent?	X		8"
Inner tank: emergency pressure relief vent?	X		8"
Mechanical fuel gauge?	X		
Normal vent with riser & mushroom?	X		4"
Fuel supply and return openings?	X		Pump opening
High fuel-level alarm?		X	
Low fuel-level alarm?		X	
Explosion vent?	X		

Oil Storage Location: Facilities Storage Tank (S-4)

Potential Event	Spill Direction	Potential Volume Released
Complete failure of a full tank	On concrete or asphalt surface or down the hill towards Crystal Springs Creek.	Less than 5000 Gallons
Partial failure of a full tank		Less than 5000 Gallons
Tank overfill		1 – 2 Gal.
Hose / Pipe leaking during loading		(No hose) 1-2 Gal. from pipe
Pump rupture or failure		Up to total quantity in fill truck.

Notes on countermeasure plans*:*

Refuel and store waste oils in containment areas. Use oil-absorbent materials to prevent spills from reaching the Canyon or Crystal Springs Creek. Keep oil spill emergency kit (and generic spill kits) handy in refueling areas and in facilities vehicles.

Additional Notes:

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Oil Storage Location: Facilities Warehouse Complex (S-5)

Potential Event	Spill Direction	Potential Volume Released
Complete failure of a full tank	Toward the swale created at the low point at S.W. corner of warehouse property. Fuel in this area stored in portable cans.	Less than 5 Gallons
Partial failure of a full tank		Less than 5 Gallons
Tank overfill		<1 Gal.
Hose / Pipe leaking during loading		No pipe. <1 Gal. from hose
Pump rupture or failure		Up to total quantity in fill truck.

Notes on countermeasure plans*:*

Refuel in containment areas. Keep an oil spill emergency kit (and generic spill kits) handy in refueling areas and in facilities vehicles. Use oil-absorbent materials to prevent spill from reaching the swale or combined sanitary sewer drains.

Additional Notes:

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E. ELECTRICAL TRANSFORMER DETAILS AND SCENARIOS

PGE owns all transformers (TO-1 to TO-33) and covers them under their plan. All transformers contain oils with less than 50 ppm PCBs. TO-1 has < 48 ppm PCBs; all others < 1 ppm PCBs.

Location		PGE Numbers	Reed Number	Oil (Gal.)
Anna Mann Dormitory	Above ground	ABC-150-1501	TO-7	128
Birchwood Apartments	Vault in ground	B-100-3095 B-100-6609	TO-29	90 90
Bragdon Dormitory	Above ground	ABC-300-1098	TO-13	136
Chemistry Building – east side; larger	Above ground	ABC-750-210	TO-1	375
Chemistry Building – east side; smaller	Above ground	ABC-500-981	TO-2	195
Chittick Dormitory	Above ground	ABC-150-31566	TO-15	128
Education Technology Center	Above ground	ABC-300-1523	TO-5	139
Education Technology Center	Above ground	ABC-75-12714	TO-18	94
Farm House	On a power pole	A-25-81044	TO-25	15
Foster/Scholz Dormitories	Above ground	A-100-5759	TO-23	90
GCC/ Commons – northwest corner	Above ground	ABC-300-998	TO-8	136
GCC/Commons – northwest corner	Above ground	ABC-300-996	TO-9	139
Greenwood /Botsford Dr.	Above ground	A-50-36599	TO-19	45
Grove Dormitory Complex/Quad	Above ground	ABC-300-32700	TO-20	135
Library – west side	Vault in ground	A-75-11198 B-75-11196 C-75-11011	TO-26	90 90 90
Library – south side	Above ground	ABC-300-1612	TO-6	139
MacNaughton Dormitory	Above ground	A-100-5773	TO-24	90
Naito Dormitory	Above ground	ABC-300-977	TO-14	136
Parker House	Above ground	AB-50-64134	TO-27	45
Physical Plant Building – north side	Above ground	ABC-112.5-838	TO-12	95
Physics Building	Above ground	ABC-1000-414	TO-17	280
Psychology Building – east side	Above ground	ABC-300-365	TO-16	135
Performing Arts Building	Above Ground	ABC-1500-34030	TO-33	375
Reed College Apartments – south side	Above ground	C-100-1063	TO-22	90
Sports Center – smaller unit	Above ground	ABC-112.5-894	TO-11	120
Sports Center – larger unit	Above ground	ABC-500-1180	TO-10	201
Studio Arts Building	Above ground	ABC-75-12364	TO-4	109
Theater Annex, Reed Warehouse	On a power pole	A-25-38427 B-25-38420 C-25-38425	TO-28	15 15 15
Vollum College Center	Above ground	ABC-500-1365	TO-3	201
28 West/Campus Safety	Above ground	ABC-75-12716	TO-21	95

Location		PGE Numbers	Reed Number	Oil (Gal.)
28th Avenue/Health and Counseling Center	On a power pole	A-25-14367 C-10-21253	TO-30	15 10
28th Avenue/Doctors Office Bldg.	On a power pole	A-50-12597 B-50-12602 C-50-12605	TO-31	45 45 45
28th Avenue/Steele Street	On a power pole	A-50-17256 B-50-17258 C-50-17259	TO-32	45 45 45
Total Oil Capacity of PGE-owned Transformers:				**4656**

Transformer Location: Anna Mann Dormitory (TO-7) – PGE Number ABC–150–1501

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	West/Southwest	128 GAL.
Partial failure/Loss of Insulator Oil		<128 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as "Ultrasorb," pads, or pillows from Community Safety's oil spill response kit.

Additional Notes:

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Transformer Location: Birchwood Apartments – 2 transformers in a vault in the ground (TO-29) – PGE Numbers B-100-3095 and B-100-6609

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	In vault in ground	90 - 180 GAL.
Partial failure/ Loss of Insulator Oil		<180 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench or berm or use oil-absorbent materials such as "Ultrasorb," pads, or pillows from Community Safety's oil spill response kit.

Additional Notes:

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Transformer Location: Bragdon Dormitory (TO-13) – PGE Number ABC-300-1098

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	Down gradient toward Reed Lake to the south.	136 GAL.
Partial failure/ Loss of Insulator Oil		<136 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as "Ultrasorb," pads, or pillows from Community Safety's oil spill response kit.

Additional Notes:

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Transformer Location: Chemistry Building, larger unit of east side of building (TO-1) – PGE Number ABC-750-210

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	To Drain #2, 3, 92, & 96 and Outfall #3 in Reed Canyon. Downhill N/NE into Reed Canyon	375 GAL.
Partial failure/ Loss of Insulator Oil		<375 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Seal affected drains with drain mat(s) stored in yellow tubes inside the southeast/loading dock entrance to the Chemistry Building. Use absorbent materials from the oil spill emergency kit, stored inside the hazardous waste storage shed by the Chemistry loading dock, to contain any spilled oil. If oil enters drain, monitor Outfall #3 and use equipment to prevent oil from entering Reed Lake.

Additional Notes:

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Transformer Location: Chemistry Building, smaller unit on the east side of the building (TO-2) – PGE Number ABC-500-981

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	To Drain #2, 3, 92, & 96 and Outfall #3 in Reed Canyon. Downhill N/NE into Reed Canyon	195 GAL.
Partial failure/ Loss of Insulator Oil		<195 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Seal affected drains with drain mats stored in yellow tubes inside the southeast (loading dock) entrance to the Chemistry Building. Use absorbent materials from the oil spill emergency kit, stored inside the hazardous waste storage shed by the Chemistry loading dock, to contain any spilled oil. If oil enters drain, monitor Outfall #3 and use equipment to prevent oil from entering Reed Lake.

Additional Notes:

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Transformer Location: Chittick Dormitory (TO-15) – PGE Number ABC-150-31566

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	West/ Southwest toward Reed Lake Canyon. To Drain # 84 & 85 and Outfall # 15	128 GAL.
Partial failure/ Loss of Insulator Oil		<128 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Seal affected drains with drain mats. Contain oil with trench, berm, or use oil-absorbent materials such as "Ultrasorb," pads, or pillows from Community Safety's oil spill response kit. If oil enters drain, monitor Outfall #15 and use equipment to prevent oil from entering Reed Lake.

Additional Notes:

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Transformer Location: Education Technology Center (TO-5) – PGE Number ABC-300-1523

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	South/southwest. To Drain #8 and Outfalls #3 &/or #4	139 GAL.
Partial failure/ Loss of Insulator Oil		<139 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Seal affected drain with drain mat stored inside the gate of the garbage recycling area next to Generator #4. Contain oil with trench, berm, or use oil-absorbent materials such as "Ultrasorb," pads, or pillows from Community Safety's oil spill response kit. If oil enters drain, monitor Outfalls #3 and/or 4 and use equipment to prevent oil from entering Reed Lake.

Additional Notes:

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Transformer Location: Education Technology Center (TO-18) – PGE Number ABC-75-12714

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	Northwest. To Drain #70 and Outfall # 3	94 GAL.
Partial failure/Loss of Insulator Oil		<94 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Seal affected drain with drain mat stored inside the gate of the garbage recycling area next to Generator #4 or available from Community Safety. Contain oil with trench, berm, or use oil-absorbent materials such as "Ultrasorb," pads, or pillows from Community Safety's oil spill response kit. If oil enters drain, monitor Outfall #3 and use equipment to prevent oil from entering Reed Lake.

Additional Notes:

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Transformer Location: Farm House – northwest corner, on power pole next to 28 Avenue (TO-25) – PGE Number A-25-81044.

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	Southwest, down 28th Avenue	15 GAL.
Partial failure/ Loss of Insulator Oil		<15GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as "Ultrasorb," pads, or pillows from Community Safety's oil spill response kit.

Additional Notes:

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Transformer Location: Foster/Scholz Dorms (TO-23) – PGE Number A-100-5759

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	West/Southwest	90 GAL.
Partial failure/ Loss of Insulator Oil		<90 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as "Ultrasorb," pads, or pillows from Community Safety's oil spill response kit.

Additional Notes:

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Transformer Location: Gray Campus Center/ Commons – northwest side (TO-8) – PGE Number ABC-300-998

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	To Drains #15 & #16 and Outfall #9; Down-road to Drain #42 / Outfall #10 in Reed Lake, and to Drain #81 & #82 and Outfall #11	136 GAL.
Partial failure/Loss of Insulator Oil		<136 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Cover drain with mat from yellow tube stored inside west kitchen entry of the Commons. Contain oil with oil-absorbent materials such as "Ultrasorb," pads, or pillows from the Commons' oil spill response kit. If oil enters drain, monitor Outfall #9. If it flows down the road, monitor Outfall # 10. Use equipment to prevent oil from entering Reed Lake.

Additional Notes:

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Transformer Location: Gray Campus Center /Commons – northwest side (TO-9) – PGE Number ABC-300-996

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	To Drains #15 & 16 and Outfall #9; Down-road to Drain #42, 81, and 82 / Outfall #10 and 11 in Reed Lake	139 GAL.
Partial failure/ Loss of Insulator Oil		<139 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Cover affected drain with drain mat from yellow tube stored inside west kitchen entry of the Commons. Contain oil with oil-absorbent materials such as "Ultrasorb," pads, or pillows from the Commons' oil spill response kit. If oil enters drain, monitor Outfall #9. If it flows down the road, monitor Outfall # 10. Use equipment to prevent oil from entering Reed Lake.

Additional Notes:

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Transformer Location: Greenwood/Botsford Dr. – south/southeast side (TO-19) – PGE Number A-50-36599

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	Northwest. Down gradient toward Crystal Springs Creek.	45 GAL.
Partial failure/Loss of Insulator Oil		<45 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as "Ultrasorb," pads, or pillows from Community Safety's oil spill response kit.

Additional Notes:

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Transformer Location: Grove Dormitory Complex/Quad – west side (TO-20) – PGE Number ABC-300-32700

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	West to Combined Storm Sewer and SE 28th	135 GAL.
Partial failure/ Loss of Insulator Oil		<135 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as "Ultrasorb," pads, or pillows from Community Safety's oil spill response kit.

Additional Notes:

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Transformer Location: Library – west side (TO-26) – PGE Numbers A-75-11198, B-75-11196 & C-75-11011 – 3 Transformers in vault in ground

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	In ground	90-270 GAL.
Partial failure/ Loss of Insulator Oil		<270 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with oil-absorbent materials such as "Ultrasorb," pads, or pillows from the Community Safety's oil spill response kit.

Additional Notes:

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Transformer Location: Library – south side (TO-6) – PGE Number ABC-300-1612

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	South/ Southwest; To Drain #9 and Outfall #4;	139 GAL.
Partial failure/ Loss of Insulator Oil		<139 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Cover affected drain with drain mat. Contain oil with oil-absorbent materials such as "Ultrasorb," pads, or pillows from the Commons' oil spill response kit. If oil enters drain, monitor Outfall 4 and use equipment to prevent oil from entering Reed Lake.

Additional Notes:

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Transformer Location: MacNaughton Dorm – west side (TO-24) – PGE Number A-100-5773

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	Level into grass; no drain nearby	90 GAL.
Partial failure/ Loss of Insulator Oil		<90 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as "Ultrasorb," pads, or pillows from Community Safety's oil spill response kit.

Additional Notes:

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Transformer Location: Naito Dormitory (TO-14) – PGE Number ABC-300-977

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	West/Southwest	136 GAL.
Partial failure/Loss of Insulator Oil		<136 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as "Ultrasorb," pads, or pillows from Community Safety's oil spill response kit.

Additional Notes:

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Transformer Location: Parker House – southeast side of driveway (TO-27) – PGE Number AB-50-64134

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	To SE Moreland Lane, then to Woodstock Blvd.	45 GAL.
Partial failure/Loss of Insulator Oil		<45GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as "Ultrasorb," pads, or pillows from Community Safety's oil spill response kit.

Additional Notes:

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Transformer Location: Physical Plant (TO-12) – PGE Number ABC-112.5-838

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	Northwest. Down gradient toward the Fish Ladder and Crystal Springs Creek; to Drain # 42/Outfall #10	95 GAL.
Partial failure/Loss of Insulator Oil		<95 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as "Ultrasorb," pads, or pillows from Facilities Service's oil spill Emergency Kit.

Additional Notes:

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Transformer Location: Physics Building (TO-17) – PGE Number ABC–1000-414

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	Down gradient toward Reed Lake to the north. To Drain #10 and Outfall #4.	280 GAL.
Partial failure/Loss of Insulator Oil		<280 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench or berm or use oil-absorbent materials such as "Ultrasorb," pads, or pillows. Seal affected drain #10 with a drain mat, stored in a yellow tube in the loading dock entrance to the physics building. If oil enters drain, monitor Outfall #4 and use equipment to prevent oil from entering Reed Lake.

Additional Notes:

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Transformer Location: Psychology – east side (TO-16) – PGE Number ABC-300-365

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	Downhill into Reed Lake. To Drains #2, #92 & #96 and Outfall #3.	135 GAL.
Partial failure/Loss of Insulator Oil		<135 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as "Ultrasorb," pads, or pillows from Community Safety's oil spill response kit. Seal affected drain #10 with a drain mat. If oil enters drain, monitor Outfall #3 with equipment to prevent contamination of Reed Lake.

Additional Notes:

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Transformer Location: Performing Arts Building (TO-33)-PGE Number ABC-1500-34030

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	West/Southwest to west parking lot bioswale	**375 Gal.**
Partial Failure/Loss of Insulator Oil		**<375 Gal.**

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as "Ultrasorb," pads, or pillows from Community Safety's oil spill response kit.

Additional Notes:

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Transformer Location: Reed College Apartments – south side (TO-22) – PGE Number C-100-1063

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	West	90 GAL.
Partial failure/Loss of Insulator Oil		<90 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as "Ultrasorb," pads, or pillows from Community Safety's oil spill emergency kit.

Additional Notes:

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Transformer Location: Sports Center – larger unit (TO-10) – PGE Number ABC-500-1180

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	Southwest into landscaped area and toward building. Bioswale downhill from transformer	201 GAL.
Partial failure/Loss of Insulator Oil		<201 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as "Ultrasorb," pads, or pillows from Community Safety's oil spill response kit.

Additional Notes:

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Transformer Location: Sports Center – smaller unit (TO-11) – PGE Number ABC-112-205-894

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	Southwest into landscaped area and toward building. Bioswale downhill from transformer	120 GAL.
Partial failure/Loss of Insulator Oil		<120 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as "Ultrasorb," pads, or pillows from Community Safety's oil spill response kit.

Additional Notes:

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Transformer Location: Studio Arts Building (TO-4) – PGE Number ABC-75-12364

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	North/Northwest, down gradient into Reed Lake Canyon	109 GAL.
Partial failure/Loss of Insulator Oil		<109 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as "Ultrasorb," pads, or pillows from Community Safety's oil spill response kit.

Additional Notes:

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Transformer Location: Theater Annex, Reed Warehouse complex – north side, three transformers on power pole next to fence that separates Birchwood Apts. (TO-28) – PGE Numbers A-25-38427, B-25-38420, and C-25-38425

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	Some what level ground / West	15-45 GAL.
Partial failure/Loss of Insulator Oil		<45 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as "Ultrasorb," pads, or pillows from Community Safety's oil spill response kit.

Additional Notes:

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Transformer Location: Vollum College Center – west end (TO-3) – PGE Number ABC-500-1365

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	North; to Drain #134 and Outfall #5.	201 GAL.
Partial failure/Loss of Insulator Oil		<201 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as "Ultrasorb," pads, or pillows from Community Safety's oil spill response kit.

Additional Notes:

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Transformer Location: 28 West Community Safety – east side (TO-21) – PGE Number 75-12716

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	Southwest	95 GAL.
Partial failure/Loss of Insulator Oil		<95 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as "Ultrasorb," pads, or pillows from Community Safety's oil spill response kit.

Additional Notes:

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Transformer Location: 28th Avenue/Health and Counseling Center – two transformers on a power pole (TO-30) – PGE Numbers A-25-14367 and C-10-21253

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	Southwest along 28th Street.	10 – 25 GAL.
Partial failure/Loss of Insulator Oil		<25 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as "Ultrasorb," pads, or pillows from Community Safety's oil spill response kit.

Additional Notes:

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Transformer Location: 28th Avenue/ Doctors Office Bldg. – three transformers on a power pole (TO-31) – PGE Numbers A-50-12597, B-50-12602, and C-50-12605

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	Southwest along 28th Street.	45 – 135 GAL.
Partial failure/Loss of Insulator Oil		<135 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as "Ultrasorb," pads, or pillows from Community Safety's oil spill response kit.

Additional Notes:

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Transformer Location: 28th Avenue/Steele Street– three transformers on a power pole (TO-32) – PGE Numbers A-50-17256, B-50-17258, and C-50-17259

Potential Event	Spill Direction	Potential Volume Released
Complete Failure/ Explosion of a Transformer	Southwest along 28th Street.	45 – 135 GAL.
Partial failure/Loss of Insulator Oil		<135 GAL.

Notes on countermeasure plans:

Notify PGE at 503-464-7777. Contain oil with trench, berm, or use oil-absorbent materials such as "Ultrasorb," pads, or pillows from Community Safety's oil spill response kit.

Additional Notes:

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F. SPILL REPORTS

1. Spill Report Form

TITLE:

SUBJECT:

DATE:

RESPONSE

Detailed account of what happened, when it happened, and who responded.

INVESTIGATION AND EVALUATION

Details of how the spill occurred.

Decisions made that will help prevent another spill.

Costs:

Materials Costs:

Contractor Costs:

Reed Personnel hours:

2. Historic Spill Reports

12/5/2016 Incident Report

SUBJECT: Hydraulic Oil Spill In Chemistry Loading Dock

DATE: 12/6/16

RESPONSE

12/5/16 8:35AM Facilities Services of Reed College noticed the hydraulic lift in the Chemistry loading dock had ruptured and oil was accumulating within the lift system but contained. April Sams was informed of the situation and that pumping of the liquid out of the system would be needed. It was determined that NRC Environmental Services would be better to provide this service to limit worker exposure, provide better environmental protection, and proper handling of waste produced. NRC was called to initiate cleanup at 8:33 AM. It was thought at the time that no oil had reached the surface drains and that NRC Environmental would be onsite to pump the water/oil mixture from the contained lift area only.

12/5/16 10:42AM NRC Environmental arrived onsite. A. Sams arrived to location to coordinate efforts. Sheen was noticed around the lift area. Booms and oil absorbent socks were placed around surface drains. Simple Green was used to absorb visible oil on asphalt loading dock area. Outfall location was determined and absorbent socks and booms placed to protect Crystal Springs Creek and Reed Lake.

12/5/16 11:00AM: The process to remove the broken lift began.

12/5/16 11:30AM Lift was removed, which allowed access for pump truck to begin removal of water/oil. Drain inside lift was dammed and absorbent socks put into place.

12/5/16 12:08: A. Sams initiated phone call to Oregon State Emergency Response System (OERS). It was unknown if oil had reached the waterways

but prudent to advise DEQ of potential. At this time it was thought that no oil had reached Reed Lake or its tributaries. A. Sams spoke to Carole with OERS who advised A. Sams that DEQ would call if more information was needed. OERS INCIDENT # 2016-2958.

12/5/16 12:11PM: A. Sams initiated phone call to the National Response Center. It was unknown if oil had reached the waterways but prudent to advise EPA of potential. At this time it was thought that no oil had reached Reed Lake or its tributaries. The National Response Center advised A. Sams that EPA region 10 would contact A. Sams if needed. NRC INCIDENT # 116-5625

12/5/16 12:28PM: A. Sams emailed Lorrainne Arvin, Pat Heneghan, and Towny Angell to inform of the hydraulic spill and DEQ/EPA report.

12/5/16 1:25PM: During the process of removing the fluid from the lift, it was noticed that some oil might have reached the surface drain under the lift system. The outfall was monitored and oil product was seen near the outfall. Remedial efforts began. Oil absorbing pads, socks, and booms were used to absorb all oil material.

12/5/16: 1:54PM: A. Sams received a call from DEQ to clarify the extent of the spill. All oil products were removed. A small amount of sheen was still present on asphalt and NRC Environmental Services continued efforts to remove presence of sheen. A maximum total of 5 gallons of oil was removed from the lift system. It was estimated that a tablespoon, or less, of oil may have traveled down the surface drain under the lift to the outfall into Reed Canyon near the headwaters of Crystal Springs Creek.

12/5/16 3:15PM: NRC Environmental Services left site after oil and sheen were removed to the best of their abilities.

12/5/16 3:45PM: A. Sams spoke to Zachariah Perry, Grounds Specialist: Canyon, to inform him of the procedure if sheen is noticed upstream. Z. Perry would continually monitor the area.

12/6/16 11:30AM: A. Sams and Steve Pagh, Facilities Services, walked site and deemed area clear.

12/6/16 11:54AM: A. Sams touched base with Z. Perry. Z. Perry informed A. Sams that he did not see any indication of further contamination. Z. Perry mentioned that BES called him to discuss the incident. He informed the City of the information he knew.

12/7/16: 12:30PM A. Sams walked impacted site and did not see any indication of sheen on water surface or ground.

INVESTIGATION AND EVALUATION

Reed College staff agreed:

- To better communicate the need to call Reed staff during emergency events.
- To provide effective ways to reach various responsible parties during emergency events.
- Explore options for alternative lift system or oil separator drain/s for loading dock area.
- Explore outfall plugs options for use in emergency response.

Costs:

Reed Personnel hours:

Facilities Services	4+ hours
EHS	4 hours
NRC Environmental Fees	$5928.28
DEQ Fees	$553.20

6/14/2016 Incident Report

SUBJECT: Hydraulic Oil Spill In North Parking Lot

DATE: 6/16/2016

RESPONSE

6/14: 8:50AM River City Environmental was picking up a drop box when their hydraulic system gave out and started leaking. Keith, foremen from Reimers & Jolivette (R&J) Construction, noticed that River City's hydraulic system gave way and acted quickly to start spill response procedures. Keith initially constructed a make shift dike with soil around the drain in the lot and at the end of the oil path. After realizing that River City was ill prepared and that there was more oil than he felt comfortable handling alone he called Steve Yeadon (Asst. Director of Facilities Reed College). Steve walked the site and contacted April Karr (Director of EHS Reed College).

Approximately 5 gallons of biodegradable hydraulic oil spilled.

6/14 9:15AM Bruce Hefner (Grounds Manager Reed College) and April Karr gathered spill containment equipment

6/14 9:30AM-12:45PM April Karr preceded to clean up the spill with Keith's assistance. **NO OIL REACHED THE DRAIN/SOIL OR LEFT THE PARKING AREA**. Once sufficient spill absorbent was down, oil soaked pads were removed, bagged, and replaced with kitty litter to collect the remaining residue. River City Environmental's Hazardous Materials Cleanup crew began work at 11:30AM with a specialized truck and green oil-cleaning product to clean up the remaining oil stain and residue. The drain and lot was boomed off during the process to not allow any cleaning product or residue to reach the drain. . All oil was removed except for a slight residue that stained the asphalt. Drain covers and booms will remain in place for 24hours. It was determined that no follow-up notifications are needed to governmental agencies because the spill did not reach the environment and was not of large quantity.

6/14 1:15-1:30PM April Karr walked the site and picked up remainder of spill containment equipment. River City was still onsite with truck cleaning asphalt.

6/14 1:45PM River City finished and left.

6/14 ~3:00PM Keith called River City to inform them that a few oil spots remained. He asked for them to return and continue the cleanup efforts.

6/14: 5:20-5:45PM April Karr walked site on way home. River city was onsite cleaning a second time. April was informed that Keith still located a few oil spots around 3PM so asked the crew to return. River city used their trucks to continue cleanup efforts. When April arrived, River City was informed to stop work and to not continue with additional cleaning efforts. They offered to use dish soap to clean the rest but would need to go back to their warehouse to get supplies. They were told that it was not needed. The site would be visually checked in the morning and determination made if additional cleanup would be necessary. If determined additional cleanup was needed another contracted service that specializes in remediation would be used.

6/15 8:30AM April Karr spoke to Steve and decided to walk the site. Both agreed that the area looked fine and to monitor over the next week to see if additional remediation was needed. Keith was contacted and told to leave the booms in place for at least a week to monitor rain impact. Keith believed River City should continue cleanup but April & Steve informed him not to move forward with River City's cleanup service. The area will be monitored and if additional remedial efforts are needed River City will be billed. Keith agreed and informed Mark Beckius (President Reimers & Jolivette). Keith was commended for his quick response and also informed that he should not hesitate to call Community Safety, Facilities, or EHS for any issue. Keith agreed. Mark has been dealing with the fallout with River City and agrees that they were not prepared and handled the situation horribly.

6/16 9:45AM April Karr walked the site and oil stain is minimal. Booms are still in place.

INVESTIGATION AND EVALUATION

Reimers & Jolivette agreed:

- To promptly contact Reed Facilities, EHS, or Community Safety when issues occur.
- To continue corrective action with River City.

Reed College staff agreed:

- To better communicate the need to call Reed staff during emergency events.
- To provide effective ways to reach various responsible parties during emergency events.

Costs:

Materials Costs

The EHS office supplied:	
2 bales of pads	$ 80.00
Grounds supplied	
4 pillows	$52.00
5 in x 10 ft boom	32.00
4 bales of pads	160.00
3 bags of spill absorbent	60.00

Reed Personnel hours:

Facilities Services	3 hours
EHS	5 hours

1/22/2002 Incident Report:

SUBJECT: Used Cooking Oil Spill on January 21 and 22, 2002

DATE: January 28, 2002

RESPONSE

On Monday, January 21, 2002 between 8:30 and 9:00 A.M., Michele McPherson (Reed facilities services) got a call from Andrew Kalona at Bon Appetit that used cooking oil spilled at the loading dock. Townsend Angell (facilities director) asked David Nielson (grounds department) to clean up the oil. David and Kathleen Edeline (grounds department) used Ultrasorb and other materials to soak up the 2 foot by 30-foot spill. Towny understood that all the oil was cleaned up. However, there may have been grease in the drain system at that time that went unnoticed.

On Tuesday, January 22 at about 7:30 A.M., Bruce Hefner and Zac Perry (both in the grounds department) observed oil on the water at the west end of Reed Lake, near the fish ladder. They informed Towny that used cooking oil from Bon Appetit had spilled outside and had gone into the storm drain, leading to Reed Lake. The oil on the lake covered an area of approximately 40 feet by 20 feet. They began work to contain and clean up the used oil, as well as to clean out the drain by the trash rack. Bruce Hefner lowered two five-gallon buckets into the drain and pulled up both filled with oil.

At about 8:00 A.M., Towny reported the spill to the Environmental Health and Safety office.

At 8:30, Towny called George Cardile, a project manager at Foss Environmental, described the spill, and requested support for the oil clean up.

At approximately 8:40 A.M., Karen Gonzalez (EHS staff) arrived with additional absorbent pads and booms. Zac Perry stated that he and Knol Simnit had been working on the cleanup since their arrival. Zac estimated that they had already cleaned up approximately 80% of the oil.

Reed staff proceeded to add a boom and pillows in front of the water outlet to the fish ladder. They put down additional absorbent pads on the visible oily areas close to shore.

Foss Environmental arrived at about 9:00 AM and gave assistance cleaning the trash rack area and provided additional absorbent material. Mr. Cardile stated that Reed employees had done a good job of containing the spill to the lake. After evaluating the work so far, Foss Environmental pumped an additional two gallons of oil out of the drain. They also estimated that by the time they responded that about 2 gallons of oil remained on the surface of the lake. They added a downstream boom near the end of the fish ladder, and called in a request for skirted booms to better trap the oil for cleanup. Jason Baxter (EHS Intern) walked

downstream to look for any evidence of oil. Jason place oil absorbent pads in two slow moving areas, but saw no further evidence of oil.

At 10:40 A.M., Kathleen Fisher (EHS staff) and Karen Gonzalez drove over to Westmoreland Park to look for any signs of oil in the "Casting Pond" which lies downstream from Reed Lake. They walked the entire perimeter of the pond, but saw no evidence of cooking oil. Foss employees placed the skirted boom at the west end of the lake at approximately 11:30 A.M. The Reed Grounds crew replaced pads and booms as needed throughout the week.

As an extra precaution, on Wednesday, January 23, Reed staff built a filter fence and placed absorbents pads and booms on the upstream side.

On Friday, January 25, 2002, a sewer router truck came to clean out the drainpipe and vacuum up any remaining oil on the lake. At about 3:30 P.M. Reed employees pulled up the skirted boom. They left all downstream containment in place over the weekend. Downstream pads, booms, and the filter fence were removed Monday morning, January 28, 2002.

INVESTIGATION AND EVALUATION

Details of how and when the spills occurred remain sketchy.

On Monday morning, January 21, 2002 the Reed College grounds crew cleaned up a used oil spill on the north west end of the Gray Campus Center where recycling materials are stored - trash rack. Bon Appetit had stored their used cooking oil in a variety of open containers, such as five gallon buckets and a 25 gallon metal trash can, after their used oil dumpster had become full in December. Sometime between 7 P.M. Sunday evening, January 20 and 9 A.M. January 21, a metal trash can with used oil, located against the south wall, spilled.

On Tuesday morning, January 22, the grounds crew noticed oil on the lake. They also noticed a second spill had occurred in the same trash collection area outside of Gray Campus Center. This time the spill came from a five-gallon bucket sitting on the top of the loading dock. The oil flowed down the wall and wheel chair ramp, and under the dumpsters.

On Tuesday, January 29 at 9:30 A.M., Townsend Angell, Gloria Torbek, Kathleen Fisher, and Dwayne Davis met with Bon Appetit staff - Mac Lary (general manager) and Andrew Kalona (executive chef). They discussed the cost of the clean up effort, how to prevent future spills, and how to prepare for an accidental release. Mac Lary had already changed their vendor contract from a once a month pick up of the oil to every two weeks. He also stated that they had not replenished spill supplies that had been used previously.

Bon Appetit staff agreed:

- To make sure their oil dumpster never gets over full. They will consider it full when the oil is one foot from the top.
- To get a clean oil dumpster, whenever it is needed.
- To use only closed, tight-sealing containers to store cooking oil.
- To replace spill kit materials whenever they use them.
- To call Community Safety as soon as there is a spill. (Community Safety would then in turn contact both EHS and Facility Services.)
- To provide two staff people whenever they transfer oil into the dumpster. They will also look into providing a spotter during the vendor pick up.
- To research, with the help of Reed staff, adequate spill containment systems, including a completely enclosed oil storage system, using a spill containment pallet and other possibilities.
- To work with EHS staff on training their employees in spill control, containment and clean up.

Reed College staff agreed:

- To research the cost of purchasing two skirted booms.
- To keep on hand a larger supply of spill clean up materials.

Costs:

Materials Costs

The EHS office supplied:	
5 bales of pads	$ 200.00
5 pillows	65.00
12' 5 in x 10 ft. booms	375.00
Community Safety provided:	
2 bales of pads	$ 80.00
2 booms	63.00

Grounds provided additional pads and hay bales.

Contractor Costs:

Foss Environmental	$ 3,000
Sewer Router Truck	2,300

Reed Personnel hours:

Facilities Services	65 hours
EHS	40 hours

G. REFERENCE DOCUMENTS

1. Facility Fuel Oil Transfer Procedures

[40 CFR 112.7(a)(3)(ii) and Part 112.8(c)(11)]

a) Reed Personnel Procedures for Oil Transfer from Delivery Trucks

Whenever an oil delivery truck unloads its product at any of the locations covered in this plan, SPCC-trained Reed College Facilities Services staff will:

- Obtain a bill of lading from the truck operator to verify that it specifies the correct fuel product (#6 fuel oil, #2 fuel oil, diesel fuel, or gasoline) and the approximate amount of the delivery.

- Direct the truck operator to the unloading location(s). Confirm that the truck operator has a spill kit for incidental spills and instructions to call Community Safety immediately in case of a major spill.

- Ensure that the truck operator turns off the motor unless required for unloading.

- Determine the current amount of product in the tank, through stick measurement and or gauge reading. Verify that the tank has the capacity for the approximate amount of the delivery. Document this information on the bill of lading.

- Require the driver to:

    - Stay within 25 feet of and in view of unloading lines at all times.
    - Ensure that all product remains in the hose or is contained in the spill protection container (if applicable) when connecting and disconnecting the loading hose
    - Clean up any oil spills, including any product contained in the spill container (if applicable) before leaving each area.

- Verify final tank level. Document this information on the bill of lading.

- Verify the condition of fill-pipe area, including spill containment equipment, to ensure that the operator has cleaned up any spills. Document this information on the bill of lading.

- In case of a spill, follow the instructions in EMERGENCY PROCEDURES (**See Attachment A**.)

- Keep a copy of the bill of lading (with unloading documentation) in the file with other SPCC records at the Physical Plant office.

b) Truck Driver Procedures for Oil Delivery:

To prevent the release of hazardous substances to the environment and in accordance with the Reed College SPCC Plan, all fuel delivery truck drivers loading or unloading materials at the College shall adhere to the following guidelines:

- Remain within 25 feet of and in view of loading lines at all times, and observe the fuel transfer process.

- Drain the loading/unloading lines to the storage tank and close the drain valves before disconnecting the loading/unloading lines.

- Ensure that a drain pan or other appropriate containment device is located under all connections during filling.

- Inspect the vehicle before leaving fill locations to ensure all loading/unloading lines have been disconnected and all drains and vent valves are closed.

- Immediately report any uncontained leakage or spillage to the Community Safety Dispatch Desk at 503-788-6666 (On campus: extension #6666 or "0").

- Clean up any oil spills, including any product contained in the spill container (if applicable) before leaving the area.

- Maintain a spill-kit or equipment and supplies on the fuel delivery truck necessary for the cleanup of incidental spills, drips, or leaks. Suggested equipment includes personal protective equipment, oil-absorbent material, industrial wipers, and cleanup containers.

- Maintain a list of facilities serviced at Reed College, and the name and extension number (or cell-phone number) of your primary on-site contact person.

2. Notices to Fuel Delivery Vendors

To prevent the release of hazardous substances to the environment and in accordance with the Reed College Spill Prevention Control and Countermeasures Plan, all tank truck drivers loading or unloading materials at the College shall adhere to the following guidelines:

1. Remain within 25 feet of and in view of loading lines at all times, and observe the fuel transfer process.

2. Drain the loading/unloading lines to the storage tank and close the drain valves before disconnecting the loading/unloading lines.

3. Ensure that a drain pan or other appropriate containment device is located under all connections.

4. Inspect the vehicle before departure to ensure that all loading/unloading lines have been disconnected and all drains and vent valves are closed.

5. Immediately report any uncontained leakage or spillage to the Community Safety Dispatch Desk at 503-788-6666. (On campus: ext. #6666 or 0)

    - The fuel delivery vendor is requested to maintain a spill kit or equipment necessary for the cleanup of incidental spills, drips or leaks on the fuel delivery truck at all times. Suggested equipment includes absorbent, industrial wipers, and cleanup containers.

    - Clean up any oil spills, including any product contained in the spill container (if applicable) before leaving the area.

    - Maintain a list of facilities serviced at Reed College, and the name and extension number (or cell-phone number) of your primary on-site contact person.

Fuel vendor must attach a list of facilities serviced at Reed College, and the name and extension or cell-phone number of their primary on-site contact person.

Additional Employer Instructions:

ACKNOWLEDGEMENT OF RECEIPT OF:

"REED COLLEGE SPCC Notice to Fuel Delivery Vendor & Acknowledgment of Responsibility"

Date: _____

"REED COLLEGE SPCC Notice to Fuel Delivery Vendor" received and acknowledged by:

Authorized Service Representative:

_____

Fuel Vendor's Company Name:

_____

Products provided:

_____

Personnel involved in the purchase or management of fuel oil at Reed College should provide a copy of this form to their vendors on an annual basis. The vendor is to provide a signed acknowledgment to the Reed College representative. It is suggested that the Reed representative maintain a signed acknowledgment in his/her vendor file until renewed.

3. Sample Inspection Forms

Aboveground Oil Storage Tanks (including fuel-oil-containing equipment)

Tank Status: (Mark: **No Repair Required** or **Repair Required**)

Location (Unit #): _____

Inspector: _____

Date: _____

Seams

- Gaskets
- Rivets
- Bolts
- Interstitial Area Dry

Piping

- Supports
- Flanges
- Valves
- Spill Manhole

Containment/Foundation

- Cracks
- Expansion Joints
- Berms/Dikes
- Sorbents/Booms Available?
- Spill Kit Checked?

Spill/Leak Detection Systems

- Audible Alarms
- Level Gauges/Sensors
- High Level Pump Cutoffs
- Float Valves
- Interstitial Monitoring

If Repair is required, specify:

Note Corrective Actions Taken:

Note: Report any conditions requiring corrective action to the Facilities Supervisor. Maintain copies of this inspection form for three full calendar years.

Underground Storage Tank Status:

Tank Status: (Mark: **No Repair Required** or **Repair Required**)

Location (Unit #): _____

Inspector: _____

Date: _____

Piping

- Supports
- Flanges
- Valves
- Spill Manhole

Containment/Foundation

- Cracks
- Expansion Joints
- Berms/Dikes
- Sorbents/Booms Available?
- Spill Kit Checked?

Spill/Leak Detection Systems

- Audible Alarms
- Level Gauges/Sensors
- High Level Pump Cutoffs
- Float Valves
- Interstitial Monitoring

If Repair is required, specify:

Note Corrective Actions Taken:

Note: Report any conditions requiring corrective action to the Facilities Supervisor. Maintain copies of this inspection form for three full calendar years.

Oil, Fuel oil, Lubricant Storage Areas Status:

Tank Status: (Mark: **No Repair Required** or **Repair Required**)

Location (Unit #): _____

Inspector: _____

Date: _____

Type of Material Stored _____

Storage Area Condition: **(Mark: Satisfactory or Unsatisfactory)**

- Secured?
- Rust /Corrosion on containers?
- Leakage/Spills?
- Containers Closed?
- Containers Labeled?
- Sorbents/Booms Available?
- Spill Kit Checked?

If "Unsatisfactory" marked, specify problem:

Note corrective Actions taken and Date:

Note: Report any conditions requiring corrective action to the Facilities Supervisor. Maintain copies of this inspection form for three full calendar years.

4. SPCC Recordkeeping

SPCC regulations require the maintenance of various records including:

1. Copy of most recent SPCC Plan and SPCC Responsibilities Matrix.
2. SPCC training-attendance-records (web or classroom).
3. SPCC Inspections Forms (signed & dated).
4. Tank and other oil-containing equipment "as-built" drawings.
5. Tank testing records:
    - Interstitial monitoring
    - Integrity (pressure) testing
    - Cathode protection
6. Tank & Oil-containing Equipment Inventory (up-to-date).
7. Vendor Notification Forms (signed & dated).
8. Spill/Release History (Log Book).
9. All SPCC-related correspondence.

H. SUGGESTED TRAINING DOCUMENTS

1. Frequently Asked Questions about Spills

What is a "spill event"?

EPA regulations define a spill event as "the discharge of oil into, or upon, the navigable waters of the United States or adjoining shorelines, in harmful quantities."

What is considered a "harmful quantity"?

Harmful quantities apply to "any discharge that violates applicable water quality standards or causes a sheen upon, or discoloration of, the surface of the water or the adjoining shorelines."

What if spilled oil goes into one of the outside drains?

An oil discharge entering most of the exterior campus drains would be expected to flow into Reed Lake, a tributary of the Willamette River, which qualifies as a "navigable water of the United States."

What if oil is spilled on the ground?

Because contaminated groundwater from an unconfined spill on the ground has the potential to seep, leach, or flow into a tributary of qualifying navigable water, the Canyon surrounding Reed Lake is included in the definition of "adjoining shoreline."

What is the difference between an INCIDENTAL vs. a MAJOR spill?

An **INCIDENTAL spill/release** meets the following criteria:
A small quantity of material (with which personnel in the immediate area are familiar and prepared for the hazards of handling) that can be quickly absorbed, or otherwise safely controlled at the time of release.

Spills that do not meet the definition of "incidental" are considered **MAJOR spills/releases**. These include:

- Spilled/released material that reaches the environment (including discharges to a floor drain or storm drain, that enters a body of water or discharges to a soil surface);
- Spilled/released material with which personnel are not familiar or are unprepared to safely handle;
- A spill/ release has resulted in an injury (actual or suspected);
- Any spill/release that cannot be readily absorbed, neutralized, or otherwise controlled at the time of release and for which a prudent person would request backup help.

2. Diesel Fuel (All Types) SDS from Hess Corporation –SDS No. 9909

Revision Date: 08/30/12

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Hess Corporation
1 Hess Plaza
Woodbridge, NJ 07095-0961

EMERGENCY TELEPHONE NUMBER (24 hrs.): CHEMTREC (800) 424-9300
COMPANY CONTACT (business hours): Corporate Safety (732) 750-6000
SDS INTERNET WEBSITE: www.hess.com (Environment, Health, Safety Internet Website)

SYNONYMS: Ultra Low Sulfur Diesel (ULSD); Low Sulfur Diesel; Motor Vehicle Diesel Fuel; Diesel Fuel #2; Non-Road Diesel Fuel; Locomotive and Marine Diesel Fuel

2. HAZARDS IDENTIFICATION

GHS Classification
Flammable Liquids- Category 3
Skin Corrosion/Irritation- Category 2
Germ Cell Mutagenicity- Category 2
Carcinogenicity- Category 2
Specific Target Organ Toxicity (Single Exposure)- Category 3 (respiratory irritation, narcosis)
Aspiration Hazard- Category 1
Hazardous to the Aquatic Environment, Acute Hazard- Category 3

Hazard Statements
Flammable liquid and vapor.
Causes skin irritation.
Suspected of causing genetic defects.
Suspected of causing cancer.
May cause respiratory irritation.
May cause drowsiness or dizziness.
May be fatal if swallowed and enters airways.
Harmful to aquatic life.

Precautionary Statements
Keep away from heat/sparks/open flames/hot surfaces. No smoking
Keep container tightly closed
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting/equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Wear protective gloves/protective clothing/eye protection/face protection.
Wash hands and forearms thoroughly after handling.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing fume/mist/vapor/spray.

Response
In case of fire: Use water spray, fog or foam to extinguish.
IF ON SKIN (or hair): Wash with plenty of soap and water. Remove/Take off immediately all contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell.
If swallowed: Immediately call a poison center or doctor. Do NOT induce vomiting.
IF exposed or concerned: Get medical advice/attention.

Storage
Store in a well-ventilated place. Keep cool
Keep container tightly closed.
Store locked up.

3. COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT NAME (CAS No.)	CONCENTRATION PERCENT BY WEIGHT
Diesel Fuel No. 2 (68476-34-6)	100
Naphthalene (91-20-3)	Typically < 0.1

A complex mixture of hydrocarbons with carbon numbers in the range C9 and higher.

4. FIRST AID MEASURES

EYES: In case of contact with eyes, immediately flush with clean, low-pressure water for at least 15 min. Hold eyelids open to ensure adequate flushing. Seek medical attention.

SKIN: Remove contaminated clothing. Wash contaminated areas thoroughly with soap and water or waterless hand cleanser. Obtain medical attention if irritation or redness develops. Thermal burns require immediate medical attention depending on the severity and the area of the body burned.

INGESTION: DO NOT INDUCE VOMITING. Do not give liquids. Obtain immediate medical attention. If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspiration. Monitor for breathing difficulties. Small amounts of material, which enter the mouth, should be rinsed out until the taste is dissipated.

INHALATION: Remove person to fresh air. If person is not breathing, provide artificial respiration. If necessary, provide additional oxygen once breathing is restored if trained to do so. Seek medical attention immediately.

5. FIRE FIGHTING MEASURES

GENERAL FIRE HAZARDS: See Section 9 for Flammability Properties.
Vapors may be ignited rapidly when exposed to heat, spark, open flame or other source of ignition. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to sewer may cause fire or explosion hazard.

HAZARDOUS COMBUSTION PRODUCTS:
Carbon monoxide, carbon dioxide, and non-combusted hydrocarbons (smoke).

EXTINGUISHING MEDIA
SMALL FIRES: Any extinguisher suitable for Class B fires, dry chemical, CO2, water spray, fire fighting foam, and other gaseous agents.
LARGE FIRES: Water spray, fog, or fire fighting foam. Water may be ineffective for fighting the fire, but may be used to cool fire-exposed containers.

FIRE FIGHTING INSTRUCTIONS: Small fires in the incipient (beginning) stage may typically be extinguished using handheld portable fire extinguishers and other fire fighting equipment. Firefighting activities that may result in potential exposure to high heat, smoke or toxic by-products of combustion should require NIOSH/MSHA- approved pressure-demand self-contained breathing apparatus with full facepiece and full protective clothing.

Isolate area around container involved in fire. Cool tanks, shells, and containers exposed to fire and excessive heat with water. For massive fires, the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically require specially trained personnel and equipment to extinguish the fire, often including the need for properly applied fire fighting foam
.

6. ACCIDENTAL RELEASE MEASURES

ACTIVATE FACILITY'S SPILL CONTINGENCY OR EMERGENCY RESPONSE PLAN.

Recovery and Neutralization
Carefully contain and stop the source of the spill, if safe to do so.

Materials and Methods for Clean-Up
Take up with sand or other oil absorbing materials. Carefully shovel, scoop, or sweep up into a waste container for reclamation or disposal - caution, flammable vapors may accumulate in closed containers.

Emergency Measures
Evacuate nonessential personnel and remove or secure all ignition sources. Consider wind direction; stay upwind and uphill, if possible. Evaluate the direction of product travel, diking, sewers, etc. to confirm spill areas. Spills may infiltrate subsurface soil and groundwater; professional assistance may be necessary to determine the extent of subsurface impact.

Personal Precautions and Protective Equipment
Response and cleanup crews must be properly trained and must utilize proper protective equipment (see Section 8).

Environmental Precautions
Protect bodies of water by diking, absorbents, or absorbent boom, if possible. Do not flush down sewer or drainage systems, unless system is designed and permitted to handle such material. The use of fire fighting foam may be useful in certain situations to reduce vapors. The proper use of water spray may effectively disperse product vapors or the liquid itself, preventing contact with ignition sources or areas/equipment that require protection.

7. HANDLING and STORAGE

HANDLING PROCEDURES: Handle as a combustible liquid. Keep away from heat, sparks, excessive temperatures and open flame! No smoking or open flame in storage, use or handling areas. Bond and ground containers during product transfer to reduce the possibility of static-initiated fire or explosion.

Special slow load procedures for "switch loading" must be followed to avoid the static ignition hazard that can exist when higher flash point material (such as fuel oil) is loaded into tanks previously containing low flash point products (such as this product) – see API Publication 2003, "Protection Against Ignitions Arising Out Of Static, Lightning and Stray Currents."

STORAGE PROCEDURES: Keep away from flame, sparks, excessive temperatures, and open flame. Use approved vented containers. Keep containers closed and clearly labeled. Empty product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld, or expose such containers to sources of ignition.

Store in a well-ventilated area. This storage area should comply with NFPA 30 "Flammable and Combustible Liquid Code." Avoid storage near incompatible materials. The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 "Cleaning Mobile Tanks In Flammable and Combustible Liquid Service" and API RP 2015 "Cleaning Petroleum Storage Tanks."

INCOMPATIBILITIES
Keep away from strong oxidizers.

8. EXPOSURE CONTROLS and PERSONAL PROTECTION

EXPOSURE LIMITS:

		Exposure Limits	
Components (CAS No.)	Source	TWA/STEL	Note
Diesel Fuel: (68476-34-6)	OSHA	5 mg/m, as mineral oil mist	
	ACGIH	100 mg/m3 (as totally hydrocarbon vapor) TWA	A3, skin
Naphthalene (91-20-3)	OSHA	10 ppm TWA	
	ACGIH	10 ppm TWA / 15 ppm STEL	A4, Skin
	NIOSH	10 ppm TWA/15 ppm STEL	

ENGINEERING MEASURES: Use adequate ventilation to keep vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces.

RESPIRATORY PROTECTION: A NIOSH/MSHA-approved air-purifying respirator with organic vapor cartridges or canister may be permissible under certain circumstances where airborne concentrations are or may be expected to exceed exposure limits or for odor or irritation. Protection provided by air-purifying respirators is limited.
Use a positive pressure, air-supplied respirator if there is a potential for uncontrolled release, exposure levels are not known, in oxygen-deficient atmospheres, or any other circumstance where an air-purifying respirator may not provide adequate protection.

HAND PROTECTION: Gloves constructed of nitrile, neoprene, or PVC are recommended.

EYE/FACE PROTECTION: Safety glasses or goggles are recommended where there is a possibility of splashing or spraying.

SKIN AND BODY PROTECTION: Chemical protective clothing such as of E.I. DuPont TyChem®, Saranex® or equivalent recommended based on degree of exposure. Note: The resistance of specific material may vary from product to product as well as with degree of exposure. Consult manufacturer specifications for further information.

9. PHYSICAL and CHEMICAL PROPERTIES

APPEARANCE: Clear, straw-yellow liquid. Dyed fuel oil will be red or reddish-colored.
ODOR: Mild, petroleum distillate odor
PHYSICAL STATE: Liquid
pH: ND
VAPOR PRESSURE: 0.009 psia @70 °F (21°C)
VAPOR DENSITY: >1.0
BOILING POINT: 320-690°F (160-366°C)
MELTING POINT: ND
SOLUBILITY: Negligible
SPECIFIC GRAVITY: 0.83-0.876 @ 60°F (16°C)
EVAPORATION RATE: Slow; varies with conditions
VOC: ND
PERCENT VOLATILE: 100%
OCTANOL/H20 COEFF: ND
FLASH POINT: >125°F (>52°C) minimum
FLASH POINT METHOD: PMCC
UFL: 7.5
LFL: 0.6
BURNING RATE: ND
AUTO IGNITION: 494°F (257°C)

10. CHEMICAL STABILITY & REACTIVITY INFORMATION

CHEMICAL STABILITY
This is a stable material.

HAZARDOUS REACTION POTENTIAL
Will not occur.

CONDITIONS TO AVOID
Avoid high temperatures, open flames, sparks, welding, smoking and other ignition sources.

INCOMPATIBLE PRODUCTS
Keep away from strong oxidizers.

HAZARDOUS DECOMPOSITON PRODUCTS
Carbon monoxide, carbon dioxide, and non-combusted hydrocarbons (smoke).

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:
Harmful if swallowed

Component Analysis-LD50/LC50

Naphthalene (91-20-3)
Inhalation LC50 Rat >340 mg/m3 1h; Oral LD 50 Rat 490 mg/kg; Dermal LD50 Rat >2500 mg/kg; Dermal LD50 Rabbit >20 g/kg

Skin Toxicity: Practically non-toxic if absorbed following acute (single) exposure. May cause skin irritation with prolonged or repeated contact. Liquid may be absorbed through the skin in toxic amounts if large areas of skin are repeatedly exposed.

Eye Toxicity: Contact with eyes may cause mild irritation.

Ingestion: Ingestion may cause gastrointestinal disturbances, including irritation, nausea, vomiting and diarrhea, and central nervous system (brain) effects similar to alcohol intoxication. In severe cases, tremors, convulsions, loss of consciousness, coma, respiratory arrest, and death may occur.

Inhalation: Excessive exposure may cause irritations to the nose, throat, lungs and respiratory tract. Central nervous system (brain) effects may include headache dizziness, loss of balance and coordination, unconsciousness, coma, respiratory failure and death
WARNING: the burning of any hydrocarbon as a fuel in an area without adequate ventilation may result in hazardous levels of combustion products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.

MUTAGENICITY (genetic effects): This material has been positive in a mutagenicity study.

CHRONIC EFFECTS AND CARCINOGENICITY:
Carcinogenic: OSHA: NO IARC: NO NTP: NO ACGIH: A3
Studies have shown that similar products produce skin tumors in laboratory animals following repeated applications without washing or removal. The significance of this finding to human exposure has not been determined. Other studies with active skin carcinogens have shown that washing the animal's skin with soap and water between applications reduced tumor formation.

COMPONENT CARCINOGENICITY

Fuels, diesel, no. 2 (68476-34-6)
ACGIH: A3-Confirmed Animal Carcinogen with Unknown Relevance to Humans (listed under Diesel fuel)

Naphthalene (91-20-3)
ACGIH: A4-Not Classifiable as a Human Carcinogen
NTP: Reasonably Anticipated To Be A Human Carcinogen (Possible Select Carcinogen)
IARC: Monograph 82 [2002] (Group 2B (possibly carcinogenic to humans))

REPRODUCTIVE TOXICITY: This product is not reported to have any reproductive toxicity effects.

SPECIFIED TARGET ORGAN GENERAL TOXICITY: SINGLE EXPOSURE
This product is not reported to have any specific target organ general toxicity single exposure effects.

SPECIFIED TARGET ORGAN GENERAL TOXICITY: REPEATED EXPOSURE
This product is not reported to have any specific target organ general toxicity repeat exposure effects.

ASPIRATION RESPIRATORY ORGANS HAZARD: The major health threat of ingestion occurs from the danger of aspiration (breathing) of liquid drops into the lungs, particularly from vomiting. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure and even death.

12. ECOLOGICAL INFORMATION

Keep out of sewers, drainage areas, and waterways. Report spills and releases, as applicable, under Federal and State regulations.

COMPONENT ANALYSIS-ECOTOXICITY-AQUATIC TOXICITY

FUELS, DIESEL, NO. 2 (68476-34-6)

Test & Species	Conditions
96 Hr. LC50 Pimephales promelas	35 mg/L [flow-through]

NAPHTHALENE (91-20-3)

Test & Species	Conditions
96 Hr. LC50 Pimephales promelas	5.74-6.44 mg/L [flow-through]
96 Hr. LC50 Oncorhynchus mykiss	1.6 mg/L [flow-through]
96 Hr. LC50 Oncorhynchus mykiss	0.91-2.82 mg/L [static]
96 Hr. LC50 Pimephales promelas	1.99 mg/L [static]
96 Hr. LC50 Lepomis macrochirus	31.0265 mg/L [static]
72 Hr. EC50 Skeletonema costatum	0.4 mg/L
48 Hr. LC50 Daphnia magna	2.16 mg/L
48 Hr. EC50 Daphnia magna	1.96 mg/L [flow-through]
48 Hr. EC50 Daphnia magna	1.09-3.4 mg/L [static]

13. DISPOSAL CONSIDERATIONS

Waste Disposal Instructions
See Section 7 for Handling Procedures. See Section 8 for Personal Protection Equipment Regulations.

Disposal of Contaminated Containers or Packaging
Dispose of contents/container in accordance with local/regional/international regulations.

14. TRANSPORTATION INFORMATION

PROPER SHIPPING NAME:	Diesel Fuel	Placard (International Only): Use Flammable Placard
HAZARD CLASS and PACKING GROUP:	3, PG III	
DOT IDENTIFICATION NUMBER:	NA 1993 (Domestic) UN 1202 (International)	
DOT SHIPPING LABEL:	None	Use Combustible Placard if shipping in bulk domestically

15. REGULATORY INFORMATION

Component Analysis
This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).
Naphthalene (91-20-3)
CERCLA: 100 lb. final RQ; 45.4 kg final RQ

SARA SECTION 311/312 - HAZARD CLASSES

ACUTE HEALTH	CHRONIC HEALTH	FIRE	SUDDEN PRESSURE RELEASE	REACTIVE
X	X	X	--	--

SARA SECTION 313 - SUPPLIER NOTIFICATION: This product may contain listed chemicals below the *de minimis* levels which therefore are not subject to the supplier notification requirements of Section 313 of the Emergency Planning and Community Right- To-Know Act (EPCRA) of 1986 and of 40 CFR 372. If you may be required to report releases of chemicals listed in 40 CFR 372.28, you may contact Hess Corporate Safety if you require additional information regarding this product.

STATE REGULATIONS:
The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
Fuels, Diesel, no. 2	68476-34-6	NO	NO	NO	YES	NO	NO
Naphthalene	97-20-3	YES	YES	YES	YES	YES	NO

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):
WARNING! This product contains a chemical known to the state of California to cause cancer.

Component Analysis-Inventory

Component	CAS#	TSCA	CAN	EEC
Fuels, diesel, no. 2	68476-34-6	Yes	DSL	EINECS
Naphthalene	91-20-3	Yes	DSL	EINECS

16. Other Information

NFPA HAZARD RATING	HEALTH:	1
	FIRE:	2
	REACTIVITY:	0

Refer to NFPA 704 "Identification of the Fire Hazards of Materials" for further information

HMIS HAZARD RATING	HEALTH:	1*	Slight
	FIRE:	2	Moderate
	PHYSICAL:	0	Minimal; *Chronic

SUPERSEDES SDS DATED: 02/28/2001

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES Information presented herein has been compiled from sources considered to be dependable, and is accurate and reliable to the best of our knowledge and belief, but is not guaranteed to be so. Since conditions of use are beyond out control, we make no warranties, expressed or implied, except those that may be contained in our written contract of sale or acknowledgement. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet.

Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material, even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in their use of the material.

3. Fuel Oil (All Types) SDS from Hess Corporation –SDS No. 9907

Revision Date: 08/30/12

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Hess Corporation
1 Hess Plaza
Woodbridge, NJ 07095-0961
EMERGENCY TELEPHONE NUMBER (24 hrs.): CHEMTREC (800) 424-9300
COMPANY CONTACT (business hours): Corporate Safety (732) 750-6000
SDS INTERNET WEBSITE: **www.hess.com** (See Environment, Health, Safety Internet Website)
SYNONYMS: #6 Fuel Oil, 6 Oil, Bunker C, Bunkers, High Sulfur Residual Fuel Oil, Low Sulfur Residual Fuel Oil, Residual Fuel Oil
See Section 16 for Abbreviations and Acronyms

2. HAZARDS IDENTIFICATION

GHS Classification
Flammable Liquids-Category 4
Acute Toxicity, inhalation-Category 2
Skin Corrosion/Irritation-Category 2
Eye Damage/Irritation-Category 2B
Sensitization, Skin-Category 1
Carcinogenicity-Category 1B
Specific Target Organ Toxicity (Single Exposure)-Category 3 (respiratory irritation, narcosis)
Hazardous to the Aquatic Environment, Acute Hazard-Category 2
Material May be heated. If heated, care must be taken to avoid injury from thermal burns. Heating may also release toxic hydrogen sulfide gas.

HAZARD STATEMENTS

Combustible Liquid
Fatal if inhaled
Causes skin irritation
Causes eye irritation
May cause allergic skin reaction
May cause cancer
May cause respiratory irritation
May cause drowsiness and dizziness
Toxic to aquatic life

PRECAUTIONARY STATEMENTS

Keep away from flames and hot surfaces. -No smoking
Wear protective gloves/protective clothing/eye protection/face protection.
Do not breathe fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Wear respiratory protection.
Wash hands and forearms thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.

Obtain special instructions before use.
Do no handle until all safety precautions have been read and understood.
Avoid release to the environment.

RESPONSE

In case of fire: Use water spray, fog, hand-held dry chemical or foam to extinguish.
If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center or doctor.
If on skin: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical advice/attention.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. If eye irritation persists: Get medical advice/attention.
IF exposed or concerned: Get medical advice/attention.

STORAGE

Store in a well-ventilated place. Keep cool.
Keep container tightly closed.
Store locked up.
DISPOSAL
Dispose of contents/container in accordance with local/regional/national/international regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENTS NAME (CAS No)	CONCENTRATION PERCENT BY WEIGHT
Fuel Oil (68476-33-5)	100
Hydrogen Sulfide (7783-06-4)	<1

A complex combination of heavy (high boiling point) petroleum hydrocarbons. The amount of sulfur varies with product specification and does not affect the health and safety properties as outlines in this Safety Data Sheet

Hydrogen Sulfide may be present in trace quantities (by weight), but may accumulate to toxic concentrations such as in tank headspace. The presence of H2S is highly variable, unpredictable, and does not correlate with sulfur content. Studies with Similar products have shown that 1-ppm H2S by weight in liquid may produce 100 ppm or more H2S in the vapor headspace of the storage tank.

4. FIRST AID MEASURES

EYES: In case of contact with eyes, immediately flush with clean, low-pressure water for at least 15 min. Hold Eyelids open to ensure adequate flushing. Seek medical attention.

SKIN: Remove contaminated clothing. Wash contaminated areas thoroughly with soap and water or waterless hand cleanser. Obtain medical attention if irritation or redness develops. Thermal burns require immediate medical attention depending on the severity and the area of the body burned.

INGESTION: DO NOT INDUCE VOMITING. Do not give any liquids. Obtain immediate medical attention. If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspiration. Monitor for breathing difficulties. Small amounts of material, which enter the mouth, should be rinsed out until the taste is dissipated.

INHALATION: Remove person to fresh air. If person is not breathing, provide artificial respiration. If necessary, provide additional oxygen once breathing is restored if trained to do so. Seek medical attention immediately.

5. FIRE FIGHTING MEASURES

General Fire Hazards: See Section 9 for Flammability Properties. Vapors may be ignited rapidly when exposed to heat, spark, open flame, or other source of ignition. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to sewer may cause fire or explosion hazard.

CAUTION: flammable vapor production at ambient temperature in the open is expected to be minimal unless the oil is heated above its flash point. However, industry experience indicates that light hydrocarbon vapors can build up in the headspace of storage tanks at temperatures below the flash point of the oil, presenting a flammability and explosion hazard. Tank headspaces should be regarded a potentially flammable, since the oil's flash point can not be regarded as a reliable indicator of the potential flammability in tank headspaces.

HAZARDOUS COMBUSTION PRODUCTS: Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke).

EXTINGUISHING MEDIA:
SMALL FIRES: Any extinguisher suitable for Class B fires, dry chemical, CO2, water spray, fire fighting foam, and other gaseous agents.
LARGE FIRES: Water spray, fog, or fire fighting foam. Water may be ineffective for fighting the fire, but may be used to cool fire-exposed containers.

FIRE FIGHTING INSTRUCTIONS: Small fires in the incipient (beginning) stage may typically be extinguished using handheld portable fire extinguishers and other fire fighting equipment.

Firefighting activities that may result in potential exposure to high heat, smoke or toxic by-products of combustion should require NIOSH/MSHA- approved pressure-demand self-contained breathing apparatus with full facepiece and full protective clothing.

Isolate area around container involved in fire. Cool tanks, shells, and containers exposed to fire and excessive heat with water. For massive fires, the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically

require specially trained personnel and equipment to extinguish the fire, often including the need for properly applied fire fighting foam.

6. ACCIDENTAL RELEASE MEASURES

ACTIVATE FACILITY'S SPILL CONTINGENCY OR EMERGENCY RESPONSE PLAN.
RECOVERY AND NEUTRALIZATION: Carefully contain and stop the source of the spill, if safe to do so.

MATERIALS AND METHODS FOR CLEAN UP: Take up with sand or other oil absorbing materials. Carefully shovel, scoop, or sweep up into a waste container for reclamation or disposal.

EMERGENCY MEASURES: Evacuate nonessential personnel and remove or secure all ignition sources. Consider wind direction; stay upwind and uphill, if possible. Evaluate the direction of product travel, diking, sewers, etc. to confirm spill areas.

PERSONAL PRECAUTIONS AND PROTECTIVE EQUIPMENT: Response and cleanup crews must be properly trained and must utilize proper protective equipment (see Section 8).

ENVIRONMENTAL PRECAUTIONS: Protect bodies of water by diking, absorbents, or absorbent boom, if possible. Do not flush down sewer or drainage systems, unless system is designed and permitted to handle such material. The use of fire fighting foam may be useful in certain situations to reduce vapors.

7. HANDLING and STORAGE

HANDLING PROCEDURES: Product is generally transported and stored hot (typical 110 - 140 ^{o}F). Handle as a combustible liquid. Keep away from heat, sparks, and open flame! Electrical equipment should be approved for classified area. Bond and ground containers during product transfer to reduce the possibility of static-initiated fire or explosion.

STORAGE PROCEDURES: Keep away from flame, sparks, excessive temperatures, and open flame. Use approved vented containers. Keep containers closed and clearly labeled. Empty product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld, or expose such containers to sources of ignition.

Store in a well-ventilated area. This storage area should comply with NFPA 30 "Flammable and Combustible Liquid Code." Avoid storage near incompatible materials. The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 "Cleaning Mobile Tanks In Flammable and Combustible Liquid Service" and API RP 2015 "Cleaning Petroleum Storage Tanks."

Hydrogen sulfide may accumulate in tanks and bulk transport compartments. Consider appropriate respiratory protection (see Section 8). Stand upwind. Avoid vapors when opening hatches and dome covers. Confined spaces should be ventilated prior to entry.

8. EXPOSURE CONTROLS and PERSONAL PROTECTION

EXPOSURE LIMITS

		Exposure Limits	
Components (CAS No.)	Source	TWA/STEL	Note
Fuel Oil, Residual (68476-33-5)	OSHA ACGIH	5 mg/m3 (as oil mist) TWA 0.2 mg/m3 (as mineral oil) TWA	A2
Hydrogen Sulfide -H2S (7783-06-4)	OSHA ACGIH	20 ppm Ceiling / 50 ppm Peak 10 ppm TWA/ 15 ppm STEL	2006 NOIC–1/5 ppm
	NIOSH	10 ppm Ceiling	

ENGINEERING MEASURES: Use adequate ventilation to keep vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces.

RESPIRATORY PROTECTION: If a hydrogen sulfide hazard is present (that is, exposure potential above H2S permissible exposure limit), use a positive-pressure SCBA or Type C supplied air respirator with escape bottle.

Where it has been determined that there is no hydrogen sulfide exposure hazard (that is, exposure potential below H2S permissible exposure limit), a NIOSH/ MSHA-approved air-purifying respirator with organic vapor cartridges or canister may be permissible under certain circumstances where airborne concentrations are or may be expected to exceed exposure limits or for odor or irritation. Protection provided by air-purifying respirators is limited. Refer to OSHA 29 CFR 1910.134, ANSI Z88.2-1992, NIOSH Respirator Decision Logic, and the manufacturer for additional guidance on respiratory protection selection.
Use a positive pressure, air-supplied respirator if there is a potential for uncontrolled release, exposure levels are not known, in oxygen-deficient atmospheres, or any other circumstance where an air-purifying respirator may not provide adequate protection

HAND PROTECTION: Gloves constructed of nitrile, neoprene, or PVC are recommended.

EYE/FACE PROTECTION: Safety glasses or goggles are recommended where there is a possibility of splashing or spraying

SKIN AND BODY PROTECTION: Chemical protective clothing such as of E.I. DuPont Tyvek QC¨, Saranex¨, TyChem¨ or equivalent recommended based on degree of exposure. Note: The resistance of specific material may vary from product to product as well as with degree of exposure. Consult manufacturer specifications for further information.

9. PHYSICAL and CHEMICAL PROPERTIES

APPEARANCE: Black, viscous liquid
ODOR: Heavy, petroleum/asphalt-type odor

BASIC PHYSICAL PROPERTIES

BOILING RANGE:	> 500 °F (> 260 °C)
VAPOR PRESSURE:	<0.1 psia @ 70 °F (21 °C)
VAPOR DENSITY (air = 1):	NA
SPECIFIC GRAVITY (H2O = 1):	0.876 – 1.000 (API 30.0 – 10.0)
PERCENT VOLATILES:	Negligible
EVAPORATION RATE:	Negligible
SOLUBILITY (H2O):	Negligible
FLASH POINT:	141 °F minimum
UFL:	ND
LFL:	ND
BURNING RATE:	ND
AUTO IGNITION:	>765°F (>407°C)

Hydrogen sulfide (H2S) has a rotten egg "sulfurous" odor. This odor should not be used as a warning property of toxic levels because H2S can overwhelm and deaden the sense of smell. Also, the odor of H2S in heavy oils can easily be masked by the petroleum-like odor of the oil. Therefore, the smell of H2S should not be used as an indicator of a hazardous condition-a H2S meter or colorimetric indicating tubes are typically used to determine the concentration of H2S.

10. CHEMICAL STABILITY and REACTIVITY INFORMATION

CHEMICAL STABILITY: This is a stable material.

HAZARDOUS REACTION POTENTIAL: Will not occur.

CONDITIONS TO AVOID: Avoid high temperatures, open flames, sparks, welding, smoking, and other ignition sources.

INCOMPATIBLE MATERIALS: Keep away from strong oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide, and non-combusted hydrocarbons (smoke).

11. TOXICOLOGICAL PROPERTIES

ACUTE TOXICITY
Harmful if swallowed

Component analysis-LD50/LC50:
Hydrogen Sulfide 97783-06-4)
Inhalation LC50 Rat 0.701 mg/L 4 h; Inhalation LC50 Rat 0.99 mg/L 1 h

SKIN EFFECTS: May cause skin irritation with prolonged or repeated contact. Practically non-toxic if absorbed following acute (single) exposure. May cause dermal sensitization. Liquid may be hot (typically 110-120 °F) which would cause 1st, 2nd, or 3rd degree thermal burns.

EYE EFFECTS: Contact with eyes may cause mild to moderate irritation.

INGESTION EFFECTS: This material has a low order of acute toxicity. If large quantities are ingested, nausea, vomiting and diarrhea may result. Ingestion may also cause effects similar to inhalation of the product. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure and even death.

INHALATION EFFECTS: Because of its low vapor pressure, this product presents a minimal inhalation hazard at ambient temperature. Upon heating, fumes may be evolved. Inhalation of fumes or mist may result in respiratory tract irritation and central nervous system (brain) effects may include headache, dizziness, loss of balance and coordination, unconsciousness, coma, respiratory failure, and death.

WARNING: the burning of any hydrocarbon as a fuel in an area without adequate ventilation may result in hazardous levels of combustion products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.

WARNING: Irritating and toxic hydrogen sulfide gas may be found in confined vapor spaces. Greater than 15 - 20 ppm continuous exposure can cause mucous membrane and respiratory tract irritation. 50 - 500 ppm can cause headache, nausea, and dizziness, loss of reasoning and balance, difficulty in breathing, fluid in the lungs, and possible loss of consciousness. Greater than 500 ppm can cause rapid or immediate unconsciousness due to respiratory paralysis and death by suffocation unless the victim is removed from exposure and successfully resuscitated.

The "rotten egg" odor of hydrogen sulfide is not a reliable indicator for warning of exposure, since olfactory fatigue (loss of smell) readily occurs, especially at concentrations above 50 ppm. At high concentrations, the victim may not even recognize the odor before becoming unconscious.

ORGAN SENSITIZATION: This product is not reported to have any skin sensitization effects.

MUTAGENICITY: May cause genetic defects. Materials of similar composition have been positive in mutagenicity studies.

COMPONENT CARCINOGENICITY: None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

CHRONIC EFFECTS AND CARCINOGENICITY

Carcinogenicity: OSHA: NO IARC: 2B (animal) NTP YES ACGIH: A2

This material contains polynuclear aromatic hydrocarbons (PNAs), some of which are animal carcinogens. Studies have shown that similar products produce skin tumors in laboratory animals following repeated applications without washing or removal. The significance of this finding to human exposure has not been determined. Other studies with active skin carcinogens have shown that washing the animal's skin with soap and water between applications reduced tumor formation.

The presence of carcinogenic PNAs indicates that precautions should be taken to minimize repeated and prolonged inhalation of fumes or mists.

REPRODUCTIVE TOXICITY: This product is not reported to have any reproductive toxicity effects.

SPECIFIED TARGET ORGAN GENERAL TOXICITY: SINGLE EXPOSURE: This product is not reported to have any specific target organ general toxicity single exposure effects.

SPECIFIED TARGET ORGAN GENERAL TOXICITY: REPEATED EXPOSURE: May cause damage to organs (respiratory system, skin) through prolonged or repeated exposure.

ASPIRATION RESPIRATORY ORGANS HAZARD: The major health threat of ingestion occurs from the danger of aspiration (breathing) of liquid drops into the lungs, particularly from vomiting. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure and even death.

Trace amounts of nickel, vanadium, and other metals in slurry oil can become concentrated in the oxide form in combustion ash deposits. Vanadium is a toxic metal affecting a number of organ systems. Nickel is a suspect human carcinogen (lung, nasal, sinus), an eye, nose, and throat irritant, and can cause allergic reaction in some individuals.

12. ECOLOGICAL INFORMATION

Keep out of sewers, drainage, and waterways. Report spills and releases, as applicable, under Federal and State regulations.

Component Analysis-Ecotoxicity-Aquatic Toxicity
Fuel Oil (68476-33-5)

Test & Species	Conditions
96 Hr. LC50 Pimephales promelas	35 mg/L [flow-through]
96 Hr. LC50 Brachydanio rerio	48 mg/L [semi-static]

Hydrogen Sulfide (7783-06-4)

Test & Species	Conditions
96 Hr. LC50 Leponis macrochirus	0.0448 mg/L [flow-through]
96 Hr. LC50 Pimepales promelas	0.016 mg/L [flow-through]
96 Hr. LC50 Gammarus pseudolimnaeus	0.022 mg/L

13. DISPOSAL CONSIDERATIONS

Waste Disposal Instructions
See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

Disposal of Contaminated Containers or Packaging
Dispose of contents/container in accordance with local/regional/national/international regulations.

14. TRANSPORTATION INFORMATION

	Bulk Shipment	Non-Bulk Shipment
PROPER SHIPPING NAME:	Combustible liquid, n.o.s. (No. 6 Fuel Oil)	Not Regulated
HAZARD CLASS and PACKING GROUP:	Combustible Liquid, PG III	N/A
DOT IDENTIFICATION NUMBER:	NA 1993	N/A
DOT SHIPPING LABEL:	Combustible Liquid	N/A

15. REGULATORY INFORMATION

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

HYDROGEN SULFIDE (7783-06-4)

SARA 302: 500 lb. TPQ

CERCLA: 100 lb. final RQ; 45.4 kg final RQ

SARA SECTION 311/312 - HAZARD CLASSES

ACUTE HEALTH	CHRONIC HEALTH	FIRE	SUDDEN RELEASE OF PRESSURE	REACTIVE
X	X	X	--	--

SARA SECTION 313 - SUPPLIER NOTIFICATION: According to the US EPA guidance documents for reporting Persistent Bioaccumulating Toxics (PBTs), this product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and of 40 CFR 372:

INGREDIENT NAME (CAS NUMBER)	CONCENTRATION [PARTS PER MILLION (PPM) BY WEIGHT]
Polycyclic aromatic compounds (PACs)	2461
Benzo (g,h,i) perylene (191-24-2)	26.5
Lead (7439-92-1)	1
Mercury (7439-97-6)	0.00067
Vanadium (7440-62-2)	3.325
Polychlorinated biphenyls (PCBs)	Though EPA estimates 10% of the residual fuel oil "pool" may have < 50 ppm PCBs (Ref 2), Hess has no reason to believe there are any PCBs in its residual fuel oil products

STATE REGULATIONS

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
Fuel oil	68476-33-5	No	No	No	No	Yes	No
Hydrogen Sulfide	7783-06-4	Yes	Yes	Yes	Yes	Yes	No

No components are listed in the WHMIS IDL.

COMPONENT ANALYSIS-INVENTORY:

Component	CAS#	TSCA	CAN	EEC
Fuel oil	68476-33-5	Yes	DSL	EINECS
Hydrogen Sulfide	7783-06-4	Yes	DSL	EINECS

16. OTHER INFORMATION

NFPA¨ HAZARD RATING	HEALTH:	3
	FIRE:	2
	REACTIVITY:	0

Refer to NFPA 704 "Identification of the Fire Hazards of Materials" for further information

HMIS¨ HAZARD RATING	HEALTH:	3*	High
	FIRE:	2	Moderate
	PHYSICAL:	0	Negligible
			*Chronic

SPECIAL HAZARDS: Container vapor space may contain hydrogen sulfide (poison gas).

SUPERSEDES SDS DATED: 05/24/02

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES Information presented herein has been compiled from sources considered to be dependable, and is accurate and reliable to the best of our knowledge and belief, but is not guaranteed to be so. Since conditions of use are beyond our control, we make no warranties, expressed or implied, except those that may be contained in our written contract of sale or acknowledgment. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material, even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in their use of the material.

4. Biodiesel SDS from SeQuential Pacific Biodiesel

Revised February 18, 2014

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identification
General Product Name: Biodiesel
Product Description: Blend
Synonyms: Methyl Ester

CAS Numbers:
Methyl Esters: 67784-80-9

Company Information
SeQuential Pacific Biodiesel, 4735 SE Turner Rd, Salem, OR, 97317
Product Information: (503) 880=2286

2. COMPOSITION/INFORMATION ON INGREDIENTS

Constituents	Measurable	CAS RN
C14-C24 Methyl Esters	100%	67784-80-9

3. PHYSICAL HAZARDS AND CHEMICAL CHARACTERISTICS

Initial Boiling Point (IBP) per ASTM D1160: >330°C
Flash Point: >270°F
Vapor Pressure: mmHg <2
Solubility in Water: Insoluble
Appearance: Light to dark yellow oily liquid
NFPA Rating: Health (0) Flammability (1) Instability (0)
HMIS Rating: Health (0) Flammability (1) Physical Hazard (1) Reactivity (0)
Hazard Class: This product contains no Hazardous Materials.

4. FIRE FIGHTING MEASURES

Extinguishing Media:
Dry chemical, foam, and carbon dioxide.
Note: Water may be ineffective but may be utilized to keep fire-exposed containers cool. If a spill or leak is ignited, the use of water to disperse vapors or to flush spills away from ignition source is preferred.

Fire and Explosion Hazards:
Rags soaked in this product may spontaneous combust, and should be stored in a UL listed container. Fire Fighters should not enter enclosed or confined spaces without the proper protective equipment, including a Self Contained Breathing Apparatus, SCBA, in the positive pressure demand mode.

5. EXPOSURE AND FIRST AID

ROUTES OF ENTRY:

Inhalation: Negligible unless heated to produce vapor.
Ingestion: No hazards anticipated from ingestion incidental to industrial exposure.
Mucus Membrane Contact: May cause skin irritation.

Emergency First Aid Measures:
INHALATION: Remove to fresh air, if not breathing give artificial respiration and seek medical attention.
EYE CONTACT: Flush eyes with water for at least 15 minutes.
SKIN CONTACT: Wash with soap and water, if irritation persists or develops, seek medical attention.
INGESTION: Contact physician or poison control center immediately.

6. PERSONAL PROTECTION EQUIPMENT (PPE)

RESPIRATORY PROTECTION: A NIOSH approved respirator should be used if ventilation is not adequate.
PROTECTIVE GLOVES: PVC, Nitrile, Latex, or other compatible gloves are recommended. Face shield, safety glasses or goggles should be worn in case of splashing.
EYE PROTECTION: Face shield, safety glasses, or goggles.
ENGINEERING CONTROLS: Generally normal room ventilation is adequate.

7. SPILL AND DISPOSAL PROCEDURES

ACTIVATE FACILITY'S SPILL CONTINGENCY OR EMERGENCY RESPONSE PLAN.
Steps to be taken in the event of a spill or discharge:
Wear all protective equipment including respirator, goggles, and gloves. Contain spills and transfer to secure containers. Use absorbent materials if necessary. In the event of an uncontrolled release, the user should determine if the release is reportable under applicable laws and regulations. All recovered material should be packaged, labeled, transported and disposed or reclaimed in conformance with applicable laws and regulations, and in conformance with good engineering practices.

8. HANDLING AND STORAGE

Comply with all EPA, OSHA, NFPA, and consistent state and local requirements. Store in closed containers at temperatures between 50°F and 120°F, and keep away from oxidizing agents, excessive heat, and ignition sources. Store and use in well ventilated areas. Do not store or use near heat, spark, or flame. Store out of the sun. Do not puncture, drag, or slide container. Drum is not a pressure vessel; never use pressure to empty.

Only use hoses and gaskets that are made of fluorinated polyethylene, fluorinated polypropylene, Teflon, Teflon lined, or Viton®. Avoid repeated and prolonged skin contact. Never siphon product using mouth. Exercise good personal hygiene. Use of nitrile, natural rubber, or Buna-N type rubbers, which are commonly found in fuel systems, is only allowed for blends of petroleum diesel with concentrations of biodiesel below 20%. Avoid contamination with water, as this promotes corrosion and microbial growth.

For blends higher than 20% biodiesel only steel, mild steel, stainless steel, aluminum, fluorinated polyethylene fluorinated polypropylene and fiberglass vessels are recommended. Use of tanks or lines made of brass, bronze, and copper or lead, tin, and zinc (i.e. galvanized) may cause sediment formation and filter clogging and are not recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Light to dark yellow oily liquid
Odor:	Slight
Boiling Point:	>330°C
Vapor Pressure:	<2.0 mm Hg @22°C
Vapor Density:	>1 (Air=1)
Solubility in Water:	Insoluble
Specific Gravity:	0.88 (Water=1)
% Volatiles	: <2% by Volume
Evaporation Rate:	<1 (Butyl Acetate=1)

10. STABILITY AND REACTIVITY

GENERAL: This product is stable and hazardous polymerization will not occur.
INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID: Avoid contact with strong oxidizing agents such as nitrates, chlorates, peroxides, strong acids and bases.
HAZARDOUS DECOMPOSITION PRODUCT: Combustion produces carbon monoxide, carbon dioxide, aldehydes, ketones, and other oxidized hydrocarbons.

11. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: Waste may be disposed of by a licensed waste disposal company. Contaminated absorbent material may be disposed of in an approved landfill. Follow local, state, and federal disposal regulations.

12. TRANSPORT INFORMATION

UN HAZARD CLASS: N/A
This product is not regulated by the U.S. department of Transportation (DOT)
NMFC (National Motor Freight Classification):
PROPER SHIPPING NAME: Fatty acid ester
IDENTIFICATION NUMBER: 144920
SHIPPING CLASSIFICATION: 65

13. REGULATORY INFORMATION:

OSHA STATUS: This product is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1091.1200. Thermal processing and decomposition fumes from this product may be hazardous as noted in section V.
TSCA STATUS: This product is listed on TSCA.
CERCLA (Comprehensive Response Compensation and Liability Act): NOT reportable.
SARA TITLE III (Superfund Amendments and Reauthorization Act): Not reportable.
RCRA STATUS: This product is not considered hazardous waste either by listing or characteristic. Under RCRA, it is the responsibility of the or derived from the product should be considered hazardous waste.

CALIFORNIA PROPOSITION 65: This product contains no chemicals known to the state of California as carcinogenic.

14. OTHER INFORMATION:

The information and recommendations contained herein are based upon tests to the best of the company's knowledge and believed accurate and reliable as of the date indicated. However, no representation, warranty or guarantee of any kind, express or implied, is made as to its accuracy, reliability or completeness and we assume no responsibility for any loss, damage or expense, direct or consequential, arising out of use. Adjustment to conform to actual conditions of usage may be required. It is the user's responsibility to satisfy himself as to the suitableness and completeness of such information for his own particular use.

5. Transformer Oil SDS from Shell Trading (US) Co.

Revised 03/09/2013

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT: SHELL IEC 60296 Transformer Oil
SDS NUMBER: 867215E - 5
PRODUCT CODE(S): 68706, 6870600001
PRODUCT USE: Electrical Oil

MANUFACTURER TELEPHONE NUMBERS
Shell Trading (US) Company Spill Information: (877) 242-7400
909 Fannin St., Plaza Level 1 Health Information: (877) 504-9351
Houston, TX. 77010 SDS Assistance Number: (877) 276-7285

SECTION 2. PRODUCT/INGREDIENTS

INGREDIENTS	CAS#	CONCENTRATION
Distillates (petroleum), hydrotreated light naphthenic	64742-53-6	60-100 %volume

Highly refined mineral oils and additives.
The highly refined mineral oil contains <3% DMSO extract.

SECTION 3 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:
Appearance & Odor: Clear & Bright Liquid at room temperature. Slight Hydrocarbon Odor.
Health Hazards: Harmful: may cause lung damage if swallowed.
Safety Hazards: Not classified as flammable but will burn
Environmental Hazards: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

HEALTH HAZARDS:

Inhalation: Under normal conditions of use, this is not expected to be a primary route of exposure.

Eye Irritation: May cause slight irritation to eyes.

Skin Contact: Prolonged/repeated exposure without proper cleaning can clog pores of the skin resulting in folliculitis.

Ingestion: Harmful: may cause lung damage if swallowed.
Signs and Symptoms: If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/or fever. The onset of respiratory symptoms may be delayed for several hours after exposure. Oil acne/folliculitis signs and symptoms may include formation of black pustules and spots on the skin of exposed areas. Ingestion may result in nausea, vomiting and/or diarrhea.
Aggravated Medical Conditions: Pre-existing medical conditions of the following organ(s) or organ system(s) may be aggravated by exposure to this product: skin.

Additional Information: Under normal conditions of use or in a foreseeable emergency, this product meets the definition of a hazardous chemical when evaluated according to the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 4. FIRST AID MEASURES

Inhalation: No treatment necessary under normal conditions of use. If symptoms persist, obtain medical advice.

Skin: Remove contaminated clothing. Flush exposed area with water, and follow by washing with soap if available. If persistent irritation occurs, get medical attention.

Eye: Flush eye with copious amounts of water. If persistent irritation occurs, get medical attention.

Ingestion: If swallowed, DO NOT induce vomiting: transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. If any of the following delayed signs and symptoms appear within the next 6 hours, transport to nearest medical facility: fever > 101°F (38.3°C), shortness of breath, chest congestion or continued coughing or wheezing.

Note to Physician: Treat symptomatically. Call a doctor or poison control center for guidance.

SECTION 5. FIRE FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

Flash Point [Method]:	>563 ºF/>295 ºC [Cleveland Open Cup]
Upper/lower Flammability or Explosion limits	Typical 1-10%(V)(based on mineral oil)
Autoignition Temperature:	>600 °F/>315.56 °C

Specific Hazards**:** Hazardous combustion products may include a complex mixture of airborne solid and liquid particulates and gases (smoke); carbon monoxide; unidentified organic and inorganic compounds.

Suitable Extinguishing Media: Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only. Do not use water in a jet.

Protective Equipment for Firefighters: Proper protective equipment including breathing apparatus must be worn when approaching a fire in a confined space.

Unusual Fire Hazards: Material may ignite when preheated.

SECTION 6. ACCIDENTAL RELEASE MEASURES

ACTIVATE FACILITY'S SPILL CONTINGENCY OR EMERGENCY RESPONSE PLAN. Avoid contact with spilled or released material. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. See Chapter 13 for information on disposal. Observe the relevant local and international regulations.

Protective Measures: Avoid contact with skin and eyes. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth or other appropriate barriers.

Clean Up Methods: Slippery when spilt. Avoid accidents, clean up immediately. Prevent from spreading by making a barrier with sand, earth or other containment material. Reclaim liquid directly or in an absorbent. Soak up residue with an absorbent such as clay, sand or other suitable material and dispose of properly.

Additional Advice: Local authorities should be advised if significant spillages cannot be contained.

FOR LARGE SPILLS: Remove with vacuum truck or pump to storage/salvage vessels.

FOR SMALL SPILLS: Soak up residue with an absorbent such as clay, sand or other suitable material. Place in non-leaking container and seal tightly for proper disposal.

Remove contaminated soil to remove contaminated trace residues. Dispose of in same manner as material.

SECTION 7. HANDLING AND STORAGE

Precautionary Measures: Use local exhaust ventilation if there is a risk of inhalation of vapors, mists or aerosols. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.

Handling: Avoid prolonged or repeated exposure with skin. Avoid inhaling vapor and/or mists. When handling product in drums, safety footwear should be worn and proper handling equipment should be used. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires.

Storage: Keep container tightly closed and in a cool, well-ventilated place. Use properly labeled and closeable containers. Store at ambient temperature.

Product Transfer: This material has the potential to be a static accumulator. Proper grounding and bonding procedures should be used during all bulk transfer operations.

Container Warnings: Keep containers closed when not in use. Containers, even those that have been emptied, can contain explosive vapors. Do not cut, drill, grind, weld, or perform similar operations on or near containers. For containers or container linings, use mild steel or high-density polyethylene.

Unsuitable Containers & Additional Information: Do not use PVC. Polyethylene containers should not be exposed to high temperatures because of possible risk of distortion.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Material	Source	Type	Ppm	Mg/m3	Notation
Distillates (petroleum), hydrotreated light naphthenic	OSHA Z1	PEL	500 ppm	2,000 mg/m3	
	ACGIH	TWA (inhalable fraction)		5 mg/m3	
	OSHA Z1	PEL (mist)		5 mg/m3	
	OSHA Z1	(Mist.)			Listed
	OSHA Z1				Listed

Chemical	Limit	TWA	STEL	Ceiling	Notation
Oil mist, mineral	ACGIH TLV	5 mg/m3	10 mg/m3		
Oil mist, mineral	OSHA PEL	5 mg/m3			

Additional Information: Shell has adopted as Interim Standards the OSHA Z1A values that were established in 1989 and later rescinded.

Exposure Controls: The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on risk assessment of local circumstances. Adequate measures include: Adequate ventilation to control airborne concentrations. Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

Personal Protection: Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Respiratory Protection: No respiratory protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material. If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Select a filter suitable for combined particulate/organic gases and vapors [boiling point >65 °C(149°F)].

Hand Protection: Where hand contact with the product may occur the use of gloves approved to relevant standards mad from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage (i.e., frequency and duration of contact, chemical resistance of glove material, dexterity). Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.

Eye Protection: Wear safety glasses or full face shield if splashes are likely to occur.

Protective Clothing: Skin protection is not required under normal conditions of use. It is good practice to wear chemical resistant gloves.

Monitoring Methods: Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring methods should be applied by a competent person and samples analyzed by an accredited laboratory.

Environmental Exposure Controls: Minimize release to the environment. An environmental assessment must be made to ensure compliance with local environmental legislation. Information on accidental release measures are to be found in Section 6.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear & Bright Liquid at room temperature.
Odor: Slight Hydrocarbon
pH: Not applicable
Initial Boiling Point & Boiling Range: 260-370°C/500-698°F
Upper/lower Flammability or Explosion limits: Typical 1-10%(V) (based on mineral oil)
Electrical Conductivity: This material is not expected to be a static accumulator.

Auto Ignition Temperature	>315°C/600 °F	Density	0.895 g/ml at 15°C/59°F
Dielectric Strength	30 - 40 Measured	Flash Point F	> 295 °C/563°F [Cleveland Open Cup]
Pour Point	-55 °C/-67°F	Solubility (in Water)	Insoluble
Specific Gravity	0.88 at 15°C/59°F	Stability	Stable
Vapor Density	> 1	Viscosity	Typical 9 mm2/s at 40°C/104°F
VOC Content	< 0.1 %weight		

Partition Coefficient: >6 (based on information on similar products)

SECTION 10. REACTIVITY AND STABILITY

Stability: Material is stable under normal conditions.
Conditions to Avoid: Extremes of temperature and direct sunlight.
Materials to Avoid: strong oxidizing agents.
Hazardous Decomposition Products: Hazardous decomposition products are not expected to form during normal storage.

SECTION 11. TOXICOLOGICAL INFORMATION

Basis for Assessment: Information given is based on data on the components and the toxicology of similar products. Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).
Acute Oral Toxicity: Expected to be of low toxicity: LD50>5000 mg/kg, Rat. Aspiration into the lungs may cause chemical pneumonitis, which can be fatal.
Acute Dermal Toxicity: Expected to be of low toxicity: LD50>5000 mg/kg, Rabbit.
Acute Inhalation Toxicity: Not considered to be an inhalation hazard under normal conditions of use.

Skin Irritation: Expected to be slightly irritating. Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.
Eye Irritation: Expected to be slightly irritating.
Respiratory Irritation: Inhalation of vapors or mists may cause irritation.
Sensitization: Not expected to be a skin sensitizer.
Repeated Dose Toxicity: Not expected to be a hazard.
Mutagenicity: Not considered a mutagenic hazard.
Carcinogenicity: Not expected to be a carcinogenic. Product contains mineral oils of types shown to be non-carcinogenic in animal skin-painting studies. Highly refined mineral oils are not classified as carcinogenic by the International Agency for Research on Cancer (IARC).

Carcinogenicity Classification

Chemical Name	NTP	IARC	ACGIH	OSHA
Severely hydrotreated light naphthenic distillate	No	Not Reviewed by IARC	No	No

Reproductive and Developmental Toxicity: Not expected to be a hazard.

Additional Information: Used oils may contain harmful impurities that have accumulated during use. The concentration of such impurities will depend on use and they may present risks to health and the environment on disposal. ALL used oil should be handled with caution and skin contact avoided as far as possible.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicological data have not been determined specifically for this product. Information given is based on knowledge of the components and the ecotoxicology of similar products. Unless indicated otherwise, the data presented id representative of the product as a whole, rather than for individual components(s).

Acute Toxicity: Poorly soluble mixture. May cause physical fouling of aquatic organisms. Expected to be harmful: LL/EL/IL50 10-100 mg/l (to aquatic organisms) LL/EL50 expressed as the nominal amount of product required to prepare aqueous test extract.

Mobility: Liquid under most environmental conditions. If it enters soil, it will adsorb to soil particles and will not be mobile. Floats on water.

Persistence/Degradability: Expected to be not readily biodegradable. Major constituents are expected to be inherently biodegradable, but the product contains components that may persist in the environment.

Bioaccumulation: Contains components with the potential to bioaccumulate.

Other Adverse Effects: Product is a mixture of non-volatile components, which are not expected to be released to air in any significant quantities. Not expected to have ozone depletion potential, photochemical ozone creation potential or global warming potential.

Contains butylated hydroxytoluene. Very toxic: LC/EC/IC50 0.1-1mg/l (to aquatic organisms).

SECTION 13. DISPOSAL CONSIDERATIONS

Material Disposal: Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. DO NOT dispose into the environment, in drains or in watercourses.

Container Disposal: Dispose in accordance with prevailing regulations, preferably to a recognized collector or contractor. The competence of the collector or contractor should be established beforehand.

Local Legislation: Disposal should be in accordance with applicable regional, national, and local laws and regulations.

SECTION 14. TRANSPORT INFORMATION

US Department of Transportation Classification (49CFR): This material is not subject to DOT regulations under 49 CFR Parts 171-180.

IMDG: This material is not classified as dangerous under IMDG regulations

International Air Transport Association (IATA)(Country variations may apply): This material is either not classified as dangerous under IATA regulations or needs to follow country specific requirements.

SECTION 15. REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

Federal Regulatory Status

Notification Status

EINECS	All components listed or polymer exempt
TSCA	All components listed
DSL	All components listed

Shell classifies this material as an "oil" under the CERCLA Petroleum Exclusion; therefore releases to the environment are not reportable under CERCLA.

State Regulatory Status

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)
This material does not contain any chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

New Jersey Right-To-Know Chemical List
Distillates (petroleum), hydrotreated light naphthenic (64742-53-6) Listed.

Pennsylvania Right-To-Know List
Distillates (petroleum), hydrotreated light naphthenic (64742-53-6) Listed.

SECTION 16. OTHER INFORMATION

NFPA Rating (Health, Fire, Reactivity): 0, 1, 0
SDS Version Number: 1.3
SDS Effective Date: 03/09/2013
SDS Revisions: A vertical bar (l) in the left margin indicates an amendment from the previous version.
SDS Regulation: The content and format of this SDS is in accordance with the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
SDS Distribution: The information in this document should be made available to all who may handle the product.

Disclaimer: The information contained herein is based on our current knowledge of the underlying data and is intended to describe the product for the purpose of health, safety and environmental requirements only. No warranty or guarantee is expressed or implied regarding the accuracy of these data or the results to be obtained from the use of the product.

SECTION 17. LABEL INFORMATION

READ AND UNDERSTAND MATERIAL SAFETY DATA SHEET BEFORE HANDLING OR DISPOSING OF PRODUCT. THIS LABEL COMPLIES WITH THE REQUIREMENTS OF THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200) FOR USE IN THE WORKPLACE. THIS LABEL IS NOT INTENDED TO BE USED WITH PACKAGING INTENDED FOR SALE TO CONSUMERS AND MAY NOT CONFORM TO THE REQUIREMENTS OF THE CONSUMER PRODUCT SAFETY ACT OR OTHER RELATED REGULATORY REQUIREMENTS.

PRODUCT CODE(S): 68706, 6870600001

SHELL IEC 60296 Transformer Oil

Name and Address
Shell Trading (US) Company
909 Fannin St.
Plaza Level 1
Houston, TX 77010

ADMINISTRATIVE INFORMATION

MANUFACTURER ADDRESS: Shell Trading (US) Company, 909 Fannin St., Plaza Level 1, Houston, TX. 77010

6. "A Facility Owner/Operator's Guide to Oil Pollution Prevention"

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7. 40 CFR 112

Code of Federal Regulations Title 40, Volume 19

PART 112—OIL POLLUTION PREVENTION

Subpart A—Applicability, Definitions, and General Requirements for All Facilities and All Types of Oils

§ 112.1 General applicability.

§ 112.2 Definitions.

§ 112.3 Requirement to prepare and implement a Spill Prevention, Control, and Countermeasure Plan.

§ 112.4 Amendment of Spill Prevention, Control, and Countermeasure Plan by Regional Administrator.

§ 112.5 Amendment of Spill Prevention, Control, and Countermeasure Plan by owners or operators.

§ 112.6 Qualified Facility Plan Requirements.

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Subpart B—Requirements for Petroleum Oils and Non-Petroleum Oils, Except Animal Fats and Oils and Greases, and Fish and Marine Mammal Oils; and Vegetable Oils (Including Oils from Seeds, Nuts, Fruits, and Kernels)

§ 112.8 Spill Prevention, Control, and Countermeasure Plan requirements for onshore facilities (excluding production facilities).

§ 112.9 Spill Prevention, Control, and Countermeasure Plan Requirements for onshore oil production facilities (excluding drilling and workover facilities).

§ 112.10 Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil drilling and workover facilities.

§ 112.11 Spill Prevention, Control, and Countermeasure Plan requirements for offshore oil drilling, production, or workover facilities.

Subpart C—Requirements for Animal Fats and Oils and Greases, and Fish and Marine Mammal Oils; and for Vegetable Oils, Including Oils from Seeds, Nuts, Fruits and Kernels

§ 112.12 Spill Prevention, Control, and Countermeasure Plan requirements.

§ 112.13–112.15 [Reserved]

Subpart D—Response Requirements

§ 112.20 Facility response plans.

§ 112.21 Facility response training and drills/exercises.

APPENDIX A to Part 112—Memorandum of Understanding Between the Secretary of Transportation and the Administrator of the Environmental Protection Agency

APPENDIX B to Part 112—Memorandum of Understanding Among the Secretary of the Interior, Secretary of Transportation, and Administrator of the Environmental Protection Agency

APPENDIX C to Part 112—Substantial Harm Criteria

APPENDIX D to Part 112—Determination of a Worst Case Discharge Planning Volume

APPENDIX E to Part 112—Determination and Evaluation of Required Response Resources for Facility Response Plans

APPENDIX F to Part 112—Facility-Specific Response Plan

APPENDIX G to Part 112— Tier I Qualified Facility SPCC Plan

AUTHORITY: 33 U.S.C. 1251 et seq.; 33 U.S.C. 2720; E.O. 12777 (October 18, 1991), 3 CFR, 1991 Comp. p. 351. SOURCE: 38 FR 34165, Dec. 11, 1973, unless otherwise noted.

EDITORIAL NOTE: Nomenclature changes to part 112 appear at 65 FR 40798, June 30, 2000.

Subpart A—Applicability, Definitions, and General Requirements for All Facilities and All Types of Oils

SOURCE: 67 FR 47140, July 17, 2002, unless otherwise noted.

§ 112.1 General applicability.

(a)(1) This part establishes procedures, methods, equipment, and other requirements to prevent the discharge of oil from non-transportation-related onshore and offshore facilities into or upon the navigable waters of the United States or adjoining shorelines, or into or upon the waters of the contiguous zone, or in connection with activities under the Outer Continental Shelf Lands Act or the Deepwater Port Act of 1974, or that may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Magnuson Fishery Conservation and Management Act).

(2) As used in this part, words in the singular also include the plural and words in the masculine gender also include the feminine and vice versa, as the case may require.

(b) Except as provided in paragraph (d) of this section, this part applies to any owner or operator of a non-transportation-related onshore or offshore facility engaged in drilling, producing, gathering, storing, processing, refining, transferring, distributing, using, or consuming oil and oil products, which due to its location, could reasonably be expected to discharge oil in quantities that may be harmful, as described in part 110 of this chapter, into or upon the navigable waters of the United States or adjoining shorelines, or into or upon the waters of the contiguous zone, or in connection with activities under the Outer Continental Shelf Lands Act or the Deepwater Port Act of 1974, or that may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Magnuson Fishery Conservation and Management Act) that has oil in:

(1) Any aboveground container;

(2) Any completely buried tank as defined in § 112.2;

(3) Any container that is used for standby storage, for seasonal storage, or for temporary storage, or not otherwise "permanently closed" as defined in § 112.2;

(4) Any "bunkered tank" or "partially buried tank" as defined in § 112.2, or any container in a vault, each of which is considered an aboveground storage container for purposes of this part.

(c) As provided in section 313 of the Clean Water Act (CWA), departments, agencies, and instrumentalities of the

Federal government are subject to this part to the same extent as any person.

(d) Except as provided in paragraph (f) of this section, this part does not apply to:

(1) The owner or operator of any facility, equipment, or operation that is not subject to the jurisdiction of the Environmental Protection Agency (EPA) under section 311(j)(1)(C) of the CWA, as follows:

(i) Any onshore or offshore facility, that due to its location, could not reasonably be expected to have a discharge as described in paragraph (b) of this section. This determination must be based solely upon consideration of the geographical and location aspects of the facility (such as proximity to navigable waters or adjoining shorelines, land contour, drainage, etc.) and must exclude consideration of manmade features such as dikes, equipment or other structures, which may serve to restrain, hinder, contain, or otherwise prevent a discharge as described in paragraph (b) of this section.

(ii) Any equipment, or operation of a vessel or transportation-related onshore or offshore facility which is subject to the authority and control of the U.S. Department of Transportation, as defined in the Memorandum of Understanding between the Secretary of Transportation and the Administrator of EPA, dated November 24, 1971 (Appendix A of this part).

(iii) Any equipment, or operation of a vessel or onshore or offshore facility which is subject to the authority and control of the U.S. Department of Transportation or the U.S. Department of the Interior, as defined in the Memorandum of Understanding between the Secretary of Transportation, the Secretary of the Interior, and the Administrator of EPA, dated November 8, 1993 (Appendix B of this part).

(2) Any facility which, although otherwise subject to the jurisdiction of EPA, meets both of the following requirements:

(i) The completely buried storage capacity of the facility is 42,000 U.S. gallons or less of oil. For purposes of this exemption, the completely buried storage capacity of a facility excludes the capacity of a completely buried tank, as defined in §112.2, and connected underground piping, underground ancillary equipment, and containment systems, that is currently subject to all of the technical requirements of part 280 of this chapter or all of the technical requirements of a State program approved under part 281 of this chapter, or the capacity of any underground oil storage tanks deferred under 40 CFR part 280 that supply emergency diesel generators at a nuclear power generation facility licensed by the Nuclear Regulatory Commission and subject to any Nuclear Regulatory Commission provision regarding design and quality criteria, including, but not limited to, 10 CFR part 50. The completely buried storage capacity of a facility also excludes the capacity of a container that is "permanently closed," as defined in § 112.2 and the capacity of intra-facility gathering lines subject to the regulatory requirements of 49 CFR part 192 or 195.

(ii) The aggregate aboveground storage capacity of the facility is 1,320 U.S. gallons or less of oil. For the purposes of this exemption, only containers with a capacity of 55 U.S. gallons or greater are counted. The aggregate aboveground storage capacity of a facility excludes:

(A) The capacity of a container that is "permanently closed" as defined in § 112.2;

(B) The capacity of a "motive power container" as defined in § 112.2;

(C) The capacity of hot-mix asphalt or any hot-mix asphalt container;

(D) The capacity of a container for heating oil used solely at a single-family residence;

(E) The capacity of pesticide application equipment and related mix containers.

(F) The capacity of any milk and milk product container and associated piping and appurtenances.

(3) Any offshore oil drilling, production, or workover facility that is subject to the notices and regulations of the Minerals Management Service, as specified in the Memorandum of Understanding between the Secretary of Transportation, the Secretary of the Interior, and the Administrator of EPA, dated November 8, 1993 (Appendix B of this part).

(4) Any completely buried storage tank, as defined in §112.2, and connected underground piping, underground ancillary equipment, and containment systems, at any facility, that is subject to all of the technical requirements of part 280 of this chapter or a State program approved under part 281 of this chapter, or any underground oil storage tanks including below-grade vaulted tanks, deferred under 40 CFR part 280, as originally promulgated, that supply emergency diesel generators at a nuclear power generation facility licensed by the Nuclear Regulatory Commission, provided that such a tank is subject to any Nuclear Regulatory Commission provision regarding design and quality criteria, including, but not limited to, 10 CFR part 50. Such emergency generator tanks must be marked on the facility diagram as provided in §112.7(a)(3), if the facility is otherwise subject to this part.

(5) Any container with a storage capacity of less than 55 gallons of oil.

(6) Any facility or part thereof used exclusively for wastewater treatment and not used to satisfy any requirement of this part. The production, recovery, or recycling of oil is not wastewater treatment for purposes of this paragraph.

(7) Any "motive power container," as defined in §112.2. The transfer of fuel or other oil into a motive power container at an otherwise regulated facility is not eligible for this exemption.

(8) Hot-mix asphalt, or any hot-mix asphalt container.

(9) Any container for heating oil used solely at a single-family residence.

(10) Any pesticide application equipment or related mix containers.

(11) Intra-facility gathering lines subject to the regulatory requirements of 49 CFR part 192 or 195, except that such a line's location must be identified and marked as "exempt" on the facility diagram as provided in §112.7(a)(3), if the facility is otherwise subject to this part.

(12) Any milk and milk product container and associated piping and appurtenances.

(e) This part establishes requirements for the preparation and implementation of Spill Prevention, Control, and Countermeasure (SPCC) Plans. SPCC Plans are designed to complement existing laws, regulations, rules, standards, policies, and procedures pertaining to safety standards, fire prevention, and pollution prevention rules. The purpose of an SPCC Plan is to form a comprehensive Federal/State spill prevention program that minimizes the

potential for discharges. The SPCC Plan must address all relevant spill prevention, control, and countermeasures necessary at the specific facility. Compliance with this part does not in any way relieve the owner or operator of an onshore or an offshore facility from compliance with other Federal, State, or local laws.

(f) Notwithstanding paragraph (d) of this section, the Regional Administrator may require that the owner or operator of any facility subject to the jurisdiction of EPA under section 311(j) of the CWA prepare and implement an SPCC Plan, or any applicable part, to carry out the purposes of the CWA.

(1) Following a preliminary determination, the Regional Administrator must provide a written notice to the owner or operator stating the reasons why he must prepare an SPCC Plan, or applicable part. The Regional Administrator must send such notice to the owner or operator by certified mail or by personal delivery. If the owner or operator is a corporation, the Regional Administrator must also mail a copy of such notice to the registered agent, if any and if known, of the corporation in the State where the facility is located.

(2) Within 30 days of receipt of such written notice, the owner or operator may provide information and data and may consult with the Agency about the need to prepare an SPCC Plan, or applicable part.

(3) Within 30 days following the time under paragraph (b)(2) of this section within which the owner or operator may provide information and data and consult with the Agency about the need to prepare an SPCC Plan, or applicable part, the Regional Administrator must make a final determination regarding whether the owner or operator is required to prepare and implement an SPCC Plan, or applicable part. The Regional Administrator must send the final determination to the owner or operator by certified mail or by personal delivery. If the owner or operator is a corporation, the Regional Administrator must also mail a copy of the final determination to the registered agent, if any and if known, of the corporation in the State where the facility is located.

(4) If the Regional Administrator makes a final determination that an SPCC Plan, or applicable part, is necessary, the owner or operator must prepare the Plan, or applicable part, within six months of that final determination and implement the Plan, or applicable part, as soon as possible, but not later than one year after the Regional Administrator has made a final determination.

(5) The owner or operator may appeal a final determination made by the Regional Administrator requiring preparation and implementation of an SPCC Plan, or applicable part, under this paragraph. The owner or operator must make the appeal to the Administrator of EPA within 30 days of receipt of the final determination under paragraph (b)(3) of this section from the Regional Administrator requiring preparation and/or implementation of an SPCC Plan, or applicable part. The owner or operator must send a complete copy of the appeal to the Regional Administrator at the time he makes the appeal to the Administrator. The appeal must contain a clear and concise statement of the issues and points of fact in the case. In the appeal, the owner or operator may also provide additional information. The additional information may be from any person. The Administrator may request additional information from the owner or operator. The Administrator must render a decision within 60 days of receiving the appeal or additional information submitted by the owner or operator and must serve the owner or operator with the decision made in the appeal in the manner described in paragraph (f)(1) of this section.

[67 FR 47140, July 17, 2002, as amended at 71 FR 77290, Dec. 26, 2006; 73 FR 74300, Dec. 5, 2008; 74 FR 58809, Nov. 13, 2009; 76 FR 21660, Apr. 18, 2011]

§ 112.2 Definitions.

For the purposes of this part:

Adverse weather means weather conditions that make it difficult for response equipment and personnel to clean up or remove spilled oil, and that must be considered when identifying response systems and equipment in a response plan for the applicable operating environment. Factors to consider include significant wave height as specified in appendix E to this part (as appropriate), ice conditions, temperatures, weather-related visibility, and currents within the area in which the systems or equipment is intended to function.

Alteration means any work on a container involving cutting, burning, welding, or heating operations that changes the physical dimensions or configuration of the container.

Animal fat means a non-petroleum oil, fat, or grease of animal, fish, or marine mammal origin.

Breakout tank means a container used to relieve surges in an oil pipeline system or to receive and store oil transported by a pipeline for reinjection and continued transportation by pipeline.

Bulk storage container means any container used to store oil. These containers are used for purposes including, but not limited to, the storage of oil prior to use, while being used, or prior to further distribution in commerce. Oil-filled electrical, operating, or manufacturing equipment is not a bulk storage container.

Bunkered tank means a container constructed or placed in the ground by cutting the earth and re-covering the container in a manner that breaks the surrounding natural grade, or that lies above grade, and is covered with earth, sand, gravel, asphalt, or other material. A bunkered tank is considered an aboveground storage container for purposes of this part.

Completely buried tank means any container completely below grade and covered with earth, sand, gravel, asphalt, or other material. Containers in vaults, bunkered tanks, or partially buried tanks are considered aboveground storage containers for purposes of this part.

Complex means a facility possessing a combination of transportation-related and non-transportation-related components that is subject to the jurisdiction of more than one Federal agency under section 311(j) of the CWA.

Contiguous zone means the zone established by the United States under Article 24 of the Convention of the Territorial Sea and Contiguous Zone, that is contiguous to the territorial sea and that extends nine miles seaward from the outer limit of the territorial area.

Contract or other approved means means:

(1) A written contractual agreement with an oil spill removal organization that identifies and ensures the availability of the necessary personnel and equipment within appropriate response times; and/or

(2) A written certification by the owner or operator that the necessary personnel and equipment resources, owned or operated by the facility owner or operator, are available to respond to a discharge within appropriate response times; and/or

(3) Active membership in a local or regional oil spill removal organization that has identified and ensures adequate access through such membership to necessary personnel and equipment to respond to a discharge within appropriate response times in the specified geographic area; and/or

(4) Any other specific arrangement approved by the Regional Administrator upon request of the owner or operator.

Discharge includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, or dumping of oil, but excludes discharges in compliance with a permit under section 402 of the CWA; discharges resulting from circumstances identified, reviewed, and made a part of the public record with respect to a permit issued or modified under section 402 of the CWA, and subject to a condition in such permit; or continuous or anticipated intermittent discharges from a point source, identified in a permit or permit application under section 402 of the CWA, that are caused by events occurring within the scope of relevant operating or treatment systems. For purposes of this part, the term discharge shall not include any discharge of oil that is authorized by a permit issued under section 13 of the River and Harbor Act of 1899 (33 U.S.C. 407).

Facility means any mobile or fixed, onshore or offshore building, property, parcel, lease, structure, installation, equipment, pipe, or pipeline (other than a vessel or a public vessel) used in oil well drilling operations, oil production, oil refining, oil storage, oil gathering, oil processing, oil transfer, oil distribution, and oil waste treatment, or in which oil is used, as described in appendix A to this part. The boundaries of a facility depend on several site-specific factors, including but not limited to, the ownership or operation of buildings, structures, and equipment on the same site and types of activity at the site. Contiguous or non-contiguous buildings, properties, parcels, leases, structures, installations, pipes, or pipelines under the ownership or operation of the same person may be considered separate facilities. Only this definition governs whether a facility is subject to this part.

Farm means a facility on a tract of land devoted to the production of crops or raising of animals, including fish, which produced and sold, or normally would have produced and sold, $1,000 or more of agricultural products during a year.

Fish and wildlife and sensitive environments means areas that may be identified by their legal designation or by evaluations of Area Committees (for planning) or members of the Federal On-Scene Coordinator's spill response structure (during responses). These areas may include wetlands, National and State parks, critical habitats for endangered or threatened species, wilderness and natural resource areas, marine sanctuaries and estuarine reserves, conservation areas, preserves, wildlife areas, wildlife refuges, wild and scenic rivers, recreational areas, national forests, Federal and State lands that are research national areas, heritage program areas, land trust areas, and historical and archaeological sites and parks. These areas may also include unique habitats such as aquaculture sites and agricultural surface water intakes, bird nesting areas, critical biological resource areas, designated migratory routes, and designated seasonal habitats.

Injury means a measurable adverse change, either long- or short-term, in the chemical or physical quality or the viability of a natural resource resulting either directly or indirectly from exposure to a discharge, or exposure to a product of reactions resulting from a discharge.

Loading/unloading rack means a fixed structure (such as a platform, gangway) necessary for loading or unloading a tank truck or tank car, which is located at a facility subject to the requirements of this part. A loading/unloading rack includes a loading or unloading arm, and may include any combination of the following: piping assemblages, valves, pumps, shut-off devices, overfill sensors, or personnel safety devices.

Maximum extent practicable means within the limitations used to determine oil spill planning resources and response times for on-water recovery, shoreline protection, and cleanup for worst case discharges from onshore non-transportation-related facilities in adverse weather. It includes the planned capability to respond to a worst case discharge in adverse weather, as contained in a response plan that meets the requirements in § 112.20 or in a specific plan approved by the Regional Administrator.

Mobile refueler means a bulk storage container onboard a vehicle or towed, that is designed or used solely to store and transport fuel for transfer into or from an aircraft, motor vehicle, locomotive, vessel, ground service equipment, or other oil storage container.

Motive power container means any onboard bulk storage container used primarily to power the movement of a motor vehicle, or ancillary onboard oil-filled operational equipment. An onboard bulk storage container which is used to store or transfer oil for further distribution is not a motive power container. The definition of motive power container does not include oil drilling or workover equipment, including rigs.

Navigable waters means waters of the United States, including the territorial seas.

(1) For purposes of the Clean Water Act, 33 U.S.C. 1251 *et seq.* and its implementing regulations, subject to the exclusions in paragraph (2) of this definition, the term "waters of the United States" means:

(i) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(ii) All interstate waters, including interstate wetlands;

(iii) The territorial seas;

(iv) All impoundments of waters otherwise identified as waters of the United States under this section;

(v) All tributaries, as defined in paragraph (3)(iii) of this definition, of waters identified in paragraphs (1)(i) through (iii) of this definition;

(vi) All waters adjacent to a water identified in paragraphs (1)(i) through (v) of this definition, including wetlands, ponds, lakes, oxbows, impoundments, and similar waters;

(vii) All waters in paragraphs (1)(vii)(A) through (E) of this definition where they are determined, on a case-specific basis, to have a significant nexus to a water identified in paragraphs (1)(i) through (iii) of this definition. The waters identified in each of paragraphs (1)(vii)(A) through (E) of this definition are similarly situated and shall be combined, for purposes of a significant nexus analysis, in the watershed that drains to the nearest water identified in

paragraphs (1)(i) through (iii) of this definition. Waters identified in this paragraph shall not be combined with waters identified in paragraph (1)(vi) of this section when performing a significant nexus analysis. If waters identified in this paragraph are also an adjacent water under paragraph (1)(vi), they are an adjacent water and no case-specific significant nexus analysis is required.

(A) Prairie potholes. Prairie potholes are a complex of glacially formed wetlands, usually occurring in depressions that lack permanent natural outlets, located in the upper Midwest.

(B) Carolina bays and Delmarva bays. Carolina bays and Delmarva bays are ponded, depressional wetlands that occur along the Atlantic coastal plain.

(C) Pocosins. Pocosins are evergreen shrub and tree dominated wetlands found predominantly along the Central Atlantic coastal plain.

(D) Western vernal pools. Western vernal pools are seasonal wetlands located in parts of California and associated with topographic depression, soils with poor drainage, mild, wet winters and hot, dry summers.

(E) Texas coastal prairie wetlands. Texas coastal prairie wetlands are freshwater wetlands that occur as a mosaic of depressions, ridges, intermound flats, and mima mound wetlands located along the Texas Gulf Coast.

(viii) All waters located within the 100-year floodplain of a water identified in paragraphs (1)(i) through (iii) of this definition and all waters located within 4,000 feet of the high tide line or ordinary high water mark of a water identified in paragraphs (1)(i) through (v) of this definition where they are determined on a case-specific basis to have a significant nexus to a water identified in paragraphs (1)(i) through (iii) of this definition. For waters determined to have a significant nexus, the entire water is a water of the United States if a portion is located within the 100-year floodplain of a water identified in paragraphs (1)(i) through (iii) of this definition or within 4,000 feet of the high tide line or ordinary high water mark. Waters identified in this paragraph shall not be combined with waters identified in paragraph (1)(vi) of this definition when performing a significant nexus analysis. If waters identified in this paragraph are also an adjacent water under paragraph (1)(vi), they are an adjacent water and no case-specific significant nexus analysis is required.

(2) The following are not "waters of the United States" even where they otherwise meet the terms of paragraphs (1)(iv) through (viii) of this definition.

(i) The following ditches:

(A) Ditches with ephemeral flow that are not a relocated tributary or excavated in a tributary.

(B) Ditches with intermittent flow that are not a relocated tributary, excavated in a tributary, or drain wetlands.

(C) Ditches that do not flow, either directly or through another water, into a water identified in paragraphs (1)(i) through (iii) of this definition.

(ii) The following features:

(A) Artificially irrigated areas that would revert to dry land should application of water to that area cease;

(B) Artificial, constructed lakes and ponds created in dry land such as farm and stock watering ponds, irrigation ponds, settling basins, fields flooded for rice growing, log cleaning ponds, or cooling ponds;

(C) Artificial reflecting pools or swimming pools created in dry land;

(D) Small ornamental waters created in dry land;

(E) Water-filled depressions created in dry land incidental to mining or construction activity, including pits excavated for obtaining fill, sand, or gravel that fill with water;

(F) Erosional features, including gullies, rills, and other ephemeral features that do not meet the definition of tributary, non-wetland swales, and lawfully constructed grassed waterways; and

(G) Puddles.

(iii) Groundwater, including groundwater drained through subsurface drainage systems.

(iv) Stormwater control features constructed to convey, treat, or store stormwater that are created in dry land.

(v) Wastewater recycling structures constructed in dry land; detention and retention basins built for wastewater recycling; groundwater recharge basins; percolation ponds built for wastewater recycling; and water distributary structures built for wastewater recycling.

(3) In this definition, the following terms apply:

(i) *Adjacent*. The term *adjacent* means bordering, contiguous, or neighboring a water identified in paragraphs (1)(i) through (v) of this definition, including waters separated by constructed dikes or barriers, natural river berms, beach dunes, and the like. For purposes of adjacency, an open water such as a pond or lake includes any wetlands within or abutting its ordinary high water mark. Adjacency is not limited to waters located laterally to a water identified in paragraphs (1)(i) through (v) of this definition. Adjacent waters also include all waters that connect segments of a water identified in paragraphs (1)(i) through (v) or are located at the head of a water identified in paragraphs (1)(i) through (v) of this definition and are bordering, contiguous, or neighboring such water. Waters being used for established normal farming, ranching, and silviculture activities (33 U.S.C. 1344(f)) are not adjacent.

(ii) *Neighboring*. The term *neighboring* means:

(A) All waters located within 100 feet of the ordinary high water mark of a water identified in paragraphs (1)(i) through (v) of this definition. The entire water is neighboring if a portion is located within 100 feet of the ordinary high water mark;

(B) All waters located within the 100-year floodplain of a water identified in paragraphs (1)(i) through (v) of this definition and not more than 1,500 feet from the ordinary high water mark of such water. The entire water is neighboring if a portion is located within 1,500 feet of the ordinary high water mark and within the 100-year floodplain;

(C) All waters located within 1,500 feet of the high tide line of a water identified in paragraphs (1)(i) or (1)(iii) of this definition, and all waters within 1,500 feet of the ordinary high water mark of the Great Lakes. The entire water is neighboring if a portion is located within 1,500 feet of the high tide line or within 1,500 feet of the ordinary high water mark of the Great Lakes.

(iii) *Tributary* and *tributaries*. The terms *tributary* and *tributaries* each mean a water that contributes flow, either directly or through another water (including an impoundment identified in paragraph (1)(iv) of this definition), to a water identified in paragraphs (1)(i) through (iii) of this definition that is

characterized by the presence of the physical indicators of a bed and banks and an ordinary high water mark. These physical indicators demonstrate there is volume, frequency, and duration of flow sufficient to create a bed and banks and an ordinary high water mark, and thus to qualify as a tributary. A tributary can be a natural, man-altered, or man-made water and includes waters such as rivers, streams, canals, and ditches not excluded under paragraph (2) of this definition. A water that otherwise qualifies as a tributary under this definition does not lose its status as a tributary if, for any length, there are one or more constructed breaks (such as bridges, culverts, pipes, or dams), or one or more natural breaks (such as wetlands along the run of a stream, debris piles, boulder fields, or a stream that flows underground) so long as a bed and banks and an ordinary high water mark can be identified upstream of the break. A water that otherwise qualifies as a tributary under this definition does not lose its status as a tributary if it contributes flow through a water of the United States that does not meet the definition of tributary or through a non-jurisdictional water to a water identified in paragraphs (1)(i) through (iii) of this definition.

(iv) *Wetlands.* The term *wetlands* means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

(v) *Significant nexus.* The term *significant nexus* means that a water, including wetlands, either alone or in combination with other similarly situated waters in the region, significantly affects the chemical, physical, or biological integrity of a water identified in paragraphs (1)(i) through (iii) of this definition. The term "in the region" means the watershed that drains to the nearest water identified in paragraphs (1)(i) through (iii) of this definition. For an effect to be significant, it must be more than speculative or insubstantial. Waters are similarly situated when they function alike and are sufficiently close to function together in affecting downstream waters. For purposes of determining whether or not a water has a significant nexus, the water's effect on downstream (1)(i) through (iii) waters shall be assessed by evaluating the aquatic functions identified in paragraphs (3)(v)(A) through (I) of this definition. A water has a significant nexus when any single function or combination of functions performed by the water, alone or together with similarly situated waters in the region, contributes significantly to the chemical, physical, or biological integrity of the nearest water identified in paragraphs (1)(i) through (iii) of this section. Functions relevant to the significant nexus evaluation are the following:

(A) Sediment trapping,

(B) Nutrient recycling,

(C) Pollutant trapping, transformation, filtering, and transport,

(D) Retention and attenuation of flood waters,

(E) Runoff storage,

(F) Contribution of flow,

(G) Export of organic matter,

(H) Export of food resources, and

(I) Provision of life cycle dependent aquatic habitat (such as foraging, feeding, nesting, breeding, spawning, or use as a nursery area) for species located in a water identified in paragraphs (1)(i) through (iii) of this definition.

(vi) *Ordinary high water mark.* The term *ordinary high water mark* means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

(vii) *High tide line.* The term *high tide line* means the line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

Non-petroleum oil means oil of any kind that is not petroleum-based, including but not limited to: Fats, oils, and greases of animal, fish, or marine mammal origin; and vegetable oils, including oils from seeds, nuts, fruits, and kernels.

Offshore facility means any facility of any kind (other than a vessel or public vessel) located in, on, or under any of the navigable waters of the United States, and any facility of any kind that is subject to the jurisdiction of the United States and is located in, on, or under any other waters.

Oil means oil of any kind or in any form, including, but not limited to: fats, oils, or greases of animal, fish, or marine mammal origin; vegetable oils, including oils from seeds, nuts, fruits, or kernels; and, other oils and greases, including petroleum, fuel oil, sludge, synthetic oils, mineral oils, oil refuse, or oil mixed with wastes other than dredged spoil.

Oil-filled operational equipment means equipment that includes an oil storage container (or multiple containers) in which the oil is present solely to support the function of the apparatus or the device. Oil-filled operational equipment is not considered a bulk storage container, and does not include oil- filled manufacturing equipment (flow- through process). Examples of oil-filled operational equipment include, but are not limited to, hydraulic systems, lubricating systems (e.g., those for pumps, compressors and other rotating equipment, including pumpjack lubrication systems), gear boxes, machining coolant systems, heat transfer systems, transformers, circuit breakers, electrical switches, and other systems containing oil solely to enable the operation of the device.

Oil Spill Removal Organization means an entity that provides oil spill response resources, and includes any for- profit or not-for-profit contractor, cooperative, or in-house response resources that have been established in a geographic area to provide required response resources.

Onshore facility means any facility of any kind located in, on, or under any land within the United States, other than submerged lands.

Owner or operator means any person owning or operating an onshore facility or an offshore facility, and in the case of any abandoned offshore facility, the person who owned or operated or maintained the facility immediately prior to such abandonment.

Partially buried tank means a storage container that is partially inserted or constructed in the ground, but not entirely below grade, and not completely covered with earth, sand, gravel, asphalt, or other material. A partially buried tank is considered an aboveground storage container for purposes of this part.

Permanently closed means any container or facility for which:

(1) All liquid and sludge has been removed from each container and connecting line; and

(2) All connecting lines and piping have been disconnected from the container and blanked off, all valves (except for ventilation valves) have been closed and locked, and conspicuous signs have been posted on each container stating that it is a permanently closed container and noting the date of closure.

Person includes an individual, firm, corporation, association, or partnership.

Petroleum oil means petroleum in any form, including but not limited to crude oil, fuel oil, mineral oil, sludge, oil refuse, and refined products.

Produced water container means a storage container at an oil production facility used to store the produced water after initial oil/water separation, and prior to reinjection, beneficial reuse, discharge, or transfer for disposal.

Production facility means all structures (including but not limited to wells, platforms, or storage facilities), piping (including but not limited to flowlines or intra-facility gathering lines), or equipment (including but not limited to workover equipment, separation equipment, or auxiliary non-transportation-related equipment) used in the production, extraction, recovery, lifting, stabilization, separation or treating of oil (including condensate), or associated storage or measurement, and is located in an oil or gas field, at a facility. This definition governs whether such structures, piping, or equipment are subject to a specific section of this part.

Regional Administrator means the Regional Administrator of the Environmental Protection Agency, in and for the Region in which the facility is located.

Repair means any work necessary to maintain or restore a container to a condition suitable for safe operation, other than that necessary for ordinary, day-to-day maintenance to maintain the functional integrity of the container and that does not weaken the container.

Spill Prevention, Control, and Countermeasure Plan; SPCC Plan, or Plan means the document required by § 112.3 that details the equipment, workforce, procedures, and steps to prevent, control, and provide adequate countermeasures to a discharge.

Storage capacity of a container means the shell capacity of the container.

Transportation-related and non-transportation-related, as applied to an onshore or offshore facility, are defined in the Memorandum of Understanding between the Secretary of Transportation and the Administrator of the Environmental Protection Agency, dated November 24, 1971, (appendix A of this part).

United States means the States, the District of Columbia, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, Guam, American Samoa, the U.S. Virgin Islands, and the Pacific Island Governments.

Vegetable oil means a non-petroleum oil or fat of vegetable origin, including but not limited to oils and fats derived from plant seeds, nuts, fruits, and kernels.

Vessel means every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water, other than a public vessel.

Wetlands means those areas that are inundated or saturated by surface or groundwater at a frequency or duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include playa lakes, swamps, marshes, bogs, and similar areas such as sloughs, prairie potholes, wet meadows, prairie river overflows, mudflats, and natural ponds.

Worst case discharge for an onshore non-transportation-related facility means the largest foreseeable discharge in adverse weather conditions as determined using the worksheets in appendix D to this part.

[67 FR 47140, July 17, 2002, as amended at 71 FR 77290, Dec. 26, 2006; 73 FR 71943, Nov. 26, 2008; 73 FR 74300, Dec. 5, 2008]

§ 112.3 Requirement to prepare and implement a Spill Prevention, Control, and Countermeasure Plan.

The owner or operator or an onshore or offshore facility subject to this section must prepare in writing and implement a Spill Prevention Control and Countermeasure Plan (hereafter "SPCC Plan" or "Plan")," in accordance with §112.7 and any other applicable section of this part.

(a)(1) Except as otherwise provided in this section, if your facility, or mobile or portable facility, was in operation on or before August 16, 2002, you must maintain your Plan, but must amend it, if necessary to ensure compliance with this part, and implement the amended Plan no later than November 10, 2011. If such a facility becomes operational after August 16, 2002, through November 10, 2011, and could reasonably be expected to have a discharge as described in §112.1(b), you must prepare and implement a Plan on or before November 10, 2011. If such a facility (excluding oil production facilities) becomes operational after November 10, 2011, and could reasonably be expected to have a discharge as described in §112.1(b), you must prepare and implement a Plan before you begin operations. You are not required to prepare a new Plan each time you move a mobile or portable facility to a new site; the Plan may be general. When you move the mobile or portable facility, you must locate and install it using the discharge prevention practices outlined in the Plan for the facility. The Plan is applicable only while the mobile or portable facility is in a fixed (non-transportation) operating mode.

(2) If your drilling, production or workover facility, including a mobile or portable facility, is offshore or has an offshore component; or your onshore facility is required to have and submit a Facility Response Plan pursuant to 40 CFR 112.20(a), and was in operation on or before August 16, 2002, you must maintain your Plan, but must amend it, if necessary to ensure compliance with this part, and implement the amended Plan no later than November 10, 2010. If such a facility becomes operational after August 16, 2002, through November 10, 2010, and could reasonably be expected to have a discharge as described in

§112.1(b), you must prepare and implement a Plan on or before November 10, 2010. If such a facility (excluding oil production facilities) becomes operational after November 10, 2010, and could reasonably be expected to have a discharge as described in §112.1(b), you must prepare and implement a Plan before you begin operations. You are not required to prepare a new Plan each time you move a mobile or portable facility to a new site; the Plan may be general. When you move the mobile or portable facility, you must locate and install it using the discharge prevention practices outlined in the Plan for the facility. The Plan is applicable only while the mobile or portable facility is in a fixed (non-transportation) operating mode.

(3) If your farm, as defined in §112.2, was in operation on or before August 16, 2002, you must maintain your Plan, but must amend it, if necessary to ensure compliance with this part, and implement the amended Plan on or before May 10, 2013. If your farm becomes operational after August 16, 2002, through May 10, 2013, and could reasonably be expected to have a discharge as described in §112.1(b), you must prepare and implement a Plan on or before May 10, 2013. If your farm becomes operational after May 10, 2013, and could reasonably be expected to have a discharge as described in §112.1(b), you must prepare and implement a Plan before you begin operations.

(b) If your oil production facility as described in paragraph (a)(1) of this section becomes operational after November 10, 2011, or as described in paragraph (a)(2) of this section becomes operational after November 10, 2010, and could reasonably be expected to have a discharge as described in §112.1(b), you must prepare and implement a Plan within six months after you begin operations.

(c) [Reserved]

(d) Except as provided in §112.6, a licensed Professional Engineer must review and certify a Plan for it to be effective to satisfy the requirements of this part.

(1) By means of this certification the Professional Engineer attests:

(i) That he is familiar with the requirements of this part ;

(ii) That he or his agent has visited and examined the facility;

(iii) That the Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards, and with the requirements of this part;

(iv) That procedures for required inspections and testing have been established; and

(v) That the Plan is adequate for the facility.

(vi) That, if applicable, for a produced water container subject to §112.9(c)(6), any procedure to minimize the amount of free-phase oil is designed to reduce the accumulation of free-phase oil and the procedures and frequency for required inspections, maintenance and testing have been established and are described in the Plan.

(2) Such certification shall in no way relieve the owner or operator of a facility of his duty to prepare and fully implement such Plan in accordance with the requirements of this part.

(e) If you are the owner or operator of a facility for which a Plan is required under this section, you must:

(1) Maintain a complete copy of the Plan at the facility if the facility is normally attended at least four hours per day, or at the nearest field office if the facility is not so attended, and

(2) Have the Plan available to the Regional Administrator for on-site review during normal working hours.

(f) *Extension of time.* (1) The Regional Administrator may authorize an extension of time for the preparation and full implementation of a Plan, or any amendment thereto, beyond the time permitted for the preparation, implementation, or amendment of a Plan under this part, when he finds that the owner or operator of a facility subject to this section, cannot fully comply with the requirements as a result of either nonavailability of qualified personnel, or delays in construction or equipment delivery beyond the control and without the fault of such owner or operator or his agents or employees.

(2) If you are an owner or operator seeking an extension of time under paragraph (f)(1) of this section, you may submit a written extension request to the Regional Administrator. Your request must include:

(i) A full explanation of the cause for any such delay and the specific aspects of the Plan affected by the delay;

(ii) A full discussion of actions being taken or contemplated to minimize or mitigate such delay; and

(iii) A proposed time schedule for the implementation of any corrective actions being taken or contemplated, including interim dates for completion of tests or studies, installation and operation of any necessary equipment, or other preventive measures. In addition you may present additional oral or written statements in support of your extension request.

(3) The submission of a written extension request under paragraph (f)(2) of this section does not relieve you of your obligation to comply with the requirements of this part. The Regional Administrator may request a copy of your Plan to evaluate the extension request. When the Regional Administrator authorizes an extension of time for particular equipment or other specific aspects of the Plan, such extension does not affect your obligation to comply with the requirements related to other equipment or other specific aspects of the Plan for which the Regional Administrator has not expressly authorized an extension.

(g) *Qualified Facilities.* The owner or operator of a qualified facility as defined in this subparagraph may self-certify his facility's Plan, as provided in §112.6. A qualified facility is one that meets the following Tier I or Tier II qualified facility criteria:

(1) A Tier I qualified facility meets the qualification criteria in paragraph (g)(2) of this section and has no individual aboveground oil storage container with a capacity greater than 5,000 U.S. gallons.

(2) A Tier II qualified facility is one that has had no single discharge as described in §112.1(b) exceeding 1,000 U.S. gallons or no two discharges as described in §112.1(b) each exceeding 42 U.S. gallons within any twelve month period in the three years prior to the SPCC Plan self-certification date, or since becoming subject to this part if the facility has been in operation for less than three years (other than discharges as

described in §112.1(b) that are the result of natural disasters, acts of war, or terrorism), and has an aggregate aboveground oil storage capacity of 10,000 U.S. gallons or less.

[67 FR 47140, July 17, 2002, as amended at 68 FR 1351, Jan. 9, 2003; 68 FR 18894, Apr. 17, 2003; 69 FR 48798, Aug. 11, 2004; 71 FR 8466, Feb. 17, 2006; 71 FR 77290, Dec. 26, 2006; 72 FR 27447, May 16, 2007; 73 FR 74301, Dec. 5, 2008, 74 FR 29141, June 19, 2009; 74 FR 58809, Nov. 13, 2009; 75 FR 63102, Oct. 14, 2010; 76 FR 21660, Apr. 18, 2011; 76 FR 64248, Oct. 18, 2011; 76 FR 72124, Nov. 22, 2011]

§ 112.4 Amendment of Spill Prevention, Control, and Countermeasure Plan by Regional Administrator.

If you are the owner or operator of a facility subject to this part, you must:

(a) Notwithstanding compliance with § 112.3, whenever your facility has discharged more than 1,000 U.S. gallons of oil in a single discharge as described in § 112.1(b), or discharged more than 42 U.S. gallons of oil in each of two discharges as described in § 112.1(b), occurring within any twelve month period, submit the following information to the Regional Administrator within 60 days from the time the facility becomes subject to this section:

(1) Name of the facility;

(2) Your name;

(3) Location of the facility;

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

(5) Corrective action and countermeasures you have taken, including a description of equipment repairs and replacements;

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

(7) The cause of such discharge as described in § 112.1(b), including a failure analysis of the system or subsystem in which the failure occurred;

(8) Additional preventive measures you have taken or contemplated to minimize the possibility of recurrence; and

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

(b) Take no action under this section until it applies to your facility. This section does not apply until the expiration of the time permitted for the initial preparation and implementation of the Plan under § 112.3, but not including any amendments to the Plan.

(c) Send to the appropriate agency or agencies in charge of oil pollution control activities in the State in which the facility is located a complete copy of all information you provided to the Regional Administrator under paragraph (a) of this section. Upon receipt of the information such State agency or agencies may conduct a review and make recommendations to the Regional Administrator as to further procedures, methods, equipment, and other requirements necessary to prevent and to contain discharges from your facility.

(d) Amend your Plan, if after review by the Regional Administrator of the information you submit under paragraph (a) of this section, or submission of information to EPA by the State agency under paragraph (c) of this section, or after on-site review of your Plan, the Regional Administrator requires that you do so. The Regional Administrator may require you to amend your Plan if he finds that it does not meet the requirements of this part or that amendment is necessary to prevent and contain discharges from your facility.

(e) Act in accordance with this paragraph when the Regional Administrator proposes by certified mail or by personal delivery that you amend your SPCC Plan. If the owner or operator is a corporation, he must also notify by mail the registered agent of such corporation, if any and if known, in the State in which the facility is located. The Regional Administrator must specify the terms of such proposed amendment. Within 30 days from receipt of such notice, you may submit written information, views, and arguments on the proposed amendment. After considering all relevant material presented, the Regional Administrator must either notify you of any amendment required or rescind the notice. You must amend your Plan as required within 30 days after such notice, unless the Regional Administrator, for good cause, specifies another effective date. You must implement the amended Plan as soon as possible, but not later than six months after you amend your Plan, unless the Regional Administrator specifies another date.

(f) If you appeal a decision made by the Regional Administrator requiring an amendment to an SPCC Plan, send the appeal to the EPA Administrator in writing within 30 days of receipt of the notice from the Regional Administrator requiring the amendment under paragraph (e) of this section. You must send a complete copy of the appeal to the Regional Administrator at the time you make the appeal. The appeal must contain a clear and concise statement of the issues and points of fact in the case. It may also contain additional information from you, or from any other person. The EPA Administrator may request additional information from you, or from any other person. The EPA Administrator must render a decision within 60 days of receiving the appeal and must notify you of his decision.

§ 112.5 Amendment of Spill Prevention, Control, and Countermeasure Plan by owners or operators.

If you are the owner or operator of a facility subject to this part, you must:

(a) Amend the 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. An amendment made under this section must be prepared within six months, and implemented as soon as possible, but not later than six months following preparation of the amendment.

(b) Notwithstanding compliance with paragraph (a) of this section, complete a review and evaluation of the SPCC Plan at least once every five years from the date your facility becomes subject to this part; or, if your facility was in operation on or before August 16, 2002, five years from the date your last review was required under this part. As a result of this review and evaluation, you must amend your SPCC Plan within six months of the review to include more effective prevention and control technology if the technology has been field-proven at the time of the review and

will significantly reduce the likelihood of a discharge as described in § 112.1(b) from the facility. You must implement any amendment as soon as possible, but not later than six months following preparation of any amendment. You must document your completion of the review and evaluation, and must sign a statement as to whether you will amend the Plan, either at the beginning or end of the Plan or in a log or an appendix to the Plan. The following words will suffice, "I have completed review and evaluation of the SPCC Plan for (name of facility) on (date), and will (will not) amend the Plan as a result."

(c) Except as provided in §112.6, have a Professional Engineer certify any technical amendments to your Plan in accordance with § 112.3(d).

[67 FR 47140, July 17, 2002, as amended at 71 FR 77291, Dec. 26, 2006; 73 FR 74301, Dec. 5, 2008; 74 FR 58809, Nov. 13, 2009]

§ 112.6 Qualified Facilities Plan Requirements.

Qualified facilities meeting the Tier I applicability criteria in §112.3(g)(1) are subject to the requirements in paragraph (a) of this section. Qualified facilities meeting the Tier II applicability criteria in §112.3(g)(2) are subject to the requirements in paragraph (b) of this section.

(a) *Tier I Qualified Facilities—(1) Preparation and Self-Certification of the Plan*. If you are an owner or operator of a facility that meets the Tier I qualified facility criteria in § 112.3(g)(1), you must either: comply with the requirements of paragraph (a)(3) of this section; or prepare and implement a Plan meeting requirements of paragraph (b) of this section; or prepare and implement a Plan meeting the general Plan requirements in §112.7 and applicable requirements in subparts B and C, including having the Plan certified by a Professional Engineer as required under §112.3(d). If you do not follow the Appendix G template, you must prepare an equivalent Plan that meets all of the applicable requirements listed in this part, and you must supplement it with a section cross-referencing the location of requirements listed in this part and the equivalent requirements in the other prevention plan. To complete the template in Appendix G, you must certify that:

(i) You are familiar with the applicable requirements of 40 CFR part 112;

(ii) You have visited and examined the facility;

(iii) You prepared the Plan in accordance with accepted and sound industry practices and standards;

(iv) You have established procedures for required inspections and testing in accordance with industry inspection and testing standards or recommended practices;

(v) You will fully implement the

Plan;

(vi) The facility meets the qualification criteria in §112.3(g)(1);

(vii) The Plan does not deviate from any requirement of this part as allowed by § 112.7(a)(2) and 112.7(d) or include measures pursuant to §112.9(c)(6) for produced water containers and any associated piping; and

(viii) The Plan and individual(s) responsible for implementing this Plan have the approval of management, and the facility owner or operator has committed the necessary resources to fully implement this Plan.

(2) *Technical Amendments*. You must certify any technical amendments to your Plan in accordance with paragraph (a)(1) of this section when there is a change in the facility design, construction, operation, or maintenance that affects its potential for a discharge as described in § 112.1(b). If the facility change results in the facility no longer meeting the Tier I qualifying criteria in §112.3(g)(1) because an individual oil storage container capacity exceeds 5,000 U.S. gallons or the facility capacity exceeds 10,000 U.S. gallons in aggregate aboveground storage capacity, within six months following preparation of the amendment, you must either:

(i) Prepare and implement a Plan in accordance with §112.6(b) if you meet the Tier II qualified facility criteria in § 112.3(g)(2); or

(ii) Prepare and implement a Plan in accordance with the general Plan requirements in § 112.7, and applicable requirements in subparts B and C, including having the Plan certified by a Professional Engineer as required under § 112.3(d).

(3) *Plan Template and Applicable Requirements*. Prepare and implement an SPCC Plan that meets the following requirements under §112.7 and in subparts B and C of this part: introductory paragraph of §§ 112.7, 112.7(a)(3)(i), 112.7(a)(3)(iv), 112.7(a)(3)(vi), 112.7(a)(4), 112.7(a)(5), 112.7(c), 112.7(e), 112.7(f), 112.7(g), 112.7(k), 112.8(b)(1), 112.8(b)(2), 112.8(c)(1), 112.8(c)(3), 112.8(c)(4), 112.8(c)(5), 112.8(c)(6), 112.8(c)(10), 112.8(d)(4), 112.9(b), 112.9(c)(1), 112.9(c)(2), 112.9(c)(3), 112.9(c)(4), 112.9(c)(5), 112.9(d)(1), 112.9(d)(3), 112.9(d)(4), 112.10(b), 112.10(c), 112.10(d), 112.12(b)(1), 112.12(b)(2), 112.12(c)(1), 112.12(c)(3), 112.12(c)(4), 112.12(c)(5), 112.12(c)(6), 112.12(c)(10), and 112.12(d)(4).

The template in Appendix G to this part has been developed to meet the requirements of 40 CFR part 112 and, when completed and signed by the owner or operator, may be used as the SPCC Plan. Additionally, you must meet the following requirements:

(i) *Failure analysis, in lieu of the requirements in § 112.7(b).* Where experience indicates a reasonable potential for equipment failure (such as loading or unloading equipment, tank overflow, rupture, or leakage, or any other equipment known to be a source of discharge), include in your Plan a prediction of the direction and total quantity of oil which could be discharged from the facility as a result of each type of major equipment failure.

(ii) *Bulk storage container secondary containment, in lieu of the requirements in §§ 112.8(c)(2) and (c)(11) and 112.12(c)(2) and (c)(11).* Construct all bulk storage container installations (except mobile refuelers and other non- transportation-related tank trucks), including mobile or portable oil storage containers, so that you provide a secondary means of containment for the entire capacity of the largest single container plus additional capacity to contain precipitation. Dikes, containment curbs, and pits are commonly employed for this purpose. You may also use an alternative system consisting of a drainage trench enclosure that must be arranged so that any discharge will terminate and be safely confined in a catchment basin or holding pond. Position or locate mobile or portable oil storage containers to prevent a discharge as described in §112.1(b).

(iii) *Overfill prevention, in lieu of the requirements in §§112.8(c)(8) and 112.12(c)(8).* Ensure that each container is provided with a system or documented

procedure to prevent overfills of the container, describe the system or procedure in the SPCC Plan and regularly test to ensure proper operation or efficacy.

(b) *Tier II Qualified Facilities—(1) Preparation and Self-Certification of Plan.* If you are the owner or operator of a facility that meets the Tier II qualified facility criteria in §112.3(g)(2), you may choose to self-certify your Plan. You must certify in the Plan that:

(i) You are familiar with the requirements of this part;

(ii) You have visited and examined the facility;

(iii) The Plan has been prepared in accordance with accepted and sound industry practices and standards, and with the requirements of this part;

(iv) Procedures for required inspections and testing have been established;

(v) You will fully implement the Plan;

(vi) The facility meets the qualification criteria set forth under § 112.3(g)(2);

(vii) The Plan does not deviate from any requirement of this part as allowed by § 112.7(a)(2) and 112.7(d) or include measures pursuant to §112.9(c)(6) for produced water containers and any associated piping, except as provided in paragraph (b)(3) of this section; and

(viii) The Plan and individual(s) responsible for implementing the Plan have the full approval of management and the facility owner or operator has committed the necessary resources to fully implement the Plan.

(2) *Technical Amendments.* If you self-certify your Plan pursuant to paragraph (b)(1) of this section, you must certify any technical amendments to your Plan in accordance with paragraph (b)(1) of this section when there is a change in the facility design, construction, operation, or maintenance that affects its potential for a discharge as described in §112.1(b), except:

(i) If a Professional Engineer certified a portion of your Plan in accordance with paragraph (b)(4) of this section, and the technical amendment affects this portion of the Plan, you must have the amended provisions of your Plan certified by a Professional Engineer in accordance with paragraph (b)(4)(ii) of this section.

(ii) If the change is such that the facility no longer meets the Tier II qualifying criteria in §112.3(g)(2) because it exceeds 10,000 U.S. gallons in aggregate aboveground storage capacity you must, within six months following the change, prepare and implement a Plan in accordance with the general Plan requirements in § 112.7 and the applicable requirements in subparts B and C of this part, including having the Plan certified by a Professional Engineer as required under § 112.3(d).

(3) *Applicable Requirements.* Except as provided in this paragraph, your self-certified SPCC Plan must comply with § 112.7 and the applicable requirements in subparts B and C of this part:

(i) *Environmental Equivalence.* Your Plan may not include alternate methods which provide environmental equivalence pursuant to §112.7(a)(2), unless each alternate method has been reviewed and certified in writing by a Professional Engineer, as provided in paragraph (b)(4) of this section.

(ii) Impracticability. Your Plan may not include any determinations that secondary containment is impracticable and provisions in lieu of secondary containment pursuant to § 112.7(d), unless each such determination and alternate measure has been reviewed and certified in writing by a Professional Engineer, as provided in paragraph (b)(4) of this section.

(iii) *Produced Water Containers.* Your Plan may not include any alternative procedures for skimming produced water containers in lieu of sized secondary containment pursuant to § 112.9(c)(6), unless they have been reviewed and certified in writing by a Professional Engineer, as provided in paragraph (b)(4) of this section.

(4) *Professional Engineer Certification of Portions of a Qualified Facility's Self- Certified Plan.*

(i) As described in paragraph (b)(3) of this section, the facility owner or operator may not self-certify alternative measures allowed under § 112.7(a)(2) or (d), that are included in the facility's Plan. Such measures must be reviewed and certified, in writing, by a licensed Professional Engineer. For each alternative measure allowed under § 112.7(a)(2), the Plan must be accompanied by a written statement by a Professional Engineer that states the reason for nonconformance and describes the alternative method and how it provides equivalent environmental protection in accordance with § 112.7(a)(2). For each determination of impracticability of secondary containment pursuant to §112.7(d), the Plan must clearly explain why secondary containment measures are not practicable at this facility and provide the alternative measures required in § 112.7(d) in lieu of secondary containment. By certifying each measure allowed under §112.7(a)(2) and (d), the Professional Engineer attests:

(A) That he is familiar with the requirements of this part;

(B) That he or his agent has visited and examined the facility; and

(C) That the alternative method of environmental equivalence in accordance with § 112.7(a)(2) or the determination of impracticability and alternative measures in accordance with § 112.7(d) is consistent with good engineering practice, including consideration of applicable industry standards, and with the requirements of this part.

(ii) As described in paragraph (b)(3) of this section, the facility owner or operator may not self-certify measures as described in § 112.9(c)(6) for produced water containers and any associated piping. Such measures must be reviewed and certified, in writing, by a licensed Professional Engineer, in accordance with §112.3(d)(1)(vi).

(iii) The review and certification by the Professional Engineer under this paragraph is limited to the alternative method which achieves equivalent environmental protection pursuant to § 112.7(a)(2); to the impracticability determination and measures in lieu of secondary containment pursuant to § 112.7(d); or the measures pursuant to § 112.9(c)(6) for produced water containers and any associated piping and appurtenances downstream from the container.

[73 FR 74302, Dec. 5, 2008, as amended at 74 FR 58810, Nov. 13, 2009]

§ 112.7 General requirements for Spill Prevention, Control, and Countermeasure Plans.

If you are the owner or operator of a facility subject to this part you must prepare a Plan in accordance with good engineering practices. The Plan must have the full approval of management at a level of authority to commit the necessary resources to fully implement the Plan. You must prepare the Plan in writing. If you do not follow the sequence specified in this section for the Plan, you must prepare an equivalent Plan acceptable to the Regional Administrator that meets all of the applicable requirements listed in this part, and you must supplement it with a

section cross-referencing the location of requirements listed in this part and the equivalent requirements in the other prevention plan. If the Plan calls for additional facilities or procedures, methods, or equipment not yet fully operational, you must discuss these items in separate paragraphs, and must explain separately the details of installation and operational start-up. As detailed elsewhere in this section, you must also:

(a)(1) Include a discussion of your facility's conformance with the requirements listed in this part.

(2) Comply with all applicable requirements listed in this part. Except as provided in § 112.6, your Plan may deviate from the requirements in paragraphs (g), (h)(2) and (3), and (i) of this section and the requirements in subparts B and C of this part, except the secondary containment requirements in paragraphs (c) and (h)(1) of this section, and §§ 112.8(c)(2), 112.8(c)(11), 112.9(c)(2), 112.9(d)(3), 112.10(c), 112.12(c)(2), and 112.12(c)(11), where applicable to a specific facility, if you provide equivalent environmental protection by some other means of spill prevention, control, or countermeasure. Where your Plan does not conform to the applicable requirements in paragraphs (g), (h)(2) and (3), and (i) of this section, or the requirements of subparts B and C of this part, except the secondary containment requirements in paragraph (c) and (h)(1) of this section, and §§ 112.8(c)(2), 112.8(c)(11), 112.9(c)(2), 112.10(c), 112.12(c)(2), and 112.12(c)(11), you must state the reasons for nonconformance in your Plan and describe in detail alternate methods and how you will achieve equivalent environmental protection. If the Regional Administrator determines that the measures described in your Plan do not provide equivalent environmental protection, he may require that you amend your Plan, following the procedures in § 112.4(d) and (e).

(3) Describe in your Plan the physical layout of the facility and include a facility diagram, which must mark the location and contents of each fixed oil storage container and the storage area where mobile or portable containers are located. The facility diagram must identify the location of and mark as "exempt" underground tanks that are otherwise exempted from the requirements of this part under § 112.1(d)(4). The facility diagram must also include all transfer stations and connecting pipes, including intra-facility gathering lines that are otherwise exempted from the requirements of this part under § 112.1(d)(11). You must also address in your Plan:

(i) The type of oil in each fixed container and its storage capacity. For mobile or portable containers, either provide the type of oil and storage capacity for each container or provide an estimate of the potential number of mobile or portable containers, the types of oil, and anticipated storage capacities;

(ii) Discharge prevention measures including procedures for routine handling of products (loading, unloading, and facility transfers, etc.);

(iii) Discharge or drainage controls such as secondary containment around containers and other structures, equipment, and procedures for the control of a discharge;

(iv) Countermeasures for discharge discovery, response, and cleanup (both the facility's capability and those that might be required of a contractor);

(v) Methods of disposal of recovered materials in accordance with applicable legal requirements; and

(vi) Contact list and phone numbers for the facility response coordinator, National Response Center, cleanup contractors with whom you have an agreement for response, and all appropriate Federal, State, and local agencies who must be contacted in case of a discharge as described in §112.1(b).

(4) Unless you have submitted a response plan under § 112.20, provide information and procedures in your Plan to enable a person reporting a discharge as described in §112.1(b) to relate information on the exact address or location and phone number of the facility; the date and time of the discharge, the type of material discharged; estimates of the total quantity discharged; estimates of the quantity discharged as described in § 112.1(b); the source of the discharge; a description of all affected media; the cause of the discharge; any damages or injuries caused by the discharge; actions being used to stop, remove, and mitigate the effects of the discharge; whether an evacuation may be needed; and, the names of individuals and/or organizations who have also been contacted.

(5) Unless you have submitted a response plan under § 112.20, organize portions of the Plan describing procedures you will use when a discharge occurs in a way that will make them readily usable in an emergency, and include appropriate supporting material as appendices.

(b) Where experience indicates a reasonable potential for equipment failure (such as loading or unloading equipment, tank overflow, rupture, or leakage, or any other equipment known to be a source of a discharge), include in your Plan a prediction of the direction, rate of flow, and total quantity of oil which could be discharged from the facility as a result of each type of major equipment failure.

(c) Provide appropriate containment and/or diversionary structures or equipment to prevent a discharge as described in §112.1(b), except as provided in paragraph (k) of this section for qualified oil-filled operational equipment, and except as provided in § 112.9(d)(3) for flowlines and intra-facility gathering lines at an oil production facility. The entire containment system, including walls and floor, must be capable of containing oil and must be constructed so that any discharge from a primary containment system, such as a tank, will not escape the containment system before cleanup occurs. In determining the method, design, and capacity for secondary containment, you need only to address the typical failure mode, and the most likely quantity of oil that would be discharged. Secondary containment may be either active or passive in design. At a minimum, you must use one of the following prevention systems or its equivalent:

(1) For onshore facilities:

(i) Dikes, berms, or retaining walls sufficiently impervious to contain oil;

(ii) Curbing or drip pans;

(iii) Sumps and collection systems;

(iv) Culverting, gutters, or other drainage systems;

(v) Weirs, booms, or other barriers;

(vi) Spill diversion ponds;

(vii) Retention ponds; or

(viii) Sorbent materials.

(2) For offshore facilities:

(i) Curbing or drip pans; or

(ii) Sumps and collection systems.

(d) Provided your Plan is certified by a licensed Professional Engineer under § 112.3(d), or, in the case of a qualified facility that meets the criteria in § 112.3(g), the relevant sections of your Plan are certified by a licensed Professional Engineer under §112.6(d), if you determine that the installation of any of the structures or pieces of equipment listed in paragraphs (c) and (h)(1) of this section, and §§ 112.8(c)(2), 112.8(c)(11), 112.9(c)(2), 112.10(c), 112.12(c)(2), and 112.12(c)(11) to prevent a discharge as described in §112.1(b) from any onshore or offshore facility is not practicable, you must clearly explain in your Plan why such measures are not practicable; for bulk storage containers, conduct both periodic integrity testing of the containers and periodic integrity and leak testing of the valves and piping; and, unless you have submitted a response plan under § 112.20, provide in your Plan the following:

(1) An oil spill contingency plan following the provisions of part 109 of this chapter.

(2) A written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful.

(e) *Inspections, tests, and records*. Conduct inspections and tests required by this part in accordance with written procedures that you or the certifying engineer develop for the facility. You must keep these written procedures and a record of the inspections and tests, signed by the appropriate supervisor or inspector, with the SPCC Plan for a period of three years. Records of inspections and tests kept under usual and customary business practices will suffice for purposes of this paragraph.

(f) *Personnel, training, and discharge prevention procedures.*

(1) At a minimum, train your oil-handling personnel in the operation and maintenance of equipment to prevent discharges; discharge procedure protocols; applicable pollution control laws, rules, and regulations; general facility operations; and, the contents of the facility SPCC Plan.

(2) Designate a person at each applicable facility who is accountable for discharge prevention and who reports to facility management.

(3) Schedule and conduct discharge prevention briefings for your oil-handling personnel at least once a year to assure adequate understanding of the SPCC Plan for that facility. Such briefings must highlight and describe known discharges as described in § 112.1(b) or failures, malfunctioning components, and any recently developed precautionary measures.

(g) *Security (excluding oil production facilities).* Describe in your Plan how you secure and control access to the oil handling, processing and storage areas; secure master flow and drain valves; prevent unauthorized access to starter controls on oil pumps; secure out-of- service and loading/unloading connections of oil pipelines; and address the appropriateness of security lighting to both prevent acts of vandalism and assist in the discovery of oil discharges.

(h) *Facility tank car and tank truck loading/unloading rack (excluding offshore facilities).*

(1) Where loading/unloading rack drainage does not flow into a catchment basin or treatment facility designed to handle discharges, use a quick drainage system for tank car or tank truck loading/unloading racks. You must design any containment system to hold at least the maximum capacity of any single compartment of a tank car or tank truck loaded or unloaded at the facility.

(2) Provide an interlocked warning light or physical barrier system, warning signs, wheel chocks or vehicle brake interlock system in the area adjacent to a loading/unloading rack, to prevent vehicles from departing before complete disconnection of flexible or fixed oil transfer lines.

(3) Prior to filling and departure of any tank car or tank truck, closely inspect for discharges the lowermost drain and all outlets of such vehicles, and if necessary, ensure that they are tightened, adjusted, or replaced to prevent liquid discharge while in transit.

(i) If a field-constructed aboveground container undergoes a repair, alteration, reconstruction, or a change in service that might affect the risk of a discharge or failure due to brittle fracture or other catastrophe, or has discharged oil or failed due to brittle fracture failure or other catastrophe, evaluate the container for risk of discharge or failure due to brittle fracture or other catastrophe, and as necessary, take appropriate action.

(j) In addition to the minimal prevention standards listed under this section, include in your Plan a complete discussion of conformance with the applicable requirements and other effective discharge prevention and containment procedures listed in this part or any applicable more stringent State rules, regulations, and guidelines.

(k) *Qualified Oil-filled Operational Equipment*. The owner or operator of a facility with oil-filled operational equipment that meets the qualification criteria in paragraph (k)(1) of this sub- section may choose to implement for this qualified oil-filled operational equipment the alternate requirements as described in paragraph (k)(2) of this sub-section in lieu of general secondary containment required in paragraph (c) of this section.

(1) *Qualification Criteria—Reportable Discharge History:* The owner or operator of a facility that has had no single discharge as described in §112.1(b) from any oil-filled operational equipment exceeding 1,000 U.S. gallons or no two discharges as described in § 112.1(b) from any oil-filled operational equipment each exceeding 42 U.S. gallons within any twelve month period in the three years prior to the SPCC Plan certification date, or since becoming subject to this part if the facility has been in operation for less than three years (other than oil discharges as described in § 112.1(b) that are the result of natural disasters, acts of war or terrorism); and

(2) *Alternative Requirements to General Secondary Containment*. If secondary containment is not provided for qualified oil-filled operational equipment pursuant to paragraph (c) of this section, the owner or operator of a facility with qualified oil-filled operational equipment must:

(i) Establish and document the facility procedures for inspections or a monitoring program to detect equipment failure and/or a discharge; and

(ii) Unless you have submitted a response plan under § 112.20, provide in your Plan the following:

(A) An oil spill contingency plan following the provisions of part 109 of this chapter.

(B) A written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful.

[67 FR 47140, July 17, 2002, as amended at 71 FR 77292, Dec. 26, 2006; 73 FR 74303, Dec. 5, 2008; 74 FR 58810, Nov. 13, 2009]

Subpart B—Requirements for Petroleum Oils and Non-Petroleum Oils, Except Animal Fats and Oils

and Greases, and Fish and Marine Mammal Oils; and Vegetable Oils (Including Oils from Seeds, Nuts, Fruits, and Kernels)

SOURCE: 67 FR 47146, July 17, 2002, unless otherwise noted.

§ 112.8 Spill Prevention, Control, and Countermeasure Plan requirements for onshore facilities (excluding production facilities).

If you are the owner or operator of an onshore facility (excluding a production facility), you must:

(a) Meet the general requirements for the Plan listed under § 112.7, and the specific discharge prevention and containment procedures listed in this section.

(b) *Facility drainage.* (1) Restrain drainage from diked storage areas by valves to prevent a discharge into the drainage system or facility effluent treatment system, except where facility systems are designed to control such discharge. You may empty diked areas by pumps or ejectors; however, you must manually activate these pumps or ejectors and must inspect the condition of the accumulation before starting, to ensure no oil will be discharged.

(2) Use valves of manual, open-and-closed design, for the drainage of diked areas. You may not use flapper-type drain valves to drain diked areas. If your facility drainage drains directly into a watercourse and not into an on-site wastewater treatment plant, you must inspect and may drain uncontaminated retained stormwater, as provided in paragraphs (c)(3)(ii), (iii), and (iv) of this section.

(3) Design facility drainage systems from undiked areas with a potential for a discharge (such as where piping is located outside containment walls or where tank truck discharges may occur outside the loading area) to flow into ponds, lagoons, or catchment basins designed to retain oil or return it to the facility. You must not locate catchment basins in areas subject to periodic flooding.

(4) If facility drainage is not engineered as in paragraph (b)(3) of this section, equip the final discharge of all ditches inside the facility with a diversion system that would, in the event of an uncontrolled discharge, retain oil in the facility.

(5) Where drainage waters are treated in more than one treatment unit and such treatment is continuous, and pump transfer is needed, provide two "lift" pumps and permanently install at least one of the pumps. Whatever techniques you use, you must engineer facility drainage systems to prevent a discharge as described in § 112.1(b) in case there is an equipment failure or human error at the facility.

(c) *Bulk storage containers.*

(1) Not use a container for the storage of oil unless its material and construction are compatible with the material stored and conditions of storage such as pressure and temperature.

(2) Construct all bulk storage tank installations (except mobile refuelers and other non-transportation-related tank trucks) so that you provide a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation. You must ensure that diked areas are sufficiently impervious to contain discharged oil. Dikes, containment curbs, and pits are commonly employed for this purpose. You may also use an alternative system consisting of a drainage trench enclosure that must be arranged so that any discharge will terminate and be safely confined in a facility catchment basin or holding pond.

(3) Not allow drainage of uncontaminated rainwater from the diked area into a storm drain or discharge of an effluent into an open watercourse, lake, or pond, bypassing the facility treatment system unless you:

(i) Normally keep the bypass valve sealed closed.

(ii) Inspect the retained rainwater to ensure that its presence will not cause a discharge as described in §112.1(b).

(iii) Open the bypass valve and reseal it following drainage under responsible supervision; and

(iv) Keep adequate records of such events, for example, any records required under permits issued in accordance with §§122.41(j)(2) and 122.41(m)(3) of this chapter.

(4) Protect any completely buried metallic storage tank installed on or after January 10, 1974 from corrosion by coatings or cathodic protection compatible with local soil conditions. You must regularly leak test such completely buried metallic storage tanks.

(5) Not use partially buried or bunkered metallic tanks for the storage of oil, unless you protect the buried section of the tank from corrosion. You must protect partially buried and bunkered tanks from corrosion by coatings or cathodic protection compatible with local soil conditions.

(6) Test or inspect each aboveground container for integrity on a regular schedule and whenever you make material repairs. You must determine, in accordance with industry standards, the appropriate qualifications for personnel performing tests and inspections, the frequency and type of testing and inspections, which take into account container size, configuration, and design (such as containers that are: shop-built, field-erected, skid- mounted, elevated, equipped with a liner, double-walled, or partially buried). Examples of these integrity tests include, but are not limited to: visual inspection, hydrostatic testing, radiographic testing, ultrasonic testing, acoustic emissions testing, or other systems of non-destructive testing. You must keep comparison records and you must also inspect the container's supports and foundations. In addition, you must frequently inspect the outside of the container for signs of deterioration, discharges, or accumulation of oil inside diked areas. Records of inspections and tests kept under usual and customary business practices satisfy the recordkeeping requirements of this paragraph.

(7) Control leakage through defective internal heating coils by monitoring the steam return and exhaust lines for contamination from internal heating coils that discharge into an open watercourse, or pass the steam return or exhaust lines through a settling tank, skimmer, or other separation or retention system.

(8) Engineer or update each container installation in accordance with good engineering practice to avoid discharges. You must provide at least one of the following devices:

(i) High liquid level alarms with an audible or visual signal at a constantly attended operation or surveillance station. In smaller facilities an audible air vent may suffice.

(ii) High liquid level pump cutoff devices set to stop flow at a predetermined container content level.

(iii) Direct audible or code signal communication between the container gauger and the pumping station.

(iv) A fast response system for determining the liquid level of each bulk storage container such as digital computers, telepulse, or direct vision gauges. If you use this alternative, a person must be present to monitor gauges and the overall filling of bulk storage containers.

(v) You must regularly test liquid level sensing devices to ensure proper operation.

(9) Observe effluent treatment facilities frequently enough to detect possible system upsets that could cause a discharge as described in § 112.1(b).

(10) Promptly correct visible discharges which result in a loss of oil from the container, including but not limited to seams, gaskets, piping, pumps, valves, rivets, and bolts. You must promptly remove any accumulations of oil in diked areas.

(11) Position or locate mobile or portable oil storage containers to prevent a discharge as described in §112.1(b). Except for mobile refuelers and other non-transportation-related tank trucks, you must furnish a secondary means of containment, such as a dike or catchment basin, sufficient to contain the capacity of the largest single compartment or container with sufficient freeboard to contain precipitation.

(d) *Facility transfer operations, pumping, and facility process.* (1) Provide buried piping that is installed or replaced on or after August 16, 2002, with a protective wrapping and coating. You must also cathodically protect such buried piping installations or otherwise satisfy the corrosion protection standards for piping in part 280 of this chapter or a State program approved under part 281 of this chapter. If a section of buried line is exposed for any reason, you must carefully inspect it for deterioration. If you find corrosion damage, you must undertake additional examination and corrective action as indicated by the magnitude of the damage.

(2) Cap or blank-flange the terminal connection at the transfer point and mark it as to origin when piping is not in service or is in standby service for an extended time.

(3) Properly design pipe supports to minimize abrasion and corrosion and allow for expansion and contraction.

(4) Regularly inspect all aboveground valves, piping, and appurtenances. During the inspection you must assess the general condition of items, such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces. You must also conduct integrity and leak testing of buried piping at the time of installation, modification, construction, relocation, or replacement.

(5) Warn all vehicles entering the facility to be sure that no vehicle will endanger aboveground piping or other oil transfer operations.

[67 FR 47146, July 17, 2002, as amended at 71 FR 77293, Dec. 26, 2006; 73 FR 74304, Dec. 5, 2008]

§ 112.9 Spill Prevention, Control, and Countermeasure Plan Requirements for onshore oil production facilities (excluding drilling and workover facilities).

If you are the owner or operator of an onshore oil production facility (excluding a drilling or workover facility), you must:

(a) Meet the general requirements for the Plan listed under § 112.7, and the specific discharge prevention and containment procedures listed under this section.

(b) *Oil production facility drainage.*

(1) At tank batteries and separation and treating areas where there is a reasonable possibility of a discharge as described in § 112.1(b), close and seal at all times drains of dikes or drains of equivalent measures required under § 112.7(c)(1), except when draining uncontaminated rainwater. Prior to drainage, you must inspect the diked area and take action as provided in § 112.8(c)(3)(ii), (iii), and (iv). You must remove accumulated oil on the rainwater and return it to storage or dispose of it in accordance with legally approved methods.

(2) Inspect at regularly scheduled intervals field drainage systems (such as drainage ditches or road ditches), and oil traps, sumps, or skimmers, for an accumulation of oil that may have resulted from any small discharge. You must promptly remove any accumulations of oil.

(c) *Oil production facility bulk storage containers.*

(1) Not use a container for the storage of oil unless its material and construction are compatible with the material stored and the conditions of storage.

(2) Except as described in paragraph (c)(5) of this section for flow-through process vessels and paragraph (c)(6) of this section for produced water containers and any associated piping and appurtenances downstream from the container, construct all tank battery, separation, and treating facility installations, so that you provide a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation. You must safely confine drainage from undiked areas in a catchment basin or holding pond.

(3) Except as described in paragraph (c)(5) of this section for flow-through process vessels and paragraph (c)(6) of this section for produced water containers and any associated piping and appurtenances downstream from the container, periodically and upon a regular schedule visually inspect each container of oil for deterioration and maintenance needs, including the foundation and support of each container that is on or above the surface of the ground.

(4) Engineer or update new and old tank battery installations in accordance with good engineering practice to prevent discharges. You must provide at least one of the following:

(i) Container capacity adequate to assure that a container will not overfill if a pumper/gauger is delayed in making regularly scheduled rounds.

(ii) Overflow equalizing lines between containers so that a full container can overflow to an adjacent container.

(iii) Vacuum protection adequate to prevent container collapse during a pipeline run or other transfer of oil from the container.

(iv) High level sensors to generate and transmit an alarm signal to the computer where the facility is subject to a computer production control system.

(5) *Flow-through process vessels.* The owner or operator of a facility with flow-through process vessels may choose to implement the alternate requirements as described below in lieu of sized secondary containment required in paragraphs (c)(2) and (c)(3) of this section.

(i) Periodically and on a regular schedule visually inspect and/or test flow-through process vessels and associated components (such as dump valves) for leaks, corrosion, or other conditions that

could lead to a discharge as described in §112.1(b).

(ii) Take corrective action or make repairs to flow-through process vessels and any associated components as indicated by regularly scheduled visual inspections, tests, or evidence of an oil discharge.

(iii) Promptly remove or initiate actions to stabilize and remediate any accumulations of oil discharges associated with flow-through process vessels.

(iv) If your facility discharges more than 1,000 U.S. gallons of oil in a single discharge as described in § 112.1(b), or discharges more than 42 U.S. gallons of oil in each of two discharges as described in § 112.1(b) within any twelve month period, from flow-through process vessels (excluding discharges that are the result of natural disasters, acts of war, or terrorism) then you must, within six months from the time the facility becomes subject to this paragraph, ensure that all flow-through process vessels subject to this subpart comply with §112.9(c)(2) and (c)(3).

(6) *Produced water containers*. For each produced water container, comply with § 112.9(c)(1) and (c)(4); and § 112.9(c)(2) and (c)(3), or comply with the provisions of the following paragraphs (c)(6)(i) through (v):

(i) Implement, on a regular schedule, a procedure for each produced water container that is designed to separate the free-phase oil that accumulates on the surface of the produced water. Include in the Plan a description of the procedures, frequency, amount of free-phase oil expected to be maintained inside the container, and a Professional Engineer certification in accordance with § 112.3(d)(1)(vi). Maintain records of such events in accordance with § 112.7(e). Records kept under usual and customary business practices will suffice for purposes of this paragraph. If this procedure is not implemented as described in the Plan or no records are maintained, then you must comply with § 112.9(c)(2) and (c)(3).

(ii) On a regular schedule, visually inspect and/or test the produced water container and associated piping for leaks, corrosion, or other conditions that could lead to a discharge as described in § 112.1(b) in accordance with good engineering practice.

(iii) Take corrective action or make repairs to the produced water container and any associated piping as indicated by regularly scheduled visual inspections, tests, or evidence of an oil discharge.

(iv) Promptly remove or initiate actions to stabilize and remediate any accumulations of oil discharges associated with the produced water container.

(v) If your facility discharges more than 1,000 U.S. gallons of oil in a single discharge as described in § 112.1(b), or discharges more than 42 U.S. gallons of oil in each of two discharges as described in §112.1(b) within any twelve month period from a produced water container subject to this subpart (excluding discharges that are the result of natural disasters, acts of war, or terrorism) then you must, within six months from the time the facility becomes subject to this paragraph, ensure that all produced water containers subject to this subpart comply with § 112.9(c)(2) and (c)(3).

(d) *Facility transfer operations, oil production facility*.

(1) Periodically and upon a regular schedule inspect all aboveground valves and piping associated with transfer operations for the general condition of flange joints, valve glands and bodies, drip pans, pipe supports, pumping well polish rod stuffing boxes, bleeder and gauge valves, and other such items.

(2) Inspect saltwater (oil field brine) disposal facilities often, particularly following a sudden change in atmospheric temperature, to detect possible system upsets capable of causing a discharge.

(3) For flowlines and intra-facility gathering lines that are not provided with secondary containment in accordance with § 112.7(c), unless you have submitted a response plan under § 112.20, provide in your Plan the following:

(i) An oil spill contingency plan following the provisions of part 109 of this chapter.

(ii) A written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that might be harmful.

(4) Prepare and implement a written program of flowline/intra-facility gathering line maintenance. The maintenance program must address your procedures to:

(i) Ensure that flowlines and intra-facility gathering lines and associated valves and equipment are compatible with the type of production fluids, their potential corrosivity, volume, and pressure, and other conditions expected in the operational environment.

(ii) Visually inspect and/or test flowlines and intra-facility gathering lines and associated appurtenances on a periodic and regular schedule for leaks, oil discharges, corrosion, or other conditions that could lead to a discharge as described in §112.1(b). For flowlines and intra-facility gathering lines that are not provided with secondary containment in accordance with § 112.7(c), the frequency and type of testing must allow for the implementation of a contingency plan as described under part 109 of this chapter.

(iii) Take corrective action or make repairs to any flowlines and intra-facility gathering lines and associated appurtenances as indicated by regularly scheduled visual inspections, tests, or evidence of a discharge.

(iv) Promptly remove or initiate actions to stabilize and remediate any accumulations of oil discharges associated with flowlines, intra-facility gathering lines, and associated appurtenances.

[73 FR, 74304, Dec. 5, 2008, as amended at 74 FR 58810, Nov. 13, 2009]

§ 112.10 Spill Prevention, Control, and Countermeasure Plan Requirements for Onshore Oil Drilling and Workover Facilities.

If you are the owner or operator of an onshore oil drilling and workover facility, you must:

(a) Meet the general requirements listed under §112.7, and also meet the specific discharge prevention and containment procedures listed under this section.

(b) Position or locate mobile drilling or workover equipment so as to prevent a discharge as described in § 112.1(b).

(c) Provide catchment basins or diversion structures to intercept and contain discharges of fuel, crude oil, or oily drilling fluids.

(d) Install a blowout prevention (BOP) assembly and well control system before drilling below any casing string or during

workover operations. The BOP assembly and well control system must be capable of controlling any well-head pressure that may be encountered while that BOP assembly and well control system are on the well.

§ 112.11 Spill Prevention, Control, and Countermeasure Plan requirements for offshore oil drilling, production, or workover facilities.

If you are the owner or operator of an offshore oil drilling, production, or workover facility, you must:

(a) Meet the general requirements listed under §112.7, and also meet the specific discharge prevention and containment procedures listed under this section.

(b) Use oil drainage collection equipment to prevent and control small oil discharges around pumps, glands, valves, flanges, expansion joints, hoses, drain lines, separators, treaters, tanks, and associated equipment. You must control and direct facility drains toward a central collection sump to prevent the facility from having a discharge as described in §112.1(b). Where drains and sumps are not practicable, you must remove oil contained in collection equipment as often as necessary to prevent overflow.

(c) For facilities employing a sump system, provide adequately sized sump and drains and make available a spare pump to remove liquid from the sump and assure that oil does not escape. You must employ a regularly scheduled preventive maintenance inspection and testing program to assure reliable operation of the liquid removal system and pump start-up device. Redundant automatic sump pumps and control devices may be required on some installations.

(d) At facilities with areas where separators and treaters are equipped with dump valves which predominantly fail in the closed position and where pollution risk is high, specially equip the facility to prevent the discharge of oil. You must prevent the discharge of oil by:

(1) Extending the flare line to a diked area if the separator is near shore;

(2) Equipping the separator with a high liquid level sensor that will automatically shut in wells producing to the separator; or

(3) Installing parallel redundant dump valves.

(e) Equip atmospheric storage or surge containers with high liquid level sensing devices that activate an alarm or control the flow, or otherwise prevent discharges.

(f) Equip pressure containers with high and low pressure sensing devices that activate an alarm or control the flow.

(g) Equip containers with suitable corrosion protection.

(h) Prepare and maintain at the facility a written procedure within the Plan for inspecting and testing pollution prevention equipment and systems.

(i) Conduct testing and inspection of the pollution prevention equipment and systems at the facility on a scheduled periodic basis, commensurate with the complexity, conditions, and circumstances of the facility and any other appropriate regulations. You must use simulated discharges for testing and inspecting human and equipment pollution control and countermeasure systems.

(j) Describe in detailed records surface and subsurface well shut-in valves and devices in use at the facility for each well sufficiently to determine their method of activation or control, such as pressure differential, change in fluid or flow conditions, combination of pressure and flow, manual or remote control mechanisms.

(k) Install a BOP assembly and well control system during workover operations and before drilling below any casing string. The BOP assembly and well control system must be capable of controlling any well-head pressure that may be encountered while the BOP assembly and well control system are on the well.

(l) Equip all manifolds (headers) with check valves on individual flowlines.

(m) Equip the flowline with a high pressure sensing device and shut-in valve at the wellhead if the shut-in well pressure is greater than the working pressure of the flowline and manifold valves up to and including the header valves. Alternatively you may provide a pressure relief system for flowlines.

(n) Protect all piping appurtenant to the facility from corrosion, such as with protective coatings or cathodic protection.

(o) Adequately protect sub-marine piping appurtenant to the facility against environmental stresses and other activities such as fishing operations.

(p) Maintain sub-marine piping appurtenant to the facility in good operating condition at all times. You must periodically and according to a schedule inspect or test such piping for failures. You must document and keep a record of such inspections or tests at the facility.

Subpart C—Requirements for Animal Fats and Oils and Greases, and Fish and Marine Mammal Oils; and for Vegetable Oils, including Oils from Seeds, Nuts, Fruits, and Kernels.

SOURCE: 67 FR 57149, July 17, 2002, unless otherwise noted.

§ 112.12 Spill Prevention, Control, and Countermeasure Plan Requirements.

If you are the owner or operator of an onshore facility, you must:

(a) Meet the general requirements for the Plan listed under § 112.7, and the specific discharge prevention and containment procedures listed in this section.

(b) *Facility drainage.* (1) Restrain drainage from diked storage areas by valves to prevent a discharge into the drainage system or facility effluent treatment system, except where facility systems are designed to control such discharge. You may empty diked areas by pumps or ejectors; however, you must manually activate these pumps or ejectors and must inspect the condition of the accumulation before starting, to ensure no oil will be discharged.

(2) Use valves of manual, open-and-closed design, for the drainage of diked areas. You may not use flapper-type drain valves to drain diked areas. If your facility drainage drains directly into a watercourse and not into an on-site wastewater treatment plant, you must inspect and may drain uncontaminated retained stormwater, subject to the requirements of paragraphs (c)(3)(ii), (iii), and (iv) of this section.

(3) Design facility drainage systems from undiked areas with a potential for a discharge (such as where piping is located outside containment walls or where tank truck discharges may occur outside the loading area) to flow into ponds, lagoons, or catchment basins designed to retain oil or return it to the facility. You must not locate catchment basins in areas subject to periodic flooding.

(4) If facility drainage is not engineered as in paragraph (b)(3) of this section, equip the final discharge of all ditches inside the facility with a diversion system that would, in the event of an uncontrolled discharge, retain oil in the facility.

(5) Where drainage waters are treated in more than one treatment unit and such

treatment is continuous, and pump transfer is needed, provide two "lift" pumps and permanently install at least one of the pumps. Whatever techniques you use, you must engineer facility drainage systems to prevent a discharge as described in § 112.1(b) in case there is an equipment failure or human error at the facility.

(c) *Bulk storage containers.*

(1) Not use a container for the storage of oil unless its material and construction are compatible with the material stored and conditions of storage such as pressure and temperature.

(2) Construct all bulk storage tank installations (except mobile refuelers and other non-transportation-related tank trucks) so that you provide a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation. You must ensure that diked areas are sufficiently impervious to contain discharged oil. Dikes, containment curbs, and pits are commonly employed for this purpose. You may also use an alternative system consisting of a drainage trench enclosure that must be arranged so that any discharge will terminate and be safely confined in a facility catchment basin or holding pond.

(3) Not allow drainage of uncontaminated rainwater from the diked area into a storm drain or discharge of an effluent into an open watercourse, lake, or pond, bypassing the facility treatment system unless you:

(i) Normally keep the bypass valve sealed closed.

(ii) Inspect the retained rainwater to ensure that its presence will not cause a discharge as described in §112.1(b).

(iii) Open the bypass valve and reseal it following drainage under responsible supervision; and

(iv) Keep adequate records of such events, for example, any records required under permits issued in accordance with §§122.41(j)(2) and 122.41(m)(3) of this chapter.

(4) Protect any completely buried metallic storage tank installed on or after January 10, 1974 from corrosion by coatings or cathodic protection compatible with local soil conditions. You must regularly leak test such completely buried metallic storage tanks.

(5) Not use partially buried or bunkered metallic tanks for the storage of oil, unless you protect the buried section of the tank from corrosion. You must protect partially buried and bunkered tanks from corrosion by coatings or cathodic protection compatible with local soil conditions.

(6) *Bulk storage container inspections.*

(i) Except for containers that meet the criteria provided in paragraph (c)(6)(ii) of this section, test or inspect each aboveground container for integrity on a regular schedule and whenever you make material repairs. You must determine, in accordance with industry standards, the appropriate qualifications for personnel performing tests and inspections, the frequency and type of testing and inspections, which take into account container size, configuration, and design (such as containers that are: shop-built, field erected, skid-mounted, elevated, equipped with a liner, double-walled, or partially buried). Examples of these integrity tests include, but are not limited to: Visual inspection, hydrostatic testing, radiographic testing, ultrasonic testing, acoustic emissions testing, or other systems of non-destructive testing. You must keep comparison records and you must also inspect the container's supports and foundations. In addition, you must frequently inspect the outside of the container for signs of deterioration, discharges, or accumulation of oil inside diked areas. Records of inspections and tests kept under usual and customary business practices satisfy the recordkeeping requirements of this paragraph.

(ii) For bulk storage containers that are subject to 21 CFR part 110, are elevated, constructed of austenitic stainless steel, have no external insulation, and are shop-fabricated, conduct formal visual inspection on a regular schedule. In addition, you must frequently inspect the outside of the container for signs of deterioration, discharges, or accumulation of oil inside diked areas. You must determine and document in the Plan the appropriate qualifications for personnel performing tests and inspections. Records of inspections and tests kept under usual and customary business practices satisfy the recordkeeping requirements of this paragraph (c)(6).

(7) Control leakage through defective internal heating coils by monitoring the steam return and exhaust lines for contamination from internal heating coils that discharge into an open watercourse, or pass the steam return or exhaust lines through a settling tank, skimmer, or other separation or retention system.

(8) Engineer or update each container installation in accordance with good engineering practice to avoid discharges. You must provide at least one of the following devices:

(i) High liquid level alarms with an audible or visual signal at a constantly attended operation or surveillance station. In smaller facilities an audible air vent may suffice.

(ii) High liquid level pump cutoff devices set to stop flow at a predetermined container content level.

(iii) Direct audible or code signal communication between the container gauger and the pumping station.

(iv) A fast response system for determining the liquid level of each bulk storage container such as digital computers, telepulse, or direct vision gauges. If you use this alternative, a person must be present to monitor gauges and the overall filling of bulk storage containers.

(v) You must regularly test liquid level sensing devices to ensure proper operation.

(9) Observe effluent treatment facilities frequently enough to detect possible system upsets that could cause a discharge as described in § 112.1(b).

(10) Promptly correct visible discharges which result in a loss of oil from the container, including but not limited to seams, gaskets, piping, pumps, valves, rivets, and bolts. You must promptly remove any accumulations of oil in diked areas.

(11) Position or locate mobile or portable oil storage containers to prevent a discharge as described in §112.1(b). Except for mobile refuelers and other non-transportation-related tank trucks, you must furnish a secondary means of containment, such as a dike or catchment basin, sufficient to contain the capacity of the largest single compartment or container with sufficient freeboard to contain precipitation.

(d) *Facility transfer operations, pumping, and facility process.* (1) Provide buried piping that is installed or replaced on or after August 16, 2002, with a protective wrapping and coating. You must also cathodically protect such buried piping installations or otherwise satisfy the corrosion protection standards for piping in part 280 of this chapter or a State program approved under part 281 of this chapter. If a section of buried line is exposed for any reason, you must carefully inspect it for deterioration. If you find corrosion damage, you must undertake additional examination and corrective action as indicated by the magnitude of the damage.

(2) Cap or blank-flange the terminal connection at the transfer point and mark it as to origin when piping is not in service or is in standby service for an extended time.

(3) Properly design pipe supports to minimize abrasion and corrosion and allow for expansion and contraction.

(4) Regularly inspect all aboveground valves, piping, and appurtenances. During the inspection you must assess the general condition of items, such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces. You must also conduct integrity and leak testing of buried piping at the time of installation, modification, construction, relocation, or replacement.

(5) Warn all vehicles entering the facility to be sure that no vehicle will endanger aboveground piping or other oil transfer operations.

[67 FR 57149, July 17, 2002, as amended at 71 FR 77293, Dec. 26, 2006; 73 FR 74305, Dec. 5, 2008]

§§ 112.13–112.15 [Reserved]

Subpart D—Response Requirements

§ 112.20 Facility response plans.

(a) The owner or operator of any non-transportation-related onshore facility that, because of its location, could reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines shall prepare and submit a facility response plan to the Regional Administrator, according to the following provisions:

(1) For the owner or operator of a facility in operation on or before February 18, 1993 who is required to prepare and submit a response plan under 33 U.S.C. 1321(j)(5), the Oil Pollution Act of 1990 (Pub. L. 101–380, 33 U.S.C. 2701 et seq.) requires the submission of a response plan that satisfies the requirements of 33 U.S.C. 1321(j)(5) no later than February 18, 1993.

(i) The owner or operator of an existing facility that was in operation on or before February 18, 1993 who submitted a response plan by February 18, 1993 shall revise the response plan to satisfy the requirements of this section and resubmit the response plan or updated portions of the response plan to the Regional Administrator by February 18, 1995.

(ii) The owner or operator of an existing facility in operation on or before February 18, 1993 who failed to submit a response plan by February 18, 1993 shall prepare and submit a response plan that satisfies the requirements of this section to the Regional Administrator before August 30, 1994.

(2) The owner or operator of a facility in operation on or after August 30, 1994 that satisfies the criteria in paragraph (f)(1) of this section or that is notified by the Regional Administrator pursuant to paragraph (b) of this section shall prepare and submit a facility response plan that satisfies the requirements of this section to the Regional Administrator.

(i) For a facility that commenced operations after February 18, 1993 but prior to August 30, 1994, and is required to prepare and submit a response plan based on the criteria in paragraph (f)(1) of this section, the owner or operator shall submit the response plan or updated portions of the response plan, along with a completed version of the response plan cover sheet contained in appendix F to this part, to the Regional Administrator prior to August 30, 1994.

(ii) For a newly constructed facility that commences operation after August 30, 1994, and is required to prepare and submit a response plan based on the criteria in paragraph (f)(1) of this section, the owner or operator shall submit the response plan, along with a completed version of the response plan cover sheet contained in appendix F to this part, to the Regional Administrator prior to the start of operations (adjustments to the response plan to reflect changes that occur at the facility during the start-up phase of operations must be submitted to the Regional Administrator after an operational trial period of 60 days).

(iii) For a facility required to prepare and submit a response plan after August 30, 1994, as a result of a planned change in design, construction, operation, or maintenance that renders the facility subject to the criteria in paragraph (f)(1) of this section, the owner or operator shall submit the response plan, along with a completed version of the response plan cover sheet contained in appendix F to this part, to the Regional Administrator before the portion of the facility undergoing change commences operations (adjustments to the response plan to reflect changes that occur at the facility during the start-up phase of operations must be submitted to the Regional Administrator after an operational trial period of 60 days).

(iv) For a facility required to prepare and submit a response plan after August 30, 1994, as a result of an unplanned event or change in facility characteristics that renders the facility subject to the criteria in paragraph (f)(1) of this section, the owner or operator shall submit the response plan, along with a completed version of the response plan cover sheet contained in appendix F to this part, to the Regional Administrator within six months of the unplanned event or change.

(3) In the event the owner or operator of a facility that is required to prepare and submit a response plan uses an alternative formula that is comparable to one contained in appendix C to this part to evaluate the criterion in paragraph (f)(1)(ii)(B) or (f)(1)(ii)(C) of this section, the owner or operator shall attach documentation to the response plan cover sheet contained in appendix F to this part that demonstrates the reliability and analytical soundness of the alternative formula.

(4) *Preparation and submission of response plans—Animal fat and vegetable oil facilities.* The owner or operator of any non-transportation-related facility that handles, stores, or transports animal fats and vegetable oils must prepare and submit a facility response plan as follows:

(i) *Facilities with approved plans.* The owner or operator of a facility with a facility response plan that has been approved under paragraph (c) of this section by July 31, 2000 need not prepare or submit a revised plan except as otherwise required by paragraphs (b), (c), or (d) of this section.

(ii) Facilities with plans that have been submitted to the Regional Administrator. Except for facilities with approved plans as provided in paragraph (a)(4)(i) of this section, the owner or operator of a facility that has submitted a response plan to the Regional Administrator prior to July 31, 2000 must review the plan to

determine if it meets or exceeds the applicable provisions of this part. An owner or operator need not prepare or submit a new plan if the existing plan meets or exceeds the applicable provisions of this part. If the plan does not meet or exceed the applicable provisions of this part, the owner or operator must prepare and submit a new plan by September 28, 2000.

(iii) *Newly regulated facilities*. The owner or operator of a newly constructed facility that commences operation after July 31, 2000 must prepare and submit a plan to the Regional Administrator in accordance with paragraph (a)(2)(ii) of this section. The plan must meet or exceed the applicable provisions of this part. The owner or operator of an existing facility that must prepare and submit a plan after July 31, 2000 as a result of a planned or unplanned change in facility characteristics that causes the facility to become regulated under paragraph (f)(1) of this section, must prepare and submit a plan to the Regional Administrator in accordance with paragraph (a)(2)(iii) or (iv) of this section, as appropriate. The plan must meet or exceed the applicable provisions of this part.

(iv) *Facilities amending existing plans*. The owner or operator of a facility submitting an amended plan in accordance with paragraph (d) of this section after July 31, 2000, including plans that had been previously approved, must also review the plan to determine if it meets or exceeds the applicable provisions of this part. If the plan does not meet or exceed the applicable provisions of this part, the owner or operator must revise and resubmit revised portions of an amended plan to the Regional Administrator in accordance with paragraph (d) of this section, as appropriate. The plan must meet or exceed the applicable provisions of this part.

(b)(1) The Regional Administrator may at any time require the owner or operator of any non-transportation-related onshore facility to prepare and submit a facility response plan under this section after considering the factors in paragraph (f)(2) of this section. If such a determination is made, the Regional Administrator shall notify the facility owner or operator in writing and shall provide a basis for the determination. If the Regional Administrator notifies the owner or operator in writing of the requirement to prepare and submit a response plan under this section, the owner or operator of the facility shall submit the response plan to the Regional Administrator within six months of receipt of such written notification.

(2) The Regional Administrator shall review plans submitted by such facilities to determine whether the facility could, because of its location, reasonably be expected to cause significant and substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines.

(c) The Regional Administrator shall determine whether a facility could, because of its location, reasonably be expected to cause significant and substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines, based on the factors in paragraph (f)(3) of this section. If such a determination is made, the Regional Administrator shall notify the owner or operator of the facility in writing and:

(1) Promptly review the facility response plan;

(2) Require amendments to any response plan that does not meet the requirements of this section;

(3) Approve any response plan that meets the requirements of this section; and

(4) Review each response plan periodically thereafter on a schedule established by the Regional Administrator provided that the period between plan reviews does not exceed five years.

(d)(1) The owner or operator of a facility for which a response plan is required under this part shall revise and resubmit revised portions of the response plan within 60 days of each facility change that materially may affect the response to a worst case discharge, including:

(i) A change in the facility's configuration that materially alters the information included in the response plan;

(ii) A change in the type of oil handled, stored, or transferred that materially alters the required response resources;

(iii) A material change in capabilities of the oil spill removal organization(s) that provide equipment and personnel to respond to discharges of oil described in paragraph (h)(5) of this section;

(iv) A material change in the facility's spill prevention and response equipment or emergency response procedures; and

(v) Any other changes that materially affect the implementation of the response plan.

(2) Except as provided in paragraph (d)(1) of this section, amendments to personnel and telephone number lists included in the response plan and a change in the oil spill removal organization(s) that does not result in a material change in support capabilities do not require approval by the Regional Administrator. Facility owners or operators shall provide a copy of such changes to the Regional Administrator as the revisions occur.

(3) The owner or operator of a facility that submits changes to a response plan as provided in paragraph (d)(1) or (d)(2) of this section shall provide the EPA-issued facility identification number (where one has been assigned) with the changes.

(4) The Regional Administrator shall review for approval changes to a response plan submitted pursuant to paragraph (d)(1) of this section for a facility determined pursuant to paragraph (f)(3) of this section to have the potential to cause significant and substantial harm to the environment.

(e) If the owner or operator of a facility determines pursuant to paragraph (a)(2) of this section that the facility could not, because of its location, reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines, the owner or operator shall complete and maintain at the facility the certification form contained in appendix C to this part and, in the event an alternative formula that is comparable to one contained in appendix C to this part is used to evaluate the criterion in paragraph (f)(1)(ii)(B) or (f)(1)(ii)(C) of this section, the owner or operator shall attach documentation to the certification form that demonstrates the reliability and analytical soundness of the comparable formula and shall notify the Regional Administrator in writing that an alternative formula was used.

(f)(1) A facility could, because of its location, reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines pursuant

to paragraph (a)(2) of this section, if it meets any of the following criteria applied in accordance with the flowchart contained in attachment C-I to appendix C to this part:

(i) The facility transfers oil over water to or from vessels and has a total oil storage capacity greater than or equal to 42,000 gallons; or

(ii) The facility's total oil storage capacity is greater than or equal to 1 million gallons, and one of the following is true:

(A) The facility does not have secondary containment for each aboveground storage area sufficiently large to contain the capacity of the largest aboveground oil storage tank within each storage area plus sufficient freeboard to allow for precipitation;

(B) The facility is located at a distance (as calculated using the appropriate formula in appendix C to this part or a comparable formula) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments. For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III of the "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments" (see Appendix E to this part, section 13, for availability) and the applicable Area Contingency Plan prepared pursuant to section 311(j)(4) of the Clean Water Act;

(C) The facility is located at a distance (as calculated using the appropriate formula in appendix C to this part or a comparable formula) such that a discharge from the facility would shut down a public drinking water intake; or

(D) The facility has had a reportable oil discharge in an amount greater than or equal to 10,000 gallons within the last 5 years.

(2)(i) To determine whether a facility could, because of its location, reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines pursuant to paragraph (b) of this section, the Regional Administrator shall consider the following:

(A) Type of transfer operation;

(B) Oil storage capacity;

(C) Lack of secondary containment;

(D) Proximity to fish and wildlife and sensitive environments and other areas determined by the Regional Administrator to possess ecological value;

(E) Proximity to drinking water intakes;

(F) Spill history; and

(G) Other site-specific characteristics and environmental factors that the Regional Administrator determines to be relevant to protecting the environment from harm by discharges of oil into or on navigable waters or adjoining shorelines.

(ii) Any person, including a member of the public or any representative from a Federal, State, or local agency who believes that a facility subject to this section could, because of its location, reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines may petition the Regional Administrator to determine whether the facility meets the criteria in paragraph (f)(2)(i) of this section. Such petition shall include a discussion of how the factors in paragraph (f)(2)(i) of this section apply to the facility in question. The RA shall consider such petitions and respond in an appropriate amount of time.

(3) To determine whether a facility could, because of its location, reasonably be expected to cause significant and substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines, the Regional Administrator may consider the factors in paragraph (f)(2) of this section as well as the following:

(i) Frequency of past discharges;

(ii) Proximity to navigable waters;

(iii) Age of oil storage tanks; and

(iv) Other facility-specific and Region-specific information, including local impacts on public health.

(g)(1) All facility response plans shall be consistent with the requirements of the National Oil and Hazardous Substance Pollution Contingency Plan (40 CFR part 300) and applicable Area Contingency Plans prepared pursuant to section 311(j)(4) of the Clean Water Act. The facility response plan should be coordinated with the local emergency response plan developed by the local emergency planning committee under section 303 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (42 U.S.C. 11001 et seq.). Upon request, the owner or operator should provide a copy of the facility response plan to the local emergency planning committee or State emergency response commission.

(2) The owner or operator shall review relevant portions of the National Oil and Hazardous Substances Pollution Contingency Plan and applicable Area Contingency Plan annually and, if necessary, revise the facility response plan to ensure consistency with these plans.

(3) The owner or operator shall review and update the facility response plan periodically to reflect changes at the facility.

(h) A response plan shall follow the format of the model facility-specific response plan included in appendix F to this part, unless you have prepared an equivalent response plan acceptable to the Regional Administrator to meet State or other Federal requirements. A response plan that does not follow the specified format in appendix F to this part shall have an emergency response action plan as specified in paragraphs (h)(1) of this section and be supplemented with a cross-reference section to identify the location of the elements listed in paragraphs (h)(2) through (h)(10) of this section. To meet the requirements of this part, a response plan shall address the following elements, as further described in appendix F to this part:

(1) *Emergency response action plan.* The response plan shall include an emergency response action plan in the format specified in paragraphs (h)(1)(i) through (viii) of this section that is maintained in the front of the response plan, or as a separate document accompanying the response plan, and that includes the following information:

(i) The identity and telephone number of a qualified individual having full authority, including contracting authority, to implement removal actions;

(ii) The identity of individuals or organizations to be contacted in the event of a discharge so that immediate communications between the qualified individual identified in paragraph (h)(1) of this section and the appropriate Federal officials and the persons providing response personnel and equipment can be ensured;

(iii) A description of information to pass to response personnel in the event of a reportable discharge;

(iv) A description of the facility's response equipment and its location;

(v) A description of response personnel capabilities, including the duties of persons at the facility during a response

action and their response times and qualifications;

(vi) Plans for evacuation of the facility and a reference to community evacuation plans, as appropriate;

(vii) A description of immediate measures to secure the source of the discharge, and to provide adequate containment and drainage of discharged oil; and

(viii) A diagram of the facility.

(2) *Facility information*. The response plan shall identify and discuss the location and type of the facility, the identity and tenure of the present owner and operator, and the identity of the qualified individual identified in paragraph (h)(1) of this section.

(3) *Information about emergency response.* The response plan shall include:

(i) The identity of private personnel and equipment necessary to remove to the maximum extent practicable a worst case discharge and other discharges of oil described in paragraph (h)(5) of this section, and to mitigate or prevent a substantial threat of a worst case discharge (To identify response resources to meet the facility response plan requirements of this section, owners or operators shall follow Appendix E to this part or, where not appropriate, shall clearly demonstrate in the response plan why use of Appendix E of this part is not appropriate at the facility and make comparable arrangements for response resources);

(ii) Evidence of contracts or other approved means for ensuring the availability of such personnel and equipment;

(iii) The identity and the telephone number of individuals or organizations to be contacted in the event of a discharge so that immediate communications between the qualified individual identified in paragraph (h)(1) of this section and the appropriate Federal official and the persons providing response personnel and equipment can be ensured;

(iv) A description of information to pass to response personnel in the event of a reportable discharge;

(v) A description of response personnel capabilities, including the duties of persons at the facility during a response action and their response times and qualifications;

(vi) A description of the facility's response equipment, the location of the equipment, and equipment testing;

(vii) Plans for evacuation of the facility and a reference to community evacuation plans, as appropriate;

(viii) A diagram of evacuation routes; and

(ix) A description of the duties of the qualified individual identified in paragraph (h)(1) of this section, that include:

(A) Activate internal alarms and hazard communication systems to notify all facility personnel;

(B) Notify all response personnel, as needed;

(C) Identify the character, exact source, amount, and extent of the release, as well as the other items needed for notification;

(D) Notify and provide necessary information to the appropriate Federal, State, and local authorities with designated response roles, including the National Response Center, State Emergency Response Commission, and Local Emergency Planning Committee;

(E) Assess the interaction of the discharged substance with water and/or other substances stored at the facility and notify response personnel at the scene of that assessment;

(F) Assess the possible hazards to human health and the environment due to the release. This assessment must consider both the direct and indirect effects of the release (i.e., the effects of any toxic, irritating, or asphyxiating gases that may be generated, or the effects of any hazardous surface water runoffs from water or chemical agents used to control fire and heat-induced explosion);

(G) Assess and implement prompt removal actions to contain and remove the substance released;

(H) Coordinate rescue and response actions as previously arranged with all response personnel;

(I) Use authority to immediately access company funding to initiate cleanup activities; and

(J) Direct cleanup activities until properly relieved of this responsibility.

(4) *Hazard evaluation.* The response plan shall discuss the facility's known or reasonably identifiable history of discharges reportable under 40 CFR part 110 for the entire life of the facility and shall identify areas within the facility where discharges could occur and what the potential effects of the discharges would be on the affected environment. To assess the range of areas potentially affected, owners or operators shall, where appropriate, consider the distance calculated in paragraph (f)(1)(ii) of this section to determine whether a facility could, because of its location, reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines.

(5) *Response planning levels.* The response plan shall include discussion of specific planning scenarios for:

(i) A worst case discharge, as calculated using the appropriate worksheet in appendix D to this part. In cases where the Regional Administrator determines that the worst case discharge volume calculated by the facility is not appropriate, the Regional Administrator may specify the worst case discharge amount to be used for response planning at the facility. For complexes, the worst case planning quantity shall be the larger of the amounts calculated for each component of the facility;

(ii) A discharge of 2,100 gallons or less, provided that this amount is less than the worst case discharge amount. For complexes, this planning quantity shall be the larger of the amounts calculated for each component of the facility; and

(iii) A discharge greater than 2,100 gallons and less than or equal to 36,000 gallons or 10 percent of the capacity of the largest tank at the facility, whichever is less, provided that this amount is less than the worst case discharge amount. For complexes, this planning quantity shall be the larger of the amounts calculated for each component of the facility.

(6) *Discharge detection systems.* The response plan shall describe the procedures and equipment used to detect discharges.

(7) *Plan implementation.* The response plan shall describe:

(i) Response actions to be carried out by facility personnel or contracted personnel under the response plan to ensure the

safety of the facility and to mitigate or prevent discharges described in paragraph (h)(5) of this section or the substantial threat of such discharges;

(ii) A description of the equipment to be used for each scenario;

(iii) Plans to dispose of contaminated cleanup materials; and

(iv) Measures to provide adequate containment and drainage of discharged oil.

(8) *Self-inspection, drills/exercises, and response training.* The response plan shall include:

(i) A checklist and record of inspections for tanks, secondary containment, and response equipment;

(ii) A description of the drill/exercise program to be carried out under the response plan as described in § 112.21;

(iii) A description of the training program to be carried out under the response plan as described in § 112.21; and

(iv) Logs of discharge prevention meetings, training sessions, and drills/exercises. These logs may be maintained as an annex to the response plan.

(9) *Diagrams.* The response plan shall include site plan and drainage plan diagrams.

(10) *Security systems.* The response plan shall include a description of facility security systems.

(11) *Response plan cover sheet.* The response plan shall include a completed response plan cover sheet provided in section 2.0 of appendix F to this part.

(i)(1) In the event the owner or operator of a facility does not agree with the Regional Administrator's determination that the facility could, because of its location, reasonably be expected to cause substantial harm or significant and substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines, or that amendments to the facility response plan are necessary prior to approval, such as changes to the worst case discharge planning volume, the owner or operator may submit a request for reconsideration to the Regional Administrator and provide additional information and data in writing to support the request. The request and accompanying information must be submitted to the Regional Administrator within 60 days of receipt of notice of the Regional Administrator's original decision. The Regional Administrator shall consider the request and render a decision as rapidly as practicable.

(2) In the event the owner or operator of a facility believes a change in the facility's classification status is warranted because of an unplanned event or change in the facility's characteristics (i.e., substantial harm or significant and substantial harm), the owner or operator may submit a request for reconsideration to the Regional Administrator and provide additional information and data in writing to support the request. The Regional Administrator shall consider the request and render a decision as rapidly as practicable.

(3) After a request for reconsideration under paragraph (i)(1) or (i)(2) of this section has been denied by the Regional Administrator, an owner or operator may appeal a determination made by the Regional Administrator. The appeal shall be made to the EPA Administrator and shall be made in writing within 60 days of receipt of the decision from the Regional Administrator that the request for reconsideration was denied. A complete copy of the appeal must be sent to the Regional Administrator at the time the appeal is made. The appeal shall contain a clear and concise statement of the issues and points of fact in the case. It also may contain additional information from the owner or operator, or from any other person. The EPA Administrator may request additional information from the owner or operator, or from any other person. The EPA Administrator shall render a decision as rapidly as practicable and shall notify the owner or operator of the decision.

[59 FR 34098, July 1, 1994, as amended at 65 FR 40798, June 30, 2000; 66 FR 34560, June 29, 2001; 67 FR 47151, July 17, 2002]

§ 112.21 Facility Response Training and Drills/Exercises.

(a) The owner or operator of any facility required to prepare a facility response plan under §112.20 shall develop and implement a facility response training program and a drill/exercise program that satisfy the requirements of this section. The owner or operator shall describe the programs in the response plan as provided in § 112.20(h)(8).

(b) The facility owner or operator shall develop a facility response training program to train those personnel involved in oil spill response activities. It is recommended that the training program be based on the USCG's Training Elements for Oil Spill Response, as applicable to facility operations. An alternative program can also be acceptable subject to approval by the Regional Administrator.

(1) The owner or operator shall be responsible for the proper instruction of facility personnel in the procedures to respond to discharges of oil and in applicable oil spill response laws, rules, and regulations.

(2) Training shall be functional in nature according to job tasks for both supervisory and non-supervisory operational personnel.

(3) Trainers shall develop specific lesson plans on subject areas relevant to facility personnel involved in oil spill response and cleanup.

(c) The facility owner or operator shall develop a program of facility response drills/exercises, including evaluation procedures. A program that follows the National Preparedness for Response Exercise Program (PREP) (see appendix E to this part, section 13, for availability) will be deemed satisfactory for purposes of this section. An alternative program can also be acceptable subject to approval by the Regional Administrator.

[59 FR 34101, July 1, 1994, as amended at 65 FR 40798, June 30, 2000]