Climax Molybdenum
A Freeport-McMoRan Company

COLORADO OPERATIONS
Henderson Mine and Mill
P.O. Box 68
Empire, CO 80438
Phone (303) 569-3221
Fax (303) 569-2830

M-77-342

June 20, 2013

Via UPS Tracking Number: 1Z 804 847 02 7870 2491

RECEIVED

JUN 21 2013

DIVISION OF RECLAMATION
MINING AND SAFETY

Mr. Peter Hays
Division of Reclamation Mining and Safety
1313 Sherman St., Rm. 215
Denver, CO 80203

Re: Climax Molybdenum Company, Henderson Mine Spill Prevention Control and Countermeasure (SPCC) Plans

Dear Mr. Hays:

Climax Molybdenum Company (CMC) is submitting the enclosed Spill Prevention, Control, and Countermeasure (SPCC) Plan for the Henderson Mine in compliance with the CMC, Henderson Operations Environmental Protection Plan (EPP), TR-18. An Emergency Response Plan is required as a component of the EPP for compliance with Sections 34-32-103 (4.9) and 34-32-116.5 (5), C.R.S 1984 and Section 8.3 of the Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for Hard Rock, Metal and Designated Mining Operations (Rules) for designated chemicals. Enclosed is both a hard copy and CD version of the SPCC Plan. Note the Incident Response Manual (IRM) is included as an attachment to the SPCC Plan.

This document has been developed to provide procedures to protect, prevent, control, and mitigate releases of chemicals to the environment in the unlikely event of a spill of release of designated chemicals or toxic materials.

Please contact me at (303) 569-3221, ext. 1545 or Miguel Hamarat (ext. 1233) if you have any questions of concerns.

Sincerely,

Whitney Koester

Whitney Koester
Environmental Engineer
Climax Molybdenum Company
Henderson Operations

Enclosures:

1. Henderson Mine SPCC Plan with CD

cc (via email w/o attachments):

M. Hamarat, CMC
B. Romig, CMC
T. Haynes, CMC

Spill Prevention, Control, and Countermeasure (SPCC) Plan

HENDERSON MINE and URAD MINE SITE

Henderson Mine
1746 County Road 202
Empire, Colorado 80438

April 29, 2013

Climax Molybdenum
A Freeport-McMoRan Company

Prepared by

Aquionix

Aquionix, Inc.
3700 E. 41st Ave
Denver, CO 80216
303-289-7520
www.aquionix.com

TABLE OF CONTENTS

FIGURES

APPENDICES

1.0 INTRODUCTION

This Spill Prevention, Control and Countermeasures (SPCC) Plan has been prepared in accordance with the Federal oil pollution prevention regulations (40 CFR Part 112).

Section 311 of the 1972 amendments to the Federal Water Pollution Control Act mandated the development of an "Oil Pollution Prevention" program by the U.S. Environmental Protection Agency (EPA). The regulations were published in Title 40, Part 112 of the Code of Federal Regulations (40 CFR Part 112) in 1973 and revised on July 17, 2002. These regulations establish requirements for procedures and specific methods and equipment to prevent the discharge of oil to navigable waters. Among the procedures was the requirement for the development of a Spill Prevention, Control, and Countermeasures (SPCC) Plan by facilities subject to the rule.

The criteria set forth in 40 CFR Part 112.1(d)(2) requires facilities having an aboveground oil storage capacity of greater than 1,320 gallons to prepare a SPCC Plan. The Henderson Mine has a storage capacity of greater than 1,320 gallons, thus this Plan has been required. This SPCC Plan describes the procedures followed by the Henderson Mine to prevent, control, and mitigate releases of oil, petroleum products, and other hazardous chemicals to the environment at its facility located in Empire, Colorado. This Plan supersedes earlier SPCC Plans developed and implemented to meet the SPCC Regulations.

This SPCC Plan does not follow the exact order presented in 40 CFR Part 112. Section headings identify, where appropriate, the relevant section(s) of the SPCC regulations. Additionally, Appendix A provides a cross-reference table for the applicable requirements of 40 CFR Part 112 and the corresponding sections in this SPCC Plan where the requirements are addressed.

Copies of the above-referenced Federal oil pollution prevention regulations are included in Appendix K.

As an additional best management practice (BMP), the Henderson Mine includes non-SPCC regulated bulk chemical storage containers within the SPCC inventory. Although not required by 40 CFR Part 112, Henderson feels this practice plays a key role in preventing chemical spills in addition to providing a valuable supplement to Henderson's Stormwater Management Program.

1.1 Definitions

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: is defined as any mobile or fixed, onshore or offshore building, structure, installation, equipment, pipe, or pipeline used in oil well drilling operations, oil production, oil refining, oil storage, oil gathering, oil transfer, oil distribution, and waste treatment, or in which oil is used.

Harmful Quantities: For purposes of Section 311(b)(4) of the Act, discharges of oil in such quantities that the Administrator has determined may be harmful to the public health or welfare of the environment of the United States include discharges of oil that:

a) Violate applicable water quality standards; or
b) Cause a film, sheen, or discoloration upon the surface of the water or adjoining shorelines, or cause sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.

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, minerals oils, oil refuse, or oil mixed with wastes other than dredged spoil.

There are also specifically listed definitions of petroleum and non-petroleum oils, as follows:

Petroleum oil means petroleum in any form, including, but not limited to: crude oil, fuel oil, mineral oil, sludge, oil refuse, and refined products

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.

2.0 APPROVAL AND CERTIFICATION [40 CFR 112.3(d)]

2.1 Management Approval

Henderson Mine is committed to the prevention of discharges of oil or oily wastewater to navigable waters and the environment. Henderson Mine maintains the highest standards for spill prevention through regular review, updating, and implementation of this SPCC Plan for the Henderson Mine facility. Henderson Mine hereby commits the required equipment, material, and human resources to expeditiously control and remove discharges of oil in harmful quantities.

Facility Name and Address
Henderson Mine
1746 County Road 202
Empire, Colorado 80438

Name and Address of Owner/Operator
Climax Molybdenum Company
1746 County Road 202
Empire, Colorado 80438

Name: ____________________________

Signature: ____________________________

Title: ____________________________

Date: ____________________________

2.2 Commitment to Health and Safety

Henderson Mine is equally committed to the elimination of all workplace injuries and illnesses. We believe that our most important asset is our people and that reaching zero and maintaining that standard is the only morally acceptable level of performance in health and safety management. To achieve this level of performance, Henderson Mine provides spill response training to all employees that handle oil products when first hired and on an annual basis thereafter.

Within Henderson Mine, safety is a fundamental responsibility of each employee of the corporation. Management is held accountable for promoting safety on the job, providing a safe work environment in which hazards are controlled when elimination is not feasible, and for the implementation of systems and techniques designed to prevent incidents from occurring. Employees are responsible for reporting any unsafe conditions observed during day-to-day activities to their supervisors.

2.3 Professional Engineer Certification [40 CFR 112.3(d)]

In order for this SPCC Plan to be effective and meet the requirements of Title 40, Part 112 of the Code of Federal Regulations (40 CFR Part 112), the undersigned Registered Professional Engineer attests that:

- He/She is familiar with the requirements of 40 CFR Part 112;
- He/She has visited and examined the facility, or has supervised examination of the facility by appropriately qualified personnel;
- This Spill Prevention, Control, and Countermeasures Plan has been prepared consistent with good engineering practice, including consideration of applicable industry standards and the requirements of 40 CFR Part 112;
- That procedures for required inspections and testing have been established; and
- That this SPCC Plan is adequate for this facility.

Name: JACKI A. MALONE

Signature: [signature]

Registration Number: CO # 43303

Date: 4/30/13

COLORADO LICENSED
JACKI A. MALONE
43303
4/30/13
PROFESSIONAL ENGINEER

Seal

This certification shall in no way relieve Henderson Mine of the responsibility to prepare and fully implement this SPCC Plan in accordance with 40 CFR Part 112.

3.0 SUBSTANTIAL HARM EVALUATION

In accordance with 40 CFR Part 112.20, a determination if the facility has the potential to cause substantial harm to the environment by discharging oil into or on navigable waters or adjoining shorelines has been conducted. Based on this determination and as recorded below, Henderson Mine has determined that this facility does not pose a risk of substantial harm under 40 CFR Part 112.

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

   [ ] Yes [X] No

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

   [ ] Yes [X] No

3. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance such that a discharge from the facility could cause injury to fish, wildlife, and sensitive environments?

   [ ] Yes [X] No

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

   [ ] Yes [X] No

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

   [ ] Yes [X] No

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

Name: ____________________________

Signature: ____________________________

Title: ____________________________

Date: ____________________________

4.0 PLAN MAINTENANCE [40 CFR 112.3 & 112.5]

4.1 Location of SPCC Plan [40 CFR 112.3(e)]

A complete controlled copy of the SPCC Plan and associated records are kept in the environmental files in the administrative offices. The administrative offices are attended during normal working hours, generally 6:00 A.M. to 4:00 P.M. An additional complete controlled copy of the SPCC Plan is kept at the Surface Warehouse, which is also attended during the normal working hours of 6:00 A.M. to 4:00 P.M.

4.2 Plan Review and Amendments [40 CFR 112.5]

4.2.1 Changes in Facility Configuration [40 CFR 112.5(a)]

The SPCC Plan Coordinator for the facility (identified in Appendix D) will amend this SPCC Plan whenever a change in facility design, construction, operation, or maintenance materially affects the facility's potential for the discharge of oil or petroleum products in quantities that may be harmful. These changes may include, but not be 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; or
- Changes of product or service, revisions to standard operation, modification of testing/inspection procedures, and use of new or modified industry standards or maintenance procedures.

Henderson Operations has developed a management of change procedure as part of its Environmental Management System (EMS) that, among other things, helps identify changes at the facility that may require an amendment to this SPCC Plan.

Technical amendments to the SPCC Plan must be certified by a registered Professional Engineer. Decommissioning or removing containers, or replacing a container with a similar type of container, may not necessarily constitute a technical amendment to the SPCC Plan that requires recertification by a registered Professional Engineer if the change does not materially affect the facility's potential for a discharge. This determination will be made using best professional judgment of the SPCC Plan Coordinator on a case-by-case basis.

The SPCC Plan Coordinator must make the needed revisions to the SPCC Plan based on facility changes no later than six months after the changes occur. The revised SPCC Plan must be implemented as soon as possible, but not later than six months following preparation of a revised SPCC Plan.

4.2.2 Non-Technical Amendments

Minor changes (e.g., non-technical amendments) can be made by the SPCC Plan Coordinator and do not require certification by a registered Professional Engineer. These amendments may include, but not be limited to:

- Change in the name or contact information of individuals responsible for the implementation of this SPCC Plan;
- Change in the name or contact information of spill response or cleanup contractors; or
- Changes in text, tables, figures, forms or other information in the main body and appendices of this SPCC Plan that do not materially affect the facility's potential for a discharge.

4.2.3 Scheduled Plan Reviews [40 CFR 112.5(b)]

In addition to the requirement (discussed above in Section 4.2.1) to amend the SPCC Plan whenever there are certain changes in facility design, construction, operation, or maintenance, this SPCC Plan will be reviewed and evaluated at least once every five years by the SPCC Plan Coordinator.

There are Federal requirements to perform periodic reviews; these Federal SPCC regulations require that the Plan be reviewed and evaluated at least once every five years by the SPCC Plan Coordinator. As a result of this review and evaluation, the SPCC Plan Coordinator will amend the 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 of oil in quantities that are harmful. Amendments to the plan will be fully implemented at the facility as soon as possible, but not later than six months after the date of the amendments. Technical amendments to the SPCC Plan must be certified by a registered Professional Engineer.

The SPCC Plan Coordinator is responsible for initiating and coordinating scheduled SPCC Plan reviews and amendments. Completion of each scheduled SPCC plan review and evaluation will be documented in the log of SPCC plan reviews and amendments found in Appendix B. The documentation will also include a signed statement as to whether the SPCC Plan will be amended as a result of the scheduled review and evaluation. The statement will include the following words:

> "I have completed a review and evaluation of the SPCC Plan for Henderson Mine on [INSERT DATE] and will (or will not) amend the Plan as a result."

If the review requires a technical amendment to the SPCC Plan, the revision date of this SPCC Plan will be changed to the date of such review. If there are no technical amendments resulting from the scheduled review, the revision date of this SPCC Plan will not be changed.

4.3 Facilities, Procedures, Methods, or Equipment Not Yet Fully Operational [40 CFR 112.7]

Henderson Mine currently does not have any facilities, procedures, methods or equipment regulated by 40 CFR Part 112 that are not yet fully operational.

4.4 Deviations and Equivalent Environmental Protection [40 CFR 112.7(a)(2)]

4.4.1 Deviations for Integrity Testing

The EPA's SPCC *Guidance for Regional Inspectors,* Version 1.1, states that in lieu of integrity testing, environmental equivalence can be achieved via visual inspections for:

- Elevated drums;
- Single use bulk storage containers;
- Shop-built containers with a capacity less than 30,000 gallons that are elevated so that all sides of the container are visible; or
- Shop-built containers with a capacity less than 30,000 gallons that are on an impermeable liner that ensures leaks are detected.

The preamble to the SPCC Rule revisions issued by the EPA on July 17, 2002 lists the Steel Tank Institute (STI) Standard SP001 as an industry standard that may be used to assist with the integrity testing guidelines required by 40 CFR Part 112.8(c)(6). STI's Standard SP001 does not require integrity testing for certain aboveground storage tank configurations that are inspected on a regular basis. Therefore, regular inspections will be considered equivalent environmental protection for certain bulk storage containers that meet the STI Standard SP001 criteria. Inspection procedures and frequency are described in Section 9.0.

Deviations and equivalent protection associated with integrity testing are outlined in Section 16.6 of this SPCC Plan.

4.4.2 Deviations from Liquid Level Sensing Devices

Henderson Mine has numerous bulk storage containers that do not have liquid level sensing devices installed in accordance with 40 CFR Part 112.7(c)(8), because (a) smaller drums and totes are not designed to have such sensing devices and installation of any sensing devices beyond dip-sticks on such containers would be economically and technically impracticable; or (b) the design of the bulk storage container excluded any liquid level sensing devices. In lieu of liquid level sensing devices, Henderson Mine provides the following environmentally equivalent measures as required by 40 CFR Part 112.7(a)(2):

(i) bulk storage containers without liquid level sensing devices will not be refilled (e.g., certain drums and totes); or

(ii) if bulk storage containers without liquid level sensing devices are filled or refilled, such containers will only be filled or refilled within secondary containment sufficient to contain the capacity of the largest container in the containment and all filling or refilling will be supervised by trained personnel who will ensure that any spills or overflows from filling or refilling are expeditiously cleaned up and disposed of in accordance with the spill response procedures set forth in this plan.

4.4.3 Deviation from Certain SPCC Requirements in the Underground Mine

Henderson Mine has multiple tanks, loading/unloading operations, pipes and other oil containing equipment located in the underground mine workings. The EPA's SPCC *Guidance for Regional Inspectors,* Version 1.1 , states that the SPCC rule applies only to facilities that, due to their location, can reasonably be expected to discharge oil as described in 40 CFR Part 112.1(b). Although a spill in the underground mine would not be reasonably expected to discharge oil as described in 40 CFR Part 112.1(b), an owner or operator may not consider constructed features, such as dikes, equipment, or other manmade structures that prevent, contain, hinder, or restrain a discharge as described in 40 CFR Part 112.1(b), when making this decision.

Henderson Mine does not meet all of the SPCC requirements for underground storage containers, pipes and equipment including, specifically, the requirement to inventory all tanks and to include those tanks, their contents and location on the facility diagram because the mobile and constantly changing operations make it impractical to do so. Equivalent environmental protection is provided by the underground mine workings which act as a massive secondary containment system and prevent any discharge of oil as described in 40 CFR Part 112.1(b). Spills which may occur are contained and promptly cleaned up. Water from the mine workings is collected and pumped to the URAD wastewater treatment plant where it is treated and discharged off-site under CDPS Permit CO-0041467.

This approach provides environmental protection equivalent to meeting the specific SPCC requirements for each individual container, pipe or piece of oil containing equipment located underground since it provides and effective means of eliminating any reasonable expectation of discharging oil in quantities that may be harmful into or upon the navigable water of the United States or adjoining shoreline.

5.0 FACILITY DESCRIPTION [40 CFR 112.7(a)(3)]

5.1 Facility Operations

The scope of the operation can best be understood by separately discussing its two major components: (1) Henderson Mine; and (2) URAD Mine site.

5.1.1 Henderson Mine

The mine (refer to facility diagrams) is located on the north side of Red Mountain near the confluence of Butler Gulch and the West Fork of Clear Creek. It is nine miles west of Empire, Colorado, in Clear Creek County on the eastern slope of the Continental Divide. The 1.5 mile access road to the mine site leaves U. S. Highway 40 at the small village of Berthoud Falls, Colorado. The elevation at the mine site is 10,400 feet. Expressed as longitude and latitude, the Henderson Mine location is: 39^{o} 45' N 105^{o} 52' W.

Access to the mine is gained by a 28 foot diameter vertical shaft which is 3,100 feet deep. Four other shafts service the ventilation requirements for intake and discharge air. Horizontal drifts (tunnels) at the bottom of the shafts provide access to the ore body. A highly mechanized panel-cave system of mining is being employed with a nominal capacity of 40,000 tons per day. Diesel powered rubber-tired equipment is used in the mining process.

A conveyor belt system is used to haul the mined ore to the Henderson Mill. The conveyor system begins as a tunnel below the ore body at an elevation of 7,000 feet (5,300 feet below the summit of Red Mountain). The tunnel runs west for 9.6 miles, surfacing at an elevation of 9,000 feet near the confluence of the Williams Fork River and Darling Creek on the western slope of the Continental Divide.

After surfacing, the conveyor system continues west and north for another 4.8 miles to the mill site. The surface portion of the conveyor system and the mill are governed by a separate SPCC Plan prepared pursuant to the specifics of the Henderson Mill facility.

Materials on the surface at the Henderson Mine site are normally stored on flat benches up-slope from the West Fork of Clear Creek. Most liquid materials are protected by earthen berms or concrete retaining walls.

Materials stored underground in the mine are protected by retainer walls or sloped floors leading to sumps. Any substance which mixes with mine water underground ends up in the mine water collection system. This water is pumped to a surge tank at the surface and is then piped three miles via gravity feed to the URAD treatment ponds. Floating contaminants, if present, are contained in these ponds and removed.

Building drains and sewage lines are routed to the mine's sewage treatment plant. Sewage from underground facilities is also collected periodically and transported to the plant for treatment. The treatment plant utilizes an activated sludge system with the treated effluent being discharged to the Henderson Mine settling ponds. The plant discharge is monitored pursuant to CDPS Industrial Wastewater Permit CO-0041467 requirements.

5.1.2 URAD Mine Site

The URAD Mine Site (refer to facility diagrams) is a reclaimed mine located southeast of the Henderson Mine in Woods Creek Valley. This site consists of two reclaimed tailings storage facilities, two plugged portals, water treatment collection ponds, and a water treatment plant. Seepage collected from the two tailings storage facilities and the drain pipes in the portal seals are piped to Pond No. 1, where it is then pumped to the treatment plant. Water from the Henderson Mine is also piped to this pond via buried pipeline.

Seepage collection for the Upper Tailings Storage Facility (TSF) consists of both surface and underground collectors. The seepage is collected within channels, pipes and gravel collection trenches located upstream of a low-permeable bentonite barrier. This seepage is then piped via gravity feed in a buried 12-inch pipe. There is also a backup 8-inch buried pipe available for this system.

The two mine portals are located immediately northwest of the treatment plant and are sealed with concrete barriers approximately 800 feet inside each opening. Drains in these portals are connected via a small diameter plastic pipe to Pond No. 1. These portals produce only a small volume of water (1 to 2 gallons per minute).

Seepage from the Lower TSF is collected in a small pond at the base of the storage facility. The Lower URAD pump house contains three electrically powered pumps that pump the water in this pond to Pond No. 1 via two available pipelines. Typically one to two pumps are operated at any one time with the others kept available as spares. A fresh water buffer pond is located between the collection Pond and the Lower URAD Reservoir. Water levels in the buffer pond are maintained at higher levels than either the collection pond or reservoir thus maintaining a hydraulic barrier to seepage in this area.

Untreated mine water and treated sewage effluent from the Henderson Mine are piped to Pond No. 1 at the URAD facility utilizing one or two buried HDPE pipes (one 12-inch and one 14-inch diameter pipe). These buried pipes, for the most part, are located alongside the main access roads to the Henderson Mine and URAD site.

The water treatment ponds at URAD include Pond No. 1, Pond No. 2, J Well, and the Clear Water Well. Untreated water from URAD and the Henderson Mine is directed into Pond No. 1 where it is stored until pumped to the Water Treatment Plant. Pond No. 2 provides additional storage capacity in the event of high water flows or temporary plant shutdown. Runoff water from the plant site and water collected in the north and south toe drains of the treatment ponds are routed to the J Well, then transferred back to Pond No. 1 for treatment.

Sludge Ponds 1 and 2 are located next to the treatment ponds and contain sludge pumped from the treatment plant clarifier. The sludge in these ponds is consolidated to the extent practicable, removed, and transported off-site for appropriate disposal. Testing of the sludge shows it to be non-hazardous, as determined by Toxicity Characteristic Leaching

Procedure (TCLP), pH, and flashpoint. Pond No. 5 is located downstream from the treatment ponds on the reclaimed Lower TSF and provides additional containment of untreated water in the event of treatment pond overflow. Pond No. 5 drains to the south into the toe drain collection system.

The Water Treatment Plant uses a high density sludge process to remove metals. This process includes an aerated reactor, a clarifier with sludge recycle/removal, and ancillary lime, flocculent, and sulfuric acid addition systems. The Surface Interceptor Ditch that drains into the J Well provides secondary containment for the Water Treatment Plant and surrounding areas.

Two fresh water reservoirs are located in Woods Creek Valley. The Upper URAD Reservoir is located above the Upper TSF while the Lower URAD Reservoir is located below the Lower TSF. Both reservoirs are owned and operated by the City of Golden. To minimize impacts to water quality in Woods Creek, the creek flow from the Upper URAD Reservoir is diverted under the reclaimed TSFs using large diameter concrete pipes. The pipe beneath the Upper TSF discharges to the surface just upstream from Ruby Creek's discharge point into the Woods Creek drainage. The combined flow of Woods Creek and Ruby Creek is then diverted through a pipe under the Lower TSF or via a new surface channel along the southeast side of the Lower TSF and then into the Lower URAD Reservoir. The treatment plant can currently discharge treated water into the diversion pipe or to the surface channel.

5.1.3 General

Oil and petroleum products are primarily used to fuel and maintain generator stations, ore processing facilities, and mine vehicles, including earth and snow moving equipment and support vehicles. Used oil is transported off site for recycling.

5.1.4 Facility Diagrams

Henderson Mine maintains with this SPCC Plan a facility diagram as required by 40 CFR Part 112.7(a)(3). To avoid a diagram that is overly complicated, Henderson Mine takes the environmentally equivalent measure suggested in EPA's *SPCC Guidance for Regional Inspectors* and provides only general details including container/area contents for certain oil storage areas where it would be impractical to maintain a constantly updated inventory. Figures 1 through 3 show the general location and layout of the facility and the general location of regulated oil containers and storage areas. Figures 1 through 3 also illustrate the location of regulated oil containers (including storage tanks, mobile portable containers, hydraulic operating systems or manufacturing equipment, and any other oil-filled equipment), loading and unloading and transfer areas, fill ports and connecting piping, and locations of oil-filled electrical transformers.

5.1.5 Data Management – Ecesis

An SPCC management database, Ecesis, is being utilized for improved SPCC management. The database serves as a repository for information regarding all bulk storage containers, bulk storage areas, oil-filled operational equipment, oil-filled mobile equipment, oil-filled mechanical equipment and transformers associated with the

Henderson Mine facility. Reports have been created to supplement this SPCC Plan, including container, area, transformer and equipment summaries (Appendices C), corrective actions assigned/completed, and inspection report templates (Appendix H). The Ecesis database will generally contain the most up-to-date information and should be considered the preferred source of information for bulk storage containers, areas, oil-filled equipment, transformers, corrective actions, tank integrity testing status, adequate secondary containment calculations and inspection history.

5.2 Oil Storage

For purposes of this SPCC Plan, oil storage facilities include the following areas:

- 1.2 Pond Surface Area (Figure 1);
- Plant Services Area (Figure 1);
- Upper Surface Area (Figure 1); and
- URAD (Figure 2).

A list of bulk oil storage containers with capacities of 55 gallons or more, bulk storage areas, and drainage patterns are included in Appendix C. Containment and drainage patterns for each of these areas are further discussed in Section 8.0.

Out-of-service containers will remain in the Henderson Mine SPCC Plan inventory and will require periodic inspections per Section 9.0 until they are "permanently closed". "Permanently closed" is defined by the SPCC regulations as a container for which:

- All liquid and sludge has been removed from the container and connecting lines;
- All connecting lines and piping have been disconnected and blanked off;
- All valves (except 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.

The SPCC Plan Coordinator will be informed of any "permanent closure" activities at the facility so that the SPCC Plan may be updated accordingly.

Mobile tanks and service vehicles may be used at this facility; a complete list is provided in Appendix C, as required.

5.3 Routine Handling Procedures

Procedures for petroleum product loading and unloading at bulk storage tanks are discussed in Section 12.0. Small, incidental releases that may result from transfer operations are handled by SPCC-trained Henderson Mine employees using an appropriate absorbent. Spill response kits, absorbent materials, empty drums, and shovels are located throughout the facility for this purpose. Inventories of spill control materials are assessed periodically and new materials ordered (as necessary) as part of Henderson Mine's environmental compliance calendar (ESS Essential).

Henderson Mine personnel responsible for receiving/accepting bulk petroleum product containers (i.e., drums and totes) are trained in visual inspection procedures. Drums and totes containing petroleum products that are delivered to the facility by outside vendors are visually inspected for signs of leaks and corrosion prior to acceptance. Petroleum products in damaged containers are not accepted.

Henderson Mine employees that handle drums are instructed to keep lids on drums closed except when adding or removing product. Henderson Mine employees are not permitted to transport used oil off of the facility or on public roads.

6.0 RELEASE RESPONSE [40 CFR 112.7(a)(3-5)]

6.1 Release Response Procedures

The Henderson Mine Incident Response Manual or IRM (Appendix E) was developed to assist Henderson Mine employees in responding to releases in an efficient manner, while providing for the protection of employees, facilities, and the surrounding environment. No employee is required to respond to any type of release if conditions are unsafe. A list of contact names and phone numbers is provided in Appendix D.

The IRM provides the procedures to be followed in the event of a spill or release of oil or other chemicals, including a spill in or upon "waters" or "navigable waters" of the United States or any other location specified in 40 CFR Part 112.1(b). The information in the IRM is presented in such a way that makes the document "readily usable" in an emergency situation.

6.2 Disposal of Recovered Materials

Sorbent material, booms, temporary earthen berms, heavy equipment, trash pumps, and/or a vacuum may be utilized by Henderson Mine to contain and recover released oil. Used absorbent material and contained oil from releases will be placed in 55-gallon metal drums and stored in an appropriate storage area. Drums will be appropriately labeled and kept closed except when adding waste. If necessary, Henderson Mine may also contract a disposal company to assist with waste recovery and removal.

The characterization, handling and disposal of materials recovered from a spill shall be in accordance with the Henderson Operations **Waste Management Plan** (Appendix F) and in accordance with applicable laws and regulations governing such waste.

The *Waste Coordinator* will coordinate all waste disposal and will ensure that a shipping receipt or manifest is received from the disposal contractor and properly filed. Henderson Mine employees may not transport used oil off of the facility or on public roads.

6.3 Incidental Releases

Small, incidental releases resulting from transfer operations are cleaned up by Henderson Mine employees using an appropriate absorbent. Spill response kits are located throughout the facility for this purpose. Emergency notification is not required for incidental releases.

Any release that poses an imminent danger, involves injured personnel, reaches a wash, creek, or stream; or is not contained by a secondary containment basin or diversionary structure, ***regardless of quantity***, is not considered an incidental release and must be reported to the Hoistman and Environmental Department.

7.0 RELEASE NOTIFICATIONS [40 CFR 112.7(a)(3-5)]

7.1 Verbal Notifications to Government Agencies

Government agencies may need to be notified of oil releases that are not contained within a dike or berm. **All verbal and written notifications to government agencies are to be made by the Environmental Department (or designate) only**. The following notifications must be made as soon as possible after learning of an oil discharge.

7.1.1 Verbal Notifications to Local Agencies

The Clear Creek County Sheriff must be notified immediately of a "Code Red Downstream Water User Advisory" for any release to surface water that could reach downstream water users in accordance with the IRM (Appendix E).

The telephone number for the Clear Creek County Sheriff is (303) 679-2393.

7.1.2 Verbal Notifications to State Agencies

The Colorado Department of Public Health and Environment (CDPHE) will be verbally notified following a discharge of oil of any quantity that meets any of the following conditions:

- A spill that reached water that may flow off-site; and/or
- Any spill that reaches or may reach water (ground water, surface water, ditches and storm sewers).

Notifications are to be made within twenty-four (24) hours of becoming aware of the circumstances.

The telephone number for CDPHE notifications is 1-877-518-5608.

7.1.3 Verbal Notifications to Federal Agencies

The National Response Center (NRC) will be verbally notified following a discharge of oil ***of any quantity*** that meets ***any*** of the following conditions:

- Violates applicable water quality standards,
- Causes a film or sheen upon or discoloration of the surface of navigable waters. (e.g., a wash, creek, or stream) or adjoining shorelines, or
- Causes a sludge or emulsion to be deposited beneath the surface of navigable waters or upon adjoining shorelines.

Notifications are to be made as soon as possible.

The telephone number for NRC notifications is 1-800-424-8802.

Refer to the internal notification requirements outlined in the Mine IRM (Appendix E) prior to any release notifications to the NRC.

7.2 Information to Provide During Verbal Notifications

When notifying a government agency of a release, the following information should be gathered as soon as possible and provided:

1. Name and location of the facility;
2. Specific location where the oil discharge occurred;
3. Your name, position, and telephone number;
4. Date and time of the oil discharge;
5. Information on the oil discharge:
    - Type of material discharged (e.g., diesel);
    - Source of discharge (e.g., aboveground storage tank);
    - Estimated total quantity discharged, including the estimated total quantity of oil discharged to navigable waters or adjoining shorelines;
    - Cause of discharge;
    - Affected media (e.g., soil, surface water);
    - Damages or injuries caused by the discharge;
    - Response actions being used to stop, contain, or clean-up the discharge;
    - Whether the discharge has been stopped; and
    - Whether an evacuation may be needed.
6. Names of other individuals or agencies that were contacted.

Record the following information when making a notification:

- Name and position of person contacted;
- Agency contacted;
- Date and time of notification; and
- Information provided to agency.

7.3 Written Notifications to Government Agencies

In addition to verbal notifications, written follow-up reports may need to be submitted to State and Federal agencies.

7.3.1 Written Notifications to State Agencies

A spill report will be submitted to the Colorado Department of Public Health and Environment (CDPHE) within 5 days if the following condition is met:

- Any spill that reaches or may reach water (ground water, surface water, ditches and storm sewers).

The spill report to the CDPHE must be submitted ***within 5 working days of the release*** and contain the following information:

- Name of the facility.
- A description of the noncompliance and its cause;
- the period of noncompliance; including exact dates and times,
- If the noncompliance has not been corrected, the anticipated time it is expected to continue; and
- Steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

7.3.2 Written Notifications to Federal Agencies

A spill report will be submitted to the EPA Region VIII Administrator if either of the following conditions are met:

- A single discharge of more than 1,000 gallons of oil which could reasonably be expected to discharge into or upon ***navigable waters or adjoining shorelines*** in a single event.
- A discharge of more than 42 gallons of oil in each of two events within any 12 month period which could reasonably be expected to discharge into or upon ***navigable waters or adjoining shorelines***.

The spill report to the EPA must be submitted ***within 60 days of the release*** and contain the following information:

- Name of the facility;
- Name of the owner/operator of the facility;
- Location of the facility;
- Maximum storage or handling capacity of the facility and normal daily throughput;
- Corrective actions and countermeasures taken, including a description of equipment repairs and replacements;
- An adequate description of the facility, including maps, flow diagrams, and topographic maps, as necessary;
- The cause of the discharge, including a failure analysis of the system or subsystem in which the failure occurred;
- Additional preventive measures taken or contemplated to minimize the possibility of recurrence; and
- Such other information as the EPA Regional Administrator may reasonably require pertinent to the SPCC Plan or discharge.

A copy of the above information also must be submitted to CDPHE in accordance with 40 CFR Part 112.4(c).

7.4 Incident Termination

Once a release has been contained and cleaned-up, and any required verbal notifications have been made, the SPCC Plan Coordinator will take the following actions:

1. If the spill was a reportable release, complete the spill report form in Appendix G and file it with the SPCC Plan in the environmental files, kept in the Administrative Office.
2. Verify that spill kits have been re-stocked.
3. Verify that the used oil is properly containerized, labeled, and stored for disposal.
4. Review the cause of and response to the release with supervisors, witnesses, and contractors, if appropriate. Determine additional requirements necessary to prevent recurrence of the incident. Amend the SPCC Plan if necessary (refer to Section 4.0).

8.0 EVALUATION OF DISCHARGE POTENTIAL [40 CFR 112.7(b)&(c)]

8.1 Potential Discharge Volumes [40 CFR 112.7(b)]

For potential releases due to containment failure, it is conservatively assumed that the worst case scenario would result in the entire contents of a container being released within one hour. Container contents, volumes, secondary containment systems, as well as the resultant flow direction, are discussed in Section 16.2, listed in Appendix C, and shown in Figures 1 through 3 (as applicable).

8.2 Direction of Flow [40 CFR 112.7(b)]

The following section presents the potential for a petroleum or chemical release into or upon "waters" or "navigable" waters of the United States in each of the four general areas where bulk petroleum and chemical storage tanks are present.

8.2.1 1.2 Pond Surface Area

This area is located in the general vicinity of 1.2 Pond Surface Area, the domestic wastewater treatment plant and the fuel island. A catastrophic breach of primary and secondary containment in this area would sheet flow at quantities and rates commensurate with the applicable tank size (Appendix C) onto the flat parking and storage areas surrounding the treatment plant and fuel island. Only a catastrophic event involving the fuel island tanks would have sufficient volume to flow out of this area and into adjacent storm water diversion ditches and northeast towards a storm water sedimentation pond. The sedimentation pond discharges to a small wetlands area before merging with Clear Creek. A catastrophic release would be followed by emergency response to contain and remediate impacted areas. The entire area can be contained by establishing an earthen berm at the discharge point of the sedimentation pond and thereby containing any spilled liquid upstream of this point.

8.2.2 Plant Services Area

This area is located in the general vicinity of the Plant Services building, lubricant storage building and used oil tank. A catastrophic breach of primary and secondary containment in this area would flow at quantities and rates commensurate with the applicable tank size (Appendix C) onto the flat paved parking and storage areas surrounding the Plant Services Area buildings. Only a catastrophic event involving the Used Oil tank would have sufficient volume to flow out of this area and in a northerly direction, down the embankment to the 1.2 Pond Surface Area. This area can be contained by establishing an earthen berm at the discharge point of the sedimentation pond and thereby containing any spilled liquid upstream of this point. A catastrophic event would be followed by emergency response to contain and remediate impacted areas.

8.2.3 Upper Surface Area

This area includes the industrial area extending from the Mine Water Tank west to the main warehouse and includes the concrete batch plant, aggregate storage area, hoist house and shaft, emulsion storage area and truck scale. A catastrophic breach of primary and secondary containment in this area would flow at quantities and rates commensurate with the applicable tank size (Appendix C) onto the flat paved surfaces, parking and storage areas. Only a catastrophic event involving the mine water tank would have sufficient volumes to flow out of this area and into the storm water diversion ditch adjacent to the Upper Surface Area access road, northeasterly through the culvert under the road, down the embankment to the lower parking lot. A catastrophic event would be followed by emergency response to contain and remediate impacted areas.

8.2.4 URAD Mine Site

This area is described as the industrial area immediately northwest of the Urad water treatment ponds that includes the URAD industrial wastewater treatment plant. A catastrophic breach of primary and secondary containment in this area would flow at quantities and rates commensurate with the applicable tank size (Appendix C) down gradient into the URAD water treatment ponds. The entire area is contained by the URAD lower tailing impoundment containment system and, as such, any liquid would be captured and removed. Such a release would not have the potential to discharge oil or other chemicals into or upon "waters" or "navigable waters" of the United States.

8.3 Discharge Containment [40 CFR 112.7(c)]

Methods of secondary containment at this facility include a combination of control structures, land-based spill response equipment, and backup containment areas to prevent petroleum from reaching navigable waters.

8.3.1 Containment and Diversionary Structures

Secondary containment and diversionary structures for the Henderson Mine facility include:

- Engineered concrete structures;
- HDPE-lined containment;
- Earthen berms (high fines content; sufficiently impervious to oil);
- Berms constructed of flexible materials (i.e., foam) to allow small vehicle traffic;
- Culverts/drainage trenches;
- Concrete sumps; and
- Spill pallets.

Containment and diversionary structures associated with each bulk oil storage vessel at Henderson Mine are presented in Appendix C.

8.3.2 Spill Response Equipment

Spill response equipment is located throughout the facility and is available to the Henderson Mine facility to manage oily residues and to help contain or clean-up releases. Spill response equipment available to the Henderson Mine facility may include:

- Diaphragm pumps/hoses;
- 55-gallon steel drums;
- Sorbent pads;
- Sorbent socks;
- Sorbent booms;
- Sorbent granular materials; and
- Heavy equipment (e.g., backhoes, front-end loaders, etc) for temporary berm construction.

Spill response kits are located throughout the facility to contain or clean-up releases from portable containers. See SPCC Figures 1 – 3, and the Mine IRM for spill response kit locations at the facility.

Due to the potential for discharges during tank truck loading and unloading operations, Henderson Mine has established minimum "active" containment measures or procedures for petroleum transfer operations. These operations are outlined in Appendix I. The procedures were developed to safeguard against potential discharges associated with poor connections, overfilling, and premature departure. The fuel delivery training provided to all drivers ensures that drivers understand the site layout and know the protocol for entering the facility and unloading the product.

Delivery drivers are required to visually inspect all drains, outlets, and valves for leaks prior to filling and departing the loading/unloading areas. Should there be a spill, appropriate equipment is available at the site to dike and absorb the spill.

8.4 Tertiary Containment

Should secondary containment fail, most bulk storage containers are located within areas where a release would discharge to building sumps or facility drains that would ultimately end up in the 1.2 Pond Surface Area or the URAD water treatment ponds. These areas serve as tertiary containment for bulk storage containers within the Henderson Mine and URAD Mine Site areas allowing potential spills to be contained and cleaned up.

8.5 Practicability of Secondary Containment [40 CFR 112.7(d)]

Henderson Mine management has determined that secondary containment is practicable at this facility and has implemented appropriate secondary containment as needed.

8.6 Alternative Requirements to General Secondary Containment for Qualified Oil-Filled Equipment [40 CFR 112.7(k)]

This section does not apply to the Henderson Mine facility. Oil-filled equipment (e.g., transformers) at the Henderson Mine facility meets the general secondary containment requirements of 40 CFR Part 112.7(c).

9.0 INSPECTIONS, TESTS AND RECORDS [40 CFR 112.7(e)]

9.1 Inspection Frequency

External visual inspections of oil storage containers, associated piping and valves, spill kits, and general housekeeping are conducted on a variable schedule. The inspection schedule considers the potential for a release from a bulk storage container to reach navigable waters and the frequency of bulk storage container usage. The storage container inspection frequency for the Henderson Mine facility is described in the following sections.

9.1.1 Daily Inspections

Henderson Mine personnel perform daily inspections of their work area during each shift, if operational. This daily visual inspection includes:

- Tank/piping damage or leakage;
- Stained or discolored soils; and
- Excessive accumulation of water or solution in containment areas.

The daily inspections do not include written inspection reports; however, if releases or potential release hazards are observed, the SPCC Plan Coordinator will be contacted.

9.1.2 Monthly Inspections

STI SP001 recommends that the aboveground storage tank (AST) systems and portable containers be inspected on a monthly basis. Monthly inspections for ASTs shall be conducted using the SPCC container/area inspection form generated out of the Ecesis database.

Additionally, monthly visual inspections for elevated, Category 1 ASTs, with a capacity less than 30,000 gallons are necessary to qualify as the environmental equivalence of integrity testing (see Section 4.4.2). It should be noted that if there is documentation available for each portable container that indicates how long each has been kept at the facility, STI SP001 only recommends monthly visual inspections for portable containers kept onsite for 91 days or more.

If deficiencies in equipment or in procedures are discovered during the inspections, they will be recorded and relayed to the appropriate manager. Signed and dated inspections are maintained with the SPCC Plan in the environmental files in the administrative offices. The SPCC Plan Coordinator is responsible for ensuring that deficiencies noted are addressed and that corrective actions are noted.

Non-SPCC regulated tanks and storage areas are also included with the SPCC Plan inventory, and are inspected on a monthly basis as a BMP. Inspections are conducted using the same monthly SPCC inspection forms and are maintained with the SPCC Plan in the environmental files in the administrative offices.

9.1.3 Quarterly Inspections

There are no quarterly inspections conducted at the Henderson Mine.

9.1.4 Semi-Annual Inspections

There are no semi-annual inspections conducted at the Henderson Mine.

9.2 Certified Inspections

An additional inspection of field-erected steel tanks with a storage capacity greater than 50,000 gallons (if any) that could potentially discharge to navigable waters will be conducted by a certified inspector at intervals of 10 years, as specified in the American Petroleum Institute (API) Standard 653. If the tank bottom thickness can be determined externally, an external inspection by a certified inspector may be used in lieu of the internal inspection.

9.3 Recordkeeping

Inspection records and other documentation related to oil release prevention, such as corrective actions, spill reports, and maintenance records are maintained with the SPCC Plan in the environmental files in the administrative offices. The SPCC Plan Coordinator is responsible for ensuring that records are properly filed and retained for at least three years.

9.4 Tank Truck Loading/Unloading Area Inspection Guidance

At the discretion of the SPCC Plan Coordinator, Henderson Mine personnel may periodically conduct an inspection of the tank truck loading/unloading procedures at applicable areas. Tank truck loading/unloading inspection guidance is provided below. The inspector will visually observe the loading/unloading activity to ensure best management practices listed in the guidance are performed. If the inspection of the activity verifies leaks and spills, the inspector shall notify the appropriate response personnel and the Environmental Manager or Engineer.

Preloading/Unloading Inspection:

- Are all the tank fill nozzles in good condition?
- Are all tank fill nozzles free of leaks?
- Are all connections hoses present and in good condition?
- Are all drip pans or collection trenches in good condition?
- Are all transfer pumps operating properly?
- Are all automatic shut off devices in place working properly?
- Are all gauges in working order?

Tank truck Inspection:

- Are all valve openings free of leaks?
- Are all connection hoses in good working condition?
- Are all of the gauges in working order?

- Is tank truck free of any other drips or leaks?

Tank truck Loading/Unloading Activity Inspection:

- Are all transfer connections tight?
- Are all connections free of leaks?
- Are all gauges working properly?

Post-Loading/Unloading Activity Inspection:

- Are all valves openings at the tank closed and locked?
- Are all connectors free of product?
- Are tank truck valves properly closed and free of leaks?
- Is the tank truck free of any other drips or leaks?
- Are all tank truck connectors free of product?

10.0 EMPLOYEE TRAINING [40 CFR 112.7(f)]

Henderson Mine employees that handle oil are required to attend release prevention and response training prior to working in areas where petroleum products are stored or handled. Training on fuel loading/unloading procedures and spill response/notification procedures is also provided to all delivery drivers, whether they are Henderson Mine employees or contractors. The objective of the training program is to reduce the likelihood and impact of oil releases.

The SPCC Plan Coordinator is responsible for spill/discharge prevention at this facility and reports to facility management. The SPCC Plan Coordinator is identified in the emergency contact list in Appendix D.

10.1 SPCC Training

The SPCC training program for new employees and/or existing employees assigned to oil-handling duties includes the following:

- Overview of the SPCC Plan contents;
- Overview of applicable pollution control laws, rules, and regulations;
- Operation and maintenance of equipment to prevent discharges;
- General facility operations;
- Review of oil management activities at the facility;
- Spill response procedures;
- Release notification procedures; and
- Disposal procedures for spilled materials.

Training for fuel delivery drivers is provided in a training module maintained at the Henderson Mine surface warehouse. The training module focuses on loading and unloading operations, spill response procedures, and emergency notification procedures. If fuel delivery drivers do not participate in an onsite training program, then they must be accompanied by a trained Henderson Mine employee during the fuel loading/unloading activities.

Additional specific training sessions and topics covered are presented in the table on the following page.

Training Forum	Description
New Hire Orientation (within 30-days of hiring)	• Overview of the SPCC Plan contents; • General facility operations; • Review of oil management activities at the facility; • Spill response procedures; • Release notification procedures; and • Disposal procedures for spilled materials.
Contractor Awareness Training (prior to beginning work on-site)	The contractor environmental pamphlet and surface warehouse training provides: • Overview of the SPCC Plan contents; • General facility operations; • Review of oil management activities at the facility; • Spill response procedures; • Release notification procedures; and • Disposal procedures for spilled materials.
On the Job (continual for employees and contractors)	Personnel involved with oil and chemical handling receive on-the-job training covering: • Operation and maintenance of equipment to prevent discharges; • General facility operations; • Review of oil management activities at the facility; • Spill response procedures; and • Release notification procedures.
MSHA - Employees and Contractors (annual)	This training may be utilized for discharge prevention briefing and reinforces SPCC components, goals and control features.
Integrated Environmental Training – Employees and Contractors (annual)	This training may be utilized for discharge prevention briefings and provides a forum for more detailed coverage of SPCC concepts including: • Overview of the SPCC Plan contents; • Overview of applicable pollution control laws, rules, and regulations; • General facility operations; • Review of oil management activities at the facility; • Spill response procedures; • Release notification procedures; and • Disposal procedures for spilled materials.

10.2 Discharge Prevention Briefings

At least once a year, oil-handling employees will be briefed on any known discharges that have occurred at the facility over the past year as well as a review of any failures, malfunctioning components, or recently developed precautionary measures.

On-the-job discharge prevention briefings are also provided to facility personnel handling petroleum whenever there is a change in equipment or procedures relating to any element of this SPCC Plan.

10.3 Training Records

Attendance at SPCC training classes and discharge prevention briefings are filed and maintained per customary business practice in the administrative offices and kept for a period of three years.

11.0 SECURITY [40 CFR 112.7(g)]

11.1 Controlled Access

Access to the site is controlled by gate and is limited to authorized personnel. Henderson Mine employees are present at the site 24 hours per day, 365 days per year and the site is routinely patrolled. System valves, pumps, and associated controls are controlled and accessible only to authorized personnel.

11.2 Valves

Master flow and tank drain valves for bulk storage tanks are kept in the closed position when not in use and the end cap locked to prevent discharge of oil and chemicals. Only authorized personnel who have received appropriate tank specific training are allowed to open these valves.

11.3 Starter Controls

Oil storage tanks and pumps equipped with starter controls are kept locked when not in use. Pumps equipped with electric motor drives are within a secure area (i.e., restricted public access) and are accessible only by authorized personnel.

11.4 Pipeline Connections

Pipeline connections are securely capped when they are not in use and when they are in standby service for an extended period of time. All out-of-service pipelines are evacuated of their contents and capped.

11.5 Lighting

Adequate lighting is present at tank farms and tank buildings. Remote tanks not used during overnight hours may not be equipped with lights, but are located within a secure area periodically patrolled by authorized personnel.

12.0 LOADING AND UNLOADING RACKS [40 CFR 112.7(h)]

There are no loading/unloading racks at Henderson Mine. The EPA's "*SPCC Guidance for Regional Inspectors*" states that "loading/unloading areas utilizing a single hose and connection or standpipe are not considered 'racks.'" Since Henderson Mine only uses single hose or standpipe filling apparatus, only general containment requirements of 40 CFR Part 112.7(c) apply. Tanker truck loading/unloading areas and associated containment are summarized in Appendix C.

Due to the potential for discharges during tank truck loading and unloading operations, Henderson Mine has established minimum procedures for petroleum transfer operations. These operations are outlined in Appendix I and discussed in Section 8.3.2 (Spill Response Equipment) and Section 18.0 (Facility Transfer Operations). The procedures were developed to safeguard against potential discharges associated with poor connections, overfilling, and premature departure.

Delivery drivers are required to visually inspect all drains, outlets, and valves for leaks prior to filling and departing the loading/unloading areas. Should there be a spill, appropriate equipment is available at the site to dike and absorb the spill.

13.0 BRITTLE FRACTURE EVALUATION [40 CFR 112.7(i)]

This provision is not applicable as Henderson Mine does not use field-constructed tanks for oil or chemical storage.

14.0 CONFORMANCE WITH REGULATIONS [40 CFR 112.7(j)]

14.1 State Regulations

Section 1.0 of this Plan summarizes applicable regulatory requirements fulfilled by this Plan. There are no additional applicable State regulations, rules or guidelines that are more stringent.

15.0 FACILITY DRAINAGE [40 CFR 112.8(b)]

15.1 Drainage from Diked Storage Areas [40 CFR 112.8(B)(1)]

Most secondary containment surrounding bulk storage containers is continuous and not controlled by valves or other devices. Accumulated liquid can only be removed by manually pumping the liquid from the containment area. Before discharge, water is examined visually for signs of oil. The procedures for water discharge from secondary containment areas are summarized in Section 16.3.

15.2 Valves Used to Drain Diked Areas [40 CFR 112.8(B)(2)]

Most secondary containment surrounding bulk storage containers have no valves present that could mistakenly discharge the contents of a contained area. Diked areas can only be drained by manually pumping accumulated liquids from the contained area. Before discharge, water is examined visually for signs of oil. The procedures for water discharge from secondary containment areas are summarized in Section 16.3.

15.3 Plant Drainage System for Undiked Areas [40 CFR 112.8(B)(3)]

Most bulk storage containers, as well as associated piping outside of secondary containment areas, are located where a release would drain into tertiary containment (refer to Appendix C for a complete list of containers) or are located where spilled oil or other chemical would not reach navigable waters. Facility drainage areas are described in detail in Section 8.2.

15.4 Alternative Engineering for Plant Drainage [40 CFR 112.8(B)(4)]

This provision is not applicable since the facility has a drainage system that is able to retain discharged oil and other chemicals onsite.

15.5 Drainage Water Treatment [40 CFR 112.8(B)(5)]

This provision is not applicable since drainage waters are not treated.

16.0 BULK STORAGE CONTAINERS [40 CFR 112.8(c)]

16.1 Material of Construction [40 CFR 112.8(c)(1)]

The design and construction of all bulk storage containers at the facility are compatible with the characteristics of the oil product they contain, and with temperature and pressure conditions.

16.2 Secondary Containment [40 CFR 112.8(c)(2)]

Bulk storage containers are provided with secondary containment designed to hold the entire contents of the largest container with sufficient freeboard to contain the rainfall from a 25 year, 24-hour storm event. Secondary containment features include engineered concrete structures, plastic containment pallets, curbed concrete slabs, flexible material (i.e., foam) berms that allow forklift traffic and earthen berms. The earthen bermed areas are constructed of native soils with a high fine silt and/or clay content that are sufficiently impervious to oil and would retain an oil discharge long enough to allow for spill response and cleanup. Secondary containment systems are listed in Appendix C for bulk storage containers.

16.3 Water Discharge from Diked Areas [40 CFR 112.8(c)(3)]

Open secondary containments housing oil containers may collect rainwater. In some instances, secondary containments may collect groundwater seepage. Rainwater is typically allowed to evaporate, whereas groundwater accumulation is typically pumped or manually discharged from the containment. Excessive water accumulation in secondary containments is inspected for any odors or visually for sheen, discoloration, and any sludge or oil prior to discharge to a storm drain, open watercourse, lake, pond, or open ground. The SPCC Plan Coordinator is notified of the presence of the rainwater/groundwater and either conducts the inspection or receives the report regarding the status of the water. If rainwater or groundwater will be discharged to a storm drain, open watercourse, lake or pond, these observations are to be recorded on the Stormwater / Groundwater Discharge Log (Appendix J). Completed records are maintained with the SPCC Plan located in the environmental files in the administrative offices. Any discharges of uncontaminated rainwater or groundwater to the storm sewer system must comply with all applicable National Pollutant Discharge Elimination System (NPDES) permitting requirements.

If the water has a sheen or other signs of contamination, it will be pumped into drums for disposal off site or the oil will be removed using an absorbent prior to discharge.

16.4 Completely Buried Metallic Storage Tanks [40 CFR 112.8(c)(4)]

There are no completely buried metallic storage tanks at the facility.

16.5 Partially Buried Metallic Storage Tanks [40 CFR 112.8(c)(5)]

There are no partially buried metallic storage tanks at the facility.

16.6 Integrity Testing [40 CFR 112.8(c)(6)]

In addition to the visual inspections described in Section 9.0, bulk storage containers are regularly tested for integrity in accordance with the schedule outlined in Section 16.6.1. Integrity testing is also performed when material repairs are made to bulk storage containers. The SPCC Plan Coordinator must be notified whenever material repairs to bulk storage containers are complete. The purpose of integrity testing is to detect cracks, leaks, corrosion, or wall thinning to ensure sufficient structural strength. Integrity testing is accomplished through ultrasonic thickness tests, acoustic emission tests, or another type of non-destructive shell testing. Should the results of an integrity test indicate a significant reduction in structural strength, the container will be repaired or removed from service.

16.6.1 Integrity Testing Guidelines

Integrity testing is performed by qualified outside contractors. Integrity testing for bulk storage containers with a capacity greater than 30,000 gallons shall follow guidelines established by the API in Standard 653, Tank Inspection, Repair, Alteration, and Reconstruction. Integrity testing of bulk storage tanks with a capacity less than 30,000 gallons shall follow the guidelines established by the STI Standard SP001 Standard for the Inspection of Aboveground Storage Tanks. Records of integrity tests are maintained in the environmental files in the administrative offices until the subsequent test is performed, but not for less than three years.

16.6.2 STI SP001

STI SP001 provides inspection and evaluation criteria required to determine to suitability for continued service of ASTs until the next scheduled inspection. The requirements included in STI SP001 are the minimum requirements and other documents (such as Federal, State, or local law) may have requirements that are more stringent. This standard applies to the inspection of ASTs storing stable, flammable, and combustible liquids at atmospheric pressures with a specific gravity less than 1.0. The inspection standard includes shop-fabricated ASTs, small field-erected ASTs, and portable containers.

STI SP001 defines:

> A shop-fabricated AST as a welded carbon or stainless steel AST fabricated in a manufacturing facility or an AST not otherwise identified as field-erected with a volume less than or equal to 50,000 US gallons (189,271 liters).
>
> A small field-erected AST as a welded carbon or stainless steel AST erected onsite where it will be used. For the purpose of this standard, ASTs meeting either of the following descriptions are to be inspected as field-erected ASTs:
>
> - An AST where the nameplate (or other identifying means such as accurate drawings) indicates that it is a field-erected AST. These are limited to a maximum shell height of 50 feet and a maximum diameter of 30 feet.

- An AST without a nameplate (or other identifying means such as accurate drawings) that is more than 50,000 US gallons and a maximum shell height of 50 feet and a maximum diameter of 30 feet.

Tanks with a shell height greater than 50 feet and/or a shell diameter greater than 30 feet cannot be inspected per STI SP001 but must be inspected per API 653.

16.6.3 API 653

For the purposes of this SPCC Plan, a large field-erected AST is defined as a field-erected AST with a height greater than 50 feet and/or a shell diameter greater than 30 feet.

API 653 covers the maintenance, inspection, repair, alteration, relocation, and reconstruction of carbon and low alloy steel tanks built to API Standard 650 and its predecessor, API 12C. Tanks built to API 650 and API 12C are vertical, cylindrical, ASTs. API 653 applies to welded or riveted, non-refrigerated, atmospheric pressure ASTs after they have been placed in service.

API 653 addresses suitability for service, brittle fracture considerations, inspections, materials, design considerations for reconstructed tanks, tank repair and alteration, dismantling and reconstruction, welding, examination and testing, and marking and record keeping.

Like STI SP001, API 653 requires periodic inspections by the owner, certified external inspections, certified internal inspections, and non-destructive testing as appropriate.

16.6.4 Integrity Testing Exclusions

Integrity testing is not required for operational use containers, such as oil-filled transformers, gearboxes and compressors. Operational use containers are visually inspected in accordance with Section 9.0.

Environmental equivalence guidelines can be implemented in lieu of integrity testing for some bulk storage containers at the facility. Environmental equivalence guidelines are discussed in the next section.

16.6.5 Environmental Equivalence

The following guidelines are used by Henderson Mine to determine which containers satisfy the integrity testing requirement through environmental equivalence:

- <u>Drums and totes</u> - Drums and totes are not subject to integrity testing if the following measures are implemented to provide environmental equivalence.

  Environmental equivalence measures for multi-use drums and totes (i.e., containers that are refilled/reused; not intended for single-use) management may include:

- Perform visual inspections of multi-use drums and totes monthly.
- Elevate multi-use totes so that all sides can be visually inspected.
- Replace the multi-use drums and totes within 10 years of use, or sooner if they are not in good condition or have been damaged.

Environmental equivalence measures for single-use drums and totes management may include:

- Perform visual inspections of single-use drums and totes during the regular facility inspections outlined in this SPCC plan.
- Elevate single-use drums and totes (using pallets or other support structures).

- Elevated tanks - Integrity testing is not performed on tanks that are elevated high enough off the ground to allow visual inspection of all sides. To provide environmental equivalence, these tanks have secondary containment and are visually inspected for leaks and signs of corrosion on a monthly basis. The visual inspection includes observation of the bottom of the tank. Tanks with a capacity of more than 30,000 gallons undergo integrity testing regardless of whether they are elevated.

- Tanks with capacities less than 5,000 gallons - The STI Standard SP001, 4th Edition, classifies shop-built aboveground storage tanks (ASTs) with a secondary containment dike/berm as a Category 1 AST (Table 5.4, Example Tank Configuration and AST Category, Standard SP001). Category 1 ASTs with capacities less than or equal to 5,000 gallons only require periodic inspection (Table 5.5, Table of Inspection Schedules, Standard SP001). The guidance does not recommend formal external/internal inspections (which includes integrity testing) by certified inspectors or leak testing for Category 1 ASTs.

16.6.6 Integrity Testing Schedule

Integrity testing will be performed when reasonable suspicion of structural integrity is raised by deficiencies identified during inspections, by maintenance records, or by age or design life. At a minimum, bulk storage containers that are not exempt from integrity testing requirements as described in the previous sections above will be tested every 10 years.

Integrity testing was last performed on all required tanks at Henderson Mine June 25, 2010.

Appendix C lists the minimum frequency of integrity testing for each container. For containers which do not undergo integrity testing, the following descriptors are used in place of a frequency:

- operational = containers which do meet the definition of bulk storage
- equivalence = containers which satisfy the environmental equivalence standards outlined above (e.g., elevated and inspected monthly)
- <5,000 gallons = containers with a capacity less than 5,000 gallons that meet the STI Standard SP001, Category 1 AST criteria.
- release to waters not possible = containers which are located in an area where there is no possibility of a discharge to navigable waters, even if secondary containment systems are breached.

Any change to the testing interval will be certified by a registered Professional Engineer and supporting documentation will be noted in this SPCC Plan.

16.7 Heating Coils [40 CFR 112.8(c)(7)]

There are no internal heating coils in storage tanks at this facility.

16.8 Discharge Warning Devices [40 CFR 112.8(c)(8)]

Bulk storage tanks at this facility are equipped with overfill warning devices, such as visual gauges, warning lights, and/or audible alarms. Electronic liquid level sensing devices (e.g., float switches, ultrasonic sensors, etc.) are examined during routine inspections for proper operation. Any deficiencies noted during the testing are recorded on the inspection checklist. In some instances, this facility relies on environmentally equivalent measures to discharge warning devices under 40 CFR. Part 112.7(a)(2) as described in Section 4.4.2.

16.9 Effluent Treatment Facilities [40 CFR 112.8(c)(9)]

Plant effluent from production areas is discharged to either the sewage treatment plant or industrial wastewater treatment plant. Effluent is monitored numerous times each shift in accordance with the requirements of the facility permit and the Henderson Mine EMS. Oil reaching either treatment system can be removed from the system and prevented from reaching navigable waters.

16.10 Visible Discharges [40 CFR 112.8(c)(10)]

Visible discharges of oil from any container or appurtenance, including seams, gaskets, piping, pumps, valves, rivets, and bolts, will be noted during inspections so that repairs can be promptly made. Additionally, any accumulation of oil will be removed from diked areas and managed by properly trained Henderson Mine employees following the procedures listed in Section 6.0. The SPCC Plan Coordinator will be notified of petroleum discharges, as necessary, according to the release response procedures.

17.0 PORTABLE OIL STORAGE CONTAINERS [40 CFR 112.8(c)(11)]

17.1 Portable Containers

Portable containers are stored in storage areas equipped with secondary containment capable of containing the largest tank capacity plus sufficient freeboard, if applicable (refer to Section 16.2). Portable containers (including drums, totes, and small moveable storage tanks (equipped with steel troughs) that are located inside of a building will have containment appropriate to capturing the capacity of the largest tank.

Portable containers are regularly inspected (refer to Section 9.0), employees are required to attend annual training (refer to Section 10.0), and specific procedures must be followed during loading and unloading (refer to Section 12.0).

Portable containers at the Henderson Mine are summarized in Appendix C. Spill response kits are located throughout the facility to contain or clean-up releases from portable containers.

17.2 Non-Transportation Mobile Storage Containers

Non-transportation mobile equipment equipped with bulk oil containers are used at this facility (i.e. fueling trucks, lube trucks, etc.). When not in use, mobile equipment will be parked in a bermed secondary containment or otherwise contained area.

A complete list of non-transportation mobile equipment is provided in Appendix C.

18.0 FACILITY TRANSFER OPERATIONS [40 CFR 112.8(d)]

Buried piping that is installed or replaced on or after August 16, 2002 will be provided with a protective wrapping and coating. Such buried piping will also be cathodically protected or otherwise protected to satisfy the corrosion protection standards. If a section of buried line is exposed for any reason, it is carefully inspected for deterioration. If corrosion damage is found, additional examination is performed and corrective action is taken as indicated by the magnitude of the damage.

Oil and oil product transfer lines that are not in service or are on standby for an extended period of time are capped or blank-flanged and marked as to their origin.

All pipe supports are designed to minimize abrasion and corrosion and to allow for expansion and contraction.

Aboveground piping and valves are visually inspected as described in Section 9.0 at the same frequency as the tanks to which they are connected. Inspection checklists are provided in Appendix H for this purpose. During such inspections, the general conditions of items such as flange joints expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces is assessed. Inspection records are maintained with the SPCC Plan in the environmental files in the administrative offices.

In addition to external visual inspections, employees are trained to look for potential oil-related problems on a day-to-day basis in their respective work areas and to report these to their supervisor or the Environmental department. Examples of potential problems include aboveground pipes that are continually submerged in water or in contact with soil.

Henderson Mine employees and contractors accessing oil storage locations in a vehicle will be notified to proceed with caution so as to not endanger aboveground oil piping and other oil transfer operations. Appropriate precautions are also discussed in the training provided to delivery drivers (Section10.0).

Appendix A

Regulatory Requirement Cross-Reference Table

Appendix A
Regulatory Requirement Cross-Reference Table

The regulatory requirements referenced in this table are based on the 40 CFR 112, Oil Pollution Prevention; SPCC Rule Requirements-Amendments; Final Rule, active November 10, 2011.

Requirement	SPCC Reference Section	NA
<u>§ 112.3 Requirement to prepare and implement a Spill Prevention, Control, and Countermeasure Plan.</u> (a)(1) If your onshore or offshore 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 Plan no later than July 1, 2009. If your onshore or offshore facility becomes operational after August 16, 2002, through July 1, 2009, 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 July 1, 2009.	Section 1.0	
(a)(2) If your onshore facility is a farm as defined in §112.2, the compliance date described in paragraph (a)(1) of this section is delayed until the effective date of a rule establishing SPCC requirements specifically for farms or otherwise establishes dates by which farms must comply with the provisions of this part.		X
(b)(1) If you are the owner or operator of an onshore or offshore facility (excluding oil production facilities) that becomes operational after July 1, 2009, 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.		X
(2) If your onshore facility meets the definition of farm in §112.2, the compliance date described in paragraph (b)(1) of this section is delayed until the effective date of a rule establishing SPCC requirements specifically for farms or otherwise establishes dates by which farms must comply with the provisions of this part. (3) If you are the owner or operator of an oil production facility that becomes operational after July 1, 2009, 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.		X
(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.	Section 2.3	
(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.	Section 4.1	
(f) Extension of time.		X
(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 either:		X

Appendix A
Regulatory Requirement Cross-Reference Table

Requirement	SPCC Reference Section	NA
(i) Has an aggregate aboveground oil storage capacity of 10,000 U.S. gallons or less; or (ii) Is an onshore oil production facility with: (A) No more than two producing wells per single tank battery, each of which produce ten barrels or less of crude oil per well per day, if the facility has an injection well; or (B) No more than four producing wells per single tank battery, each of which produce ten barrels or less of crude oil per well per day, and with no injection wells at the facility.		
<u>§ 112.4 Amendment of Spill Prevention, Control, and Countermeasure Plan by Regional Administrator.</u> (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.	7.3.2	
(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.		X
(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.	7.3.1	
(d) and (e) Regional Administrator requirements for SPCC Plan amendment.		X
(f) Appeal of amendment by facility.		X
<u>§ 112.5 Amendment of Spill Prevention, Control, and Countermeasure Plan by owners or operators.</u>		

Appendix A
Regulatory Requirement Cross-Reference Table

Requirement	SPCC Reference Section	NA
(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.	Section 4.2.1	
(b) For onshore oil production facilities …. (c) The owner or operator of an onshore oil production facility with …		X
(d) Notwithstanding compliance with paragraphs (a) and (c) 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."	Section 4.2.3	
<u>§ 112.6 Qualified Facility Plan Requirements.</u> 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.		X
<u>§ 112.7 General requirements for Spill Prevention, Control, and Countermeasure Plans.</u> (First Paragraph:)		
The Plan must have the full approval of management at a level of authority to commit the necessary resources to fully implement the Plan.	Section 2.1	
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.	Section 4.3	
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.	Section 1.0 and Appendix A	
(a) (1) Include a discussion of your facility's conformance with the requirements listed in this part.	Section 1.0	
(2) Comply with all applicable requirements listed, or state the reasons for nonconformance in your Plan and describe in detail alternate methods and how you will achieve equivalent environmental protection.	Section 4.4	

Appendix A
Regulatory Requirement Cross-Reference Table

Requirement	SPCC Reference Section	NA
(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), and produced water containers and any associated piping and appurtenances downstream from the container, that are otherwise exempted from the requirements of this part under §112.1(d)(12). 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:	Section 5.0; Figures	
(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;	Section 5.2; Appendix C	
(ii) Discharge prevention measures including procedures for routine handling of products (loading, unloading, and facility transfers, etc.);	Section 5.3	
(iii) Discharge or drainage controls such as secondary containment around containers and other structures, equipment, and procedures for the control of a discharge;	Section 5.2, 16.2, Appendix C	
(iv) Countermeasures for discharge discovery, response, and cleanup (both the facility's capability and those that might be required of a contractor);	Section 6.0; Appendix E	
(v) Methods of disposal of recovered materials in accordance with applicable legal requirements;	Section 6.2	
(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.	Section 7.0; Appendix D	
(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 to relate the required information.	Section 7.2	
(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.	Section 6.0; Appendix E	
(b) Where experience indicates a reasonable potential for equipment failure, 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.	Section 8.1; Section 8.2; Appendix C	
(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. (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.	Section 8.3	

Appendix A
Regulatory Requirement Cross-Reference Table

Requirement	SPCC Reference Section	NA
(2) For offshore facilities: (i) Curbing or drip pans; or (ii) Sumps and collection systems.		X
(d) ….if you determine that the installation of any of the structures or pieces of equipment …. 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:	Section 8.5	
(1) An oil spill contingency plan following the provisions of part 109 of this chapter.		X
(2) A written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful.		X
(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.	Section 9.0; Appendix H	
(f) Personnel, training, and discharge prevention procedures.	Section 10.0	
(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	Section 10.0	
(2) Designate a person at each applicable facility who is accountable for discharge prevention and who reports to facility management.	Appendix D	
(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.	Section 10.2	
(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.	Section 11.0	
(h) Facility tank car and tank truck loading/unloading rack (excluding offshore facilities).	Section 12.0	
(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, and as necessary, take appropriate action.	Section 13.0	
(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.	Section 14.0	

Appendix A
Regulatory Requirement Cross-Reference Table

Requirement	SPCC Reference Section	NA
(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.	Section 8.6	
§ 112.8 Spill Prevention, Control, and Countermeasure Plan requirements for onshore facilities (excluding production facilities). (a) Meet the general requirements for the Plan listed under § 112.7, and the specific discharge prevention and containment procedures listed in this section.	*See individual requirements*	
(b) Facility drainage requirements.	Section 15.0	
(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.	Section 15.0	
(2) Use valves of manual, open-and-closed design, for the drainage of diked areas.	Section 15.0	
(3) Design facility drainage systems from undiked areas with a potential for a discharge to flow into ponds, lagoons, or catchment basins designed to retain oil or return it to the facility.	Section 15.0	
(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.		X
(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.		X
(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.	Section 16.1	
(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.	Section 16.2	
(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.	Section 16.3	

Requirement	SPCC Reference Section	NA
(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.	Section 16.4	
(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.	Section 16.5	
(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.	Section 16.6	
(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.	Section 16.7	
(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.	Section 16.8	
(9) Observe effluent treatment facilities frequently enough to detect possible system upsets that could cause a discharge as described in § 112.1(b).	Section 16.9	
(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.	Section 16.10	
(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.	Section 17.0	
(d) Facility transfer operations, pumping, and facility process.		

Appendix A
Regulatory Requirement Cross-Reference Table

Requirement	SPCC Reference Section	NA
(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.	Section 18.0; Figures	
(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.	Section 18.0	
(3) Properly design pipe supports to minimize abrasion and corrosion and allow for expansion and contraction.	Section 18.0	
(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.	Section 18.0; Section 9.0; Appendix H	
(5) Warn all vehicles entering the facility to be sure that no vehicle will endanger aboveground piping or other oil transfer operations.	Section 18.0	

Appendix B

SPCC Plan Revision History and Review Statements

Appendix B
SPCC Plan Revision History and Review Statements

Revision Date	Revised By	Summary of Revisions or Record of Review
June, 2006	CMC - Henderson	Document reviewed and revised; additional tank detail added; facility diagrams and drainage patterns improved.
April, 2007	CMC - Henderson / Aquionix	Revisions and additions made to the facility diagram; plan revised to provide additional clarification or detail to the following sections: 112.7(j), 112.7(c)(2), 112.7(h), 112.7(c) general requirement.
June 15, 2008	CMC - Henderson / Aquionix	A review and evaluation of the SPCC Plan was completed and the Plan was amended as a result (see attached statement). The format of the Plan was converted to the FMI corporate template.
March 15, 2009	CMC - Henderson / Aquionix	A review and evaluation of the SPCC Plan was completed and the Plan was amended as a result (see attached statement). The tank inventory was updated and the Plan was revised to reflect applicable 12/5/08 amendments to the SPCC rule including: (1) Facility diagram requirements for mobile and portable containers; (2) Security requirements; (3) General secondary containers requirements; and (4) Integrity testing.
May 3, 2010	CMC - Henderson / Aquionix	A review and evaluation of the SPCC Plan was completed. No changes were made and the Plan was not amended as a result.
April 15, 2011	Miguel Hamarat (CMC – Henderson) / Melissa Taras (Aquionix)	A review and evaluation of the SPCC Plan was completed and the Plan was amended as a result (see attached statement). Contact information (Appendix D) was updated and the Facility Diagrams were transferred into ArcGIS format on an aerial photograph basemap. Since revisions were non-technical in nature, the revision date was not changed.
December 3, 2011	Miguel Hamarat (CMC – Henderson) / Melissa Taras (Aquionix)	A review and evaluation of the SPCC Plan was completed and the Plan was amended as a result (see attached statement). The tank inventory was updated and the Plan was revised to reflect applicable 11/10/11 amendments to the SPCC rule.
April 29, 2013	Miguel Hamarat (CMC – Henderson) / Melissa Taras (Aquionix)	A review and evaluation of the SPCC Plan was completed and the Plan was amended as a result (see attached statement). The tank inventory was updated. Removal of certain MCP requirements that are no longer included in the new CDPS permit.

Appendix B
SPCC Plan Revision History and Review Statements

I have completed a review and evaluation of the SPCC Plan for Henderson Mine on

________________________ and

☒ will; or

☐ will not

amend the Plan as a result.

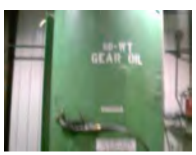
Name: ____

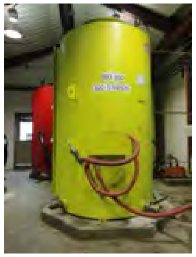
Signature: ____

Appendix C

Henderson Mine Petroleum Storage Containers

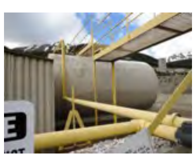
Tank ID	Photo	Location	Map Page	Container Type	Container Contents	Capacity (gallons)	Discharge Prevention Measures (BMPs)	Discharge/Drainage Controls (containment, berming)	Integrity Testing Applicability	Integrity Testing Deadline
A1		Storage Area South of 2 Shaft- Lube and Gear Oils	Figure 1 - Mine Area	SPCC Storage Area	Lube and Gear Oils	7,000.00	1) Monthly SPCC inspection	1) Secondary containment is provided by spill pallets and enviro huts	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
BP1A		Batch Plant	Figure 1 - Mine Area	Non-SPCC Tank	Concrete	1,000.00	1) Monthly SPCC inspection.	1) Secondary containment is provided by the low-lying area, 2) Spill cleanup materials are located nearby.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
BP1B		Batch Plant	Figure 1 - Mine Area	Non-SPCC Tank	Concrete	1,000.00	1) Monthly SPCC inspection.	1) Secondary containment is provided by the low-lying area	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
BP2		Batch Plant - at No. 2 Shaft	Figure 1 - Mine Area	Non-SPCC Tank	Glenium 7500	5,000.00	1) Monthly SPCC inspection	1) Contained within steel secondary containment basin.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A

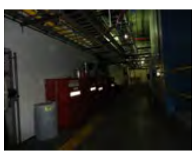
Tank ID	Photo	Location	Map Page	Container Type	Container Contents	Capacity (gallons)	Discharge Prevention Measures (BMPs)	Discharge/Drainage Controls (containment, berming)	Integrity Testing Applicability	Integrity Testing Deadline
BU1		Bulk Oil Storage Building	Figure 1 - Mine Area	SPCC Tank	Rykon 46	1,500.00	1) Monthly SPCC inspection, 2) Periodic integrity testing;	(1) Contained by concrete containment berm around perimeter of building; (2) Spill kit available in the area.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
BU2		Bulk Oil Storage Building	Figure 1 - Mine Area	SPCC Tank	Rykon 100	1,500.00	1) Monthly SPCC inspection, 2) Periodic integrity testing;	(1) Contained by concrete containment berm around perimeter of building; (2) Spill kit available in the area.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
BU3		Bulk Oil Storage Building	Figure 1 - Mine Area	SPCC Storage Area	Used Oil	270.00	1) Monthly SPCC inspection	(1) Contained by concrete containment berm around perimeter of building; (2) Spill kit available in the area.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
BU5		Bulk Oil Storage Building	Figure 1 - Mine Area	SPCC Tank	50 wt. Gear Oil	1,500.00	1) Monthly SPCC inspection	(1) Contained by concrete containment berm around perimeter of building; (2) Spill kit available in the area.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A

Tank ID	Photo	Location	Map Page	Container Type	Container Contents	Capacity (gallons)	Discharge Prevention Measures (BMPs)	Discharge/Drainage Controls (containment, berming)	Integrity Testing Applicability	Integrity Testing Deadline
BU6		Bulk Oil Storage Building	Figure 1 - Mine Area	SPCC Tank	15-40 wt. Motor Oil	1,500.00	1) Monthly SPCC inspection	(1) Contained by concrete containment berm around perimeter of building; (2) Spill kit available in the area.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
BU7		Bulk Oil Storage Building	Figure 1 - Mine Area	SPCC Tank	ISO 100	1,500.00	1) Monthly SPCC inspection	(1) Contained by concrete containment berm around perimeter of building; (2) Spill kit available in the area.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
BU8		Bulk Oil Storage Building	Figure 1 - Mine Area	SPCC Mobile Tank	Rykon 100	1,500.00	1) Monthly SPCC inspection	(1) Contained by concrete containment berm around perimeter of building; (2) Spill kit available in the area.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
C1		Compressor Building - Compressor #1	Figure 1 - Mine Area	SPCC Tank	Machine Oil	125.00	1) Monthly SPCC inspections, 2) Routine shift inspections	1) Secondary containment is provided by the building sump system, 2) Spill cleanup materials are located nearby	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A

Tank ID	Photo	Location	Map Page	Container Type	Container Contents	Capacity (gallons)	Discharge Prevention Measures (BMPs)	Discharge/Drainage Controls (containment, berming)	Integrity Testing Applicability	Integrity Testing Deadline
C2		Compressor Building - Compressor #2	Figure 1 - Mine Area	SPCC Tank	Machine Oil	125.00	1) Monthly SPCC inspection, 2) Routine shift inspection	1) Secondary containment is provided by the building sump system, 2) Spill cleanup materials are located nearby	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
C3		Compressor Building - Compressor #3	Figure 1 - Mine Area	SPCC Tank	Machine Oil	100.00	1) Monthly SPCC inspections, 2) Routine shift inspections	1) Secondary containment is provided by the building sump system, 2) Spill cleanup materials are located nearby	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
C4		Compressor Building - Compressor #4	Figure 1 - Mine Area	SPCC Tank	Machine Oil	100.00	1) Monthly SPCC inspection, 2) Routine shift inspection	1) Secondary containment is provided by the building sump system, 2) Spill cleanup materials are located nearby	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
C6		South side of compressor building, near bay doors	Figure 1 - Mine Area	SPCC Storage Area	Used Oil and Rykon 46	1,050.00	1) Monthly SPCC inspection, 2) Routine shift inspections	1) Secondary containment provided by the building itself, 2) Spill cleanup materials are located nearby	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A

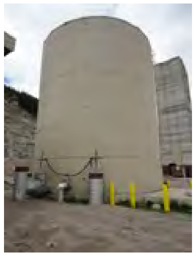
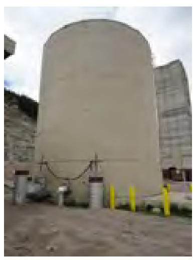
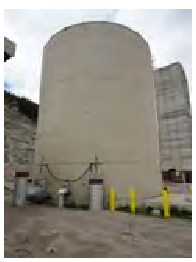
Tank ID	Photo	Location	Map Page	Container Type	Container Contents	Capacity (gallons)	Discharge Prevention Measures (BMPs)	Discharge/Drainage Controls (containment, berming)	Integrity Testing Applicability	Integrity Testing Deadline
C7		Compressor Building	Figure 1 - Mine Area	SPCC Storage Area	Machine Oil and Used Oil	55.00	1) Monthly SPCC inspection	(1) Contained within concrete lined building equipped with floor drain and sump system, oil/grease separator with discharge to WWTP; (2) Spill kit available in area.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
C8A		East side of compressor building	Figure 1 - Mine Area	Non-SPCC Tank	Antifreeze	2,000.00	1) Monthly SPCC inspections	1) Secondary containment is provided by the concrete structure, 2) Spill cleanup materials are located nearby	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
C8B		East side of compressor building	Figure 1 - Mine Area	Non-SPCC Tank	Antifreeze	2,000.00	1) Monthly SPCC inspection	1) Secondary containment is provided by the surrounding concrete structure, 2) Spill cleanup materials are located nearby	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
C8C		East side of compressor building	Figure 1 - Mine Area	Non-SPCC Tank	Antifreeze	2,000.00	1) Monthly SPCC inspection	1) Secondary containment is provided by the surrounding concrete structure, 2) Spill cleanup materials are located nearby	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A

Tank ID	Photo	Location	Map Page	Container Type	Container Contents	Capacity (gallons)	Discharge Prevention Measures (BMPs)	Discharge/Drainage Controls (containment, berming)	Integrity Testing Applicability	Integrity Testing Deadline
C9		Outside, north of Compressor Building	Figure 1 - Mine Area	Non-SPCC Storage Area	Antifreeze	500.00	1) Monthly SPCC inspection	(1) Contained within concrete lined building equipped with floor drain and sump system, oil/grease separator with discharge to WWTP; (2) Spill kit available in area.	Not Required - Not required for another reason - See comments/notes	Internal: N/A External: N/A
CO1		Storage area inside, West side of Warehouse - New Product Storage	Figure 1 - Mine Area	SPCC Storage Area	New Product Storage	5,000.00	1) Monthly SPCC inspection	(1) Contained within concrete lined building equipped with floor drain and sump system, oil/grease separator with discharge to WWTP; (2) Spill kit available in area.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
CO4		Inside gated explosive magazine, inside surface mag	Figure 1 - Mine Area	SPCC Storage Area	Emulsion	4,950.00	1) Monthly SPCC inspection	1) Secondary containment provided by the surrounding addit area, 2) Spill cleanup materials are located nearby	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
F1		Fuel island - W of No.1 settling pond	Figure 1 - Mine Area	SPCC Tank	Gasoline	8,000.00	(1) Level gauge; (2) High level alarm; (3) Hand-actuated electric switch; (4) Monthly inspection	(1) Contained by 64,000-gal concrete retaining wall; (2) Spill kit with empty drum, floor dry, sorbent pads, sorbent booms, Saranex coveralls, latex inner gloves, PVC outer gloves, duct tape, drum liners, and rags	Not Required - Not required as the tank is less than 30,000 gallons, elevated and bottom is accessible for inspection	Internal: N/A External: N/A
F2		Fuel island - W of No.1 settling pond	Figure 1 - Mine Area	SPCC Tank	Diesel	10,000.00	(1) Level gauge; (2) High level alarm; (3) Hand-actuated electric switch; (4) Monthly inspection	(1) 64,000-gal concrete retaining wall; (2) Spill kit with empty drum, floor dry, sorbent pads, sorbent booms, Saranex coveralls, latex inner gloves, PVC outer gloves, duct tape, drum liners, and rags	Not Required - Not required as the tank is less than 30,000 gallons, elevated and bottom is accessible for inspection	Internal: N/A External: N/A

Tank ID	Photo	Location	Map Page	Container Type	Container Contents	Capacity (gallons)	Discharge Prevention Measures (BMPs)	Discharge/Drainage Controls (containment, berming)	Integrity Testing Applicability	Integrity Testing Deadline
HH1		Hoist House Basement - Double Deck Hoist (S end)	Figure 1 - Mine Area	SPCC Storage Area	Hydraulic Oil	200.00	1) Monthly SPCC inspection	(1) Contained within concrete lined building equipped with floor drain and sump system, oil/grease separator with discharge to WWTP; (2) Spill kit available in the area.	Not Required - Not required for this is an oil-filled electrical, operating, or manufacturing device/equipment	Internal: N/A External: N/A
HH2		Hoist House Basement - Service Hoist (N end)	Figure 1 - Mine Area	SPCC Storage Area	Hydraulic Oil	200.00	1) Monthly SPCC inspection	(1) Contained within concrete lined building equipped with floor drain and sump system, oil/grease separator with discharge to WWTP; (2) Spill kit available in the area.	Not Required - Not required for this is an oil-filled electrical, operating, or manufacturing device/equipment	Internal: N/A External: N/A
HH3		Hoist House Basement - West Wall	Figure 1 - Mine Area	SPCC Tank	Used Oil, Hydraulic Oil, Rykon	500.00	1) Monthly SPCC inspection	(1) Contained within concrete lined building equipped with floor drain and sump system, oil/grease separator with discharge to WWTP; (2) Spill kit available in the area.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
HH4		Hoist House Basement - West Wall	Figure 1 - Mine Area	SPCC Storage Area	Hydraulic Oil, Gear Oil, Lube, Used Oil	550.00	1) Monthly SPCC inspection	(1) Contained within concrete lined building equipped with floor drain and sump system, oil/grease separator with discharge to WWTP; (2) Spill kit available in the area.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
M2		Maintenance Shop - Lube Rack.	Figure 1 - Mine Area	SPCC Storage Area	Lubricant, Oil and Antifreeze	500.00	1) Monthly SPCC inspection, 2) Routine shift inspections	1) Secondary containment provided by the building itself and sump system, 2) Spill cleanup materials are located nearby	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A

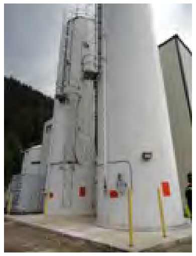
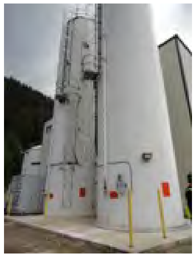
Tank ID	Photo	Location	Map Page	Container Type	Container Contents	Capacity (gallons)	Discharge Prevention Measures (BMPs)	Discharge/Drainage Controls (containment, berming)	Integrity Testing Applicability	Integrity Testing Deadline
M4		Maintenance Shop	Figure 1 - Mine Area	SPCC Storage Area	Gear and Motor Oils, Lube, Antifreeze, Soap	550.00	1) Monthly SPCC inspection, 2) Routine shift inspection	1) Secondary containment is provided by the building and sump, 2) Spill cleanup materials are located nearby	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
PB1		Potable Water Building	Figure 1 - Mine Area	Non-SPCC Storage Area	Sodium Hypochlorite, Corr. Inhibitor, Caustic Soda	165.00	1) Monthly SPCC inspection	(1) Contained by storage on containment pallets; (2) Tertiary containment via potable water building/concrete floor; (3) Spill kit available in the area.	Not Required - Not required for another reason - See comments/notes	Internal: N/A External: N/A
PS1		Used Oil Storage Building - Outside Storage Area on North Side of Bldg	Figure 1 - Mine Area	SPCC Storage Area	Used Oil, Gear Oil	700.00	1) Monthly SPCC inspection	(1) Contained on spill pallets (2) Tertiary containment by impermeable asphalt area where spill may be isolated and promptly cleaned up; (3) Spill kit available in the area.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
PS10		North fan house at 5 shaft	Figure 1 - Mine Area	SPCC Tank	Bearing Oil	70.00	1) Monthly SPCC inspection	(1) Secondary containment provided by the steel structure surrounding the reservoirs (2) Spill kit available in the area.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
PS11		South fan house at 5 shaft	Figure 1 - Mine Area	SPCC Tank	Bearing Oil	70.00	1) Monthly SPCC inspection	(1) Secondary containment provided by the steel structure surrounding the reservoirs (2) Spill kit available in the area.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A

Tank ID	Photo	Location	Map Page	Container Type	Container Contents	Capacity (gallons)	Discharge Prevention Measures (BMPs)	Discharge/Drainage Controls (containment, berming)	Integrity Testing Applicability	Integrity Testing Deadline
PS3		Used Oil Storage Building	Figure 1 - Mine Area	SPCC Storage Area	Used Grease, Used Oil, Used Antifreeze	7,000.00	Quarterly Inspection	(1) Contained by 4,000-gal concrete containment berm; (2) Spill kit available in the area.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
PS5		Tanker Load Out Area - hose next to No. 5 shaft	Figure 1 - Mine Area	SPCC Tank	Diesel	7,500.00	Monthly inspection; load out procedure is posted at this location covering proper load out, spill prevention and containment procedures.	(1) Contained by depressed concrete pad under unloading area; (2) Tertiary containment via earthen berms to the Northwest of the unloading area (discharge would sheet flow to the Northwest). Note: This area does not require specific secondary containment	Not Required - Not required for another reason - See comments/notes	Internal: N/A External: N/A
PS6		Hazardous Waste Storage Building	Figure 1 - Mine Area	Non-SPCC Storage Area	Hazardous Waste	5,000.00	1) Monthly SPCC inspection	(1) Contained within concrete building; (2) Tertiary containment by impermeable asphalt area where spill may be isolated and promptly cleaned up; (3) Spill kit available in the area.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
PS7		Used Oil Tank	Figure 1 - Mine Area	SPCC Tank	Used Oil	47,000.00	Monthly inspection; empty drums, floor dry, buckets, broom and a shovel	(1) Contained by 48,300-gal concrete retaining wall.	Required - API 653	Internal: N/A External: N/A
PS9		Containment Cabinet on N side of Bulk Oil Storage Building	Figure 1 - Mine Area	SPCC Storage Area	Used and New Parts Washer Solvent	700.00	1) Monthly SPCC inspection	(1) Contained via self-contained cabinet; (2) Tertiary containment by impermeable asphalt area where spill may be isolated and promptly cleaned up.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A

Tank ID	Photo	Location	Map Page	Container Type	Container Contents	Capacity (gallons)	Discharge Prevention Measures (BMPs)	Discharge/Drainage Controls (containment, berming)	Integrity Testing Applicability	Integrity Testing Deadline
PW1		Potable Water Building	Figure 1 - Mine Area	Non-SPCC Tank	Potable Water	25,000.00	1) Monthly SPCC inspection, 2) Audible alarm system	1) Secondary containment provided by the low-lying area	Required - STI-SP-001 (2)	Internal: N/A External: N/A
PW2		Potable Water Building	Figure 1 - Mine Area	Non-SPCC Tank	Potable Water	25,000.00	1) Monthly SPCC inspection, 2) Audible alarm system	1) Secondary containment is provided by the surrounding low-lying area	Required - STI-SP-001 (2)	Internal: N/A External: N/A
PW3		Potable Water Building	Figure 1 - Mine Area	Non-SPCC Tank	Potable Water	25,000.00	1) Monthly SPCC Inspection, 2) Audible alarm system	1) Secondary containment is provided by the low-lying area	Required - STI-SP-001 (2)	Internal: N/A External: N/A
PWR1		Process Water Tank	Figure 1 - Mine Area	Non-SPCC Tank	Process Water	25,000.00	1) Monthly SPCC inspection	1) Secondary containment is provided by the surrounding low-lying area	Not Required	Internal: N/A External: N/A

Tank ID	Photo	Location	Map Page	Container Type	Container Contents	Capacity (gallons)	Discharge Prevention Measures (BMPs)	Discharge/Drainage Controls (containment, berming)	Integrity Testing Applicability	Integrity Testing Deadline
T1A		West of Hoist House - North Unit	Figure 1 - Mine Area	SPCC Transformer	Oil	795.00	1) Monthly SPCC inspection	1) Secondary containment provided by the earthen berm, 2) Spill cleanup materials are located nearby	Not Required - Not required for this is an oil-filled electrical, operating, or manufacturing device/equipment	Internal: N/A External: N/A
T1B		West of Hoist House - South Unit	Figure 1 - Mine Area	SPCC Transformer	Oil	795.00	1) Monthly SPCC inspection	1) Secondary containment is provided by the surrounding earthen berm, 2) Spill cleanup materials are located nearby	Not Required - Not required for this is an oil-filled electrical, operating, or manufacturing device/equipment	Internal: N/A External: N/A
T2		North of 3 MAV- spare unit	Figure 1 - Mine Area	SPCC Transformer	Oil	620.00	1) Monthly SPCC inspection	1) Secondary containment provided by the surrounding earthen berm, 2) Spill cleanup materials are located nearby	Not Required - Not required for this is an oil-filled electrical, operating, or manufacturing device/equipment	Internal: N/A External: N/A
T3		Transformers - West of Mine Air Ventilation building (MAV) (north unit)	Figure 1 - Mine Area	SPCC Transformer	Oil	609.00	1) Monthly SPCC inspection	(1) Transformers are contained within earthen berms. Note: Oil filled electrical equipment is not regulated as a bulk storage container and therefore does not require specific secondary containment but must meet general containment requirements to prevent	Not Required - Not required for this is an oil-filled electrical, operating, or manufacturing device/equipment	Internal: N/A External: N/A

Tank ID	Photo	Location	Map Page	Container Type	Container Contents	Capacity (gallons)	Discharge Prevention Measures (BMPs)	Discharge/Drainage Controls (containment, berming)	Integrity Testing Applicability	Integrity Testing Deadline
T4		Transformers - West of Mine Air Ventilation building (MAV) (south unit)	Figure 1 - Mine Area	SPCC Transformer	Oil	610.00	1) Monthly SPCC inspection	(1) Transformers are contained within earthen berms. Note: Oil filled electrical equipment is not regulated as a bulk storage container and therefore does not require specific secondary containment but must meet general containment requirements to prevent	Not Required - Not required for this is an oil-filled electrical, operating, or manufacturing device/equipment	Internal: N/A External: N/A
T5		North of T2 spare by 3MAV	Figure 1 - Mine Area	SPCC Transformer	Oil	795.00	1) Monthly SPCC inspection	1) Secondary containment provided by the earthen berm, 2) Spill cleanup materials are located nearby	Not Required - Not required for this is an oil-filled electrical, operating, or manufacturing device/equipment	Internal: N/A External: N/A
U1		Between Urad WWTP and Clarifier	Figure 2 - Urad	Non-SPCC Tank	Sulfuric Acid	4,000.00	Monthly inspection; periodic integrity testing	(1) Contained via double walled pipes with a dead man switch that automatically closes if released; (2) Tertiary containment by Urad process ponds immediately below WWTP; (3) spill kit available in the area.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
U2		Urad WWTP-rapid mix, sludge/lime, clarifier, lime reactor	Figure 2 - Urad	Non-SPCC Storage Area	Process Solution	12,000.00	Monthly inspection; periodic integrity testing	(1) Contained by WWTP building drainage system and sump; (2) Tertiary containment by URAD process ponds immediately below WWTP; (3) Spill kit available in the area.	Required - STI-SP-001 (2)	Internal: N/A External: N/A
U3		wwtp	Figure 2 - Urad	Non-SPCC Tank	Process Water	187,000.00	1) Monthly SPCC inspection, 2) Routine shift inspections	(1) Contained by WWTP building drainage system and sump; (2) Tertiary containment by URAD process ponds immediately below WWTP; (3) Spill kit available in the area.	Required - API 653	Internal: N/A External: N/A

Tank ID	Photo	Location	Map Page	Container Type	Container Contents	Capacity (gallons)	Discharge Prevention Measures (BMPs)	Discharge/Drainage Controls (containment, berming)	Integrity Testing Applicability	Integrity Testing Deadline
U4A		Urad WWTP - West of Urad treatment building, north unit	Figure 2 - Urad	Non-SPCC Tank	Quicklime (Calcium Oxide)	0.00	Monthly inspection; periodic integrity testing	(1) Non-viscous; easily contained and cleaned up.	Not Required - No discharge potential to navigable waters	Internal: N/A External: N/A
U4B		Urad WWTP - West of Urad treatment building, south unit	Figure 2 - Urad	Non-SPCC Tank	Quicklime (Calcium Oxide)	0.00	Monthly inspection; periodic integrity testing	(1) Non-viscous; easily contained and cleaned up.	Not Required - No discharge potential to navigable waters	Internal: N/A External: N/A
U5		Urad WWTP	Figure 2 - Urad	Non-SPCC Tank	Flocculent	500.00	Monthly inspection; periodic integrity testing	(1) Contained by WWTP building drainage system and sump; (2) Tertiary containment by URAD process ponds immediately below WWTP; (3) Spill kit available in the area.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
U6		Urad WW Treatment	Figure 2 - Urad	Non-SPCC Tank	Process Solution	644,000.00	1) Monthly SPCC inspection, 2) Routine shift inspections	(1) Contained by WWTP building drainage system and sump; (2) Tertiary containment by URAD process ponds immediately below WWTP; (3) Spill kit available in the area.	Required - API 653	Internal: N/A External: N/A

Tank ID	Photo	Location	Map Page	Container Type	Container Contents	Capacity (gallons)	Discharge Prevention Measures (BMPs)	Discharge/Drainage Controls (containment, berming)	Integrity Testing Applicability	Integrity Testing Deadline
U7		Outside of Urad Treatment building	Figure 2 - Urad	SPCC Transformer	Transformer Oil	75.00	1) Monthly inspections	1) Secondary containment is provided by the Urad Treatment Ponds area; 2) Spill cleanup materials are located inside the Urad building	Not Required - Not required for this is an oil-filled electrical, operating, or manufacturing device/equipment	Internal: N/A External: N/A
U8		Adjacent to Lower Urad Pumphouse	Figure 2 - Urad	SPCC Tank	Diesel	300.00	1) Monthly inspections	1) Secondary containment is provided by an earthen berm/low lying area surrounding the genset; 2) Tertiary containment is provided by the Urad Treatment Ponds area; 3) Spill cleanup materials are located inside the Lower Urad Pumphouse	Not Required - Not required for this is an oil-filled electrical, operating, or manufacturing device/equipment	Internal: N/A External: N/A
U9		Inside Lower Urad Pumphouse	Figure 2 - Urad	Non-SPCC Tank	Used Oil	30.00	1) Monthly inspections	1) Secondary containment is provided by the Lower Urad Pumphouse building itself; 2) Tertiary containment is provided by the Urad Treatment Ponds area; 3) Spill cleanup materials are located inside the Lower Urad Pumphouse	Not Required - Not required for this is an oil-filled electrical, operating, or manufacturing device/equipment	Internal: N/A External: N/A
Urad Pipeline		Pipeline to Urad WWTP	Figure 3 - Pipeline to Urad	Non-SPCC Storage Area	Untreated Mine Water	0.00	Pipeline is fully buried from the storage tank to Urad treatment.	(1) Spills can be contained in earthen berms and pumped to ponds at Henderson Mine and Urad WWTP which have ample storage capacity for emergency situations; (2) Manual control valve closure in the case of pipeline rupture or leak; back-up pipeline	Not Required	Internal: N/A External: N/A

Tank ID	Photo	Location	Map Page	Container Type	Container Contents	Capacity (gallons)	Discharge Prevention Measures (BMPs)	Discharge/Drainage Controls (containment, berming)	Integrity Testing Applicability	Integrity Testing Deadline
WW1		Domestic WWTP - S. Room NE corner.	Figure 1 - Mine Area	Non-SPCC Storage Area	Sodium Hypochlorite, Flocculent	1,100.00	Monthly inspection.	(1) Contained on spill pallets or on floor grates above contained process water.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
WW3		Domestic WWTP - N. room near bay door.	Figure 1 - Mine Area	SPCC Storage Area	Corrosion Inhibitor, Oil (Gear, Motor), Used Oil	1,100.00	1) Monthly SPCC inspection	(1) Contained on spill pallets or on floor grates above contained process water.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
					Total Capacity	1,084,309.00				

Freeport-McMoRan
SPCC Container/Area Detail Form

Filter Criteria:

Location:	Henderson Mine
Status:	Active
Group:	None
Equipment/Container Type:	Non-SPCC Storage Area, Non-SPCC Tank, SPCC Mobile Tank, SPCC Storage Area, SPCC Tank, SPCC Transformer
Inspection Frequency:	30 days, Annual, Daily, Monthly, Quarterly, Semi-Annual, Weekly

General Information

Container/Area ID: A1

Category: SPCC Storage Area

Description: Storage Area South of 2 Shaft- Lube and Gear Oils

Location: Hoist House

Map Page: Figure 1 - Mine Area

Location Description: Storage Area South of 2 Shaft- Lube and Gear Oils

Runoff Destination and Direction: Low-lying area(s) (North)

Container Description: Varies

Container Contents: Lube and Gear Oils

Capacity of Largest Container: 350.00000 gallons

Max Cumulative Capacity: 7,000.00 gallons

Containment

Number of Containers in Containment: Varies

Containment Material: Spill pallets and enviro huts

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment is provided by spill pallets and enviro huts.

Controls

Level Sensing Device:
Operator Knowledge

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection

Discharge/Drainage Controls (containment, berming):
1) Secondary containment is provided by spill pallets and enviro huts

Integrity Testing

Applicability: Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/29/2013	Siron, Mark
3/19/2013	Siron, Mark
2/26/2013	Siron, Mark
1/16/2013	Siron, Mark
12/13/2012	Siron, Mark
11/15/2012	Siron, Mark
10/23/2012	Siron, Mark
9/6/2012	Siron, Mark
8/29/2012	Siron, Mark

7/24/2012	Siron, Mark
6/14/2012	Siron, Mark
5/3/2012	Siron, Mark
4/27/2012	Siron, Mark
3/6/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/20/2011	Siron, Mark

Action Item History

Description	Owner	Initiated Date	Due Date	Compl. Date	Verif. Date
No secondary containment	McCaslin, Robert	8/29/2012	9/29/2012	10/1/2012	11/7/2012
no secondary containment	McCaslin, Robert	10/16/2012	10/31/2012	2/21/2013	
containment missing	McCaslin, Robert	11/5/2012	11/9/2012	11/29/2012	
TEst Action Item (Can Delete)	Siron, Mark	11/15/2012	11/15/2012	11/26/2012	

Service History

Date	Status
1/7/2013	Active
10/30/2012	Active

Notes

No notes recorded

General Information

Container/Area ID: BP1A

Category: Non-SPCC Tank

Description: Concrete Silo - Batch Plant at No. 2 Shaft

Location: Stacking House & Batch Plant

Map Page: Figure 1 - Mine Area

Location Description: Batch Plant

Runoff Destination and Direction: Low-lying area(s) (North)

Container Description: Silo

Container Contents: Concrete

Capacity of Largest Container: 1000.00000 gallons

Max Cumulative Capacity: 1,000.00 gallons

Containment

Number of Containers in Containment: Varies

Containment Material: Low-lying area

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the low-lying area

Controls

Level Sensing Device:
Operator Knowledge

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection.

Discharge/Drainage Controls (containment, berming):
1) Secondary containment is provided by the low-lying area, 2) Spill cleanup materials are located nearby.

Integrity Testing

Applicability: Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected

Inspection History

Required Inspection Frequency: Quarterly

Date	Completed By
4/29/2013	Siron, Mark
3/26/2013	Siron, Mark
2/27/2013	Siron, Mark
1/16/2013	Siron, Mark
12/20/2012	Siron, Mark
11/15/2012	Siron, Mark
10/23/2012	Siron, Mark
9/6/2012	Siron, Mark
8/29/2012	Siron, Mark

7/30/2012	Siron, Mark
6/14/2012	Siron, Mark
5/24/2012	Siron, Mark
4/27/2012	Siron, Mark
3/6/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/21/2011	Siron, Mark
11/28/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/15/2011	Siron, Mark
6/24/2011	Siron, Mark
5/20/2011	Siron, Mark
4/25/2011	Siron, Mark
4/22/2011	Siron, Mark

Action Item History

No action items recorded

Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

General Information

Container/Area ID: BP1B

Category: Non-SPCC Tank

Description: Concrete Silo - Batch Plant at No. 2 Shaft

Location: Batch Plant

Map Page: Figure 1 - Mine Area

Location Description: Batch Plant

Runoff Destination and Direction: Low-lying area(s) (North)

Container Description: Silo

Container Contents: Concrete

Capacity of Largest Container: 1000.00000 gallons

Max Cumulative Capacity: 1,000.00 gallons

Containment

Number of Containers in Containment: Varies

Containment Material: Low-lying area

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the low-lying area

Controls

Level Sensing Device:
Operator Knowledge

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection.

Discharge/Drainage Controls (containment, berming):
1) Secondary containment is provided by the low-lying area

Integrity Testing

Applicability: Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected

Inspection History

Required Inspection Frequency: Quarterly

Date	Completed By
4/29/2013	Siron, Mark
3/26/2013	Siron, Mark
2/27/2013	Siron, Mark
1/16/2013	Siron, Mark
12/20/2012	Siron, Mark
11/15/2012	Siron, Mark
10/23/2012	Siron, Mark
9/6/2012	Siron, Mark
8/29/2012	Siron, Mark

7/30/2012	Siron, Mark
6/14/2012	Siron, Mark
5/24/2012	Siron, Mark
4/27/2012	Siron, Mark
3/6/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/21/2011	Siron, Mark
11/28/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/15/2011	Siron, Mark

Action Item History

No action items recorded

Notes

No notes recorded

General Information

Container/Area ID: BP2

Category: Non-SPCC Tank

Description: Glenium 7500 Tanks (2) - Batch Plant at No. 2 Shaft

Location: Batch Plant

Map Page: Figure 1 - Mine Area

Location Description: Batch Plant - at No. 2 Shaft

Runoff Destination and Direction: Will remain inside building (North if reached outside)

Container Description: 2 x 2,500-gal

Container Contents: Glenium 7500

Capacity of Largest Container: 2500.00000 gallons

Max Cumulative Capacity: 5,000.00 gallons

Containment

Number of Containers in Containment: 2

Containment Material: Building itself

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the building itself.

Controls

Level Sensing Device:
Operator Knowledge

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection

Discharge/Drainage Controls (containment, berming):
1) Contained within steel secondary containment basin.

Integrity Testing

Applicability: Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected

Inspection History

Required Inspection Frequency: Quarterly

Date	Completed By
4/10/2013	Siron, Mark
3/26/2013	Siron, Mark
2/27/2013	Siron, Mark
1/16/2013	Siron, Mark
12/20/2012	Siron, Mark
11/26/2012	Siron, Mark
10/23/2012	Siron, Mark
9/6/2012	Siron, Mark
8/29/2012	Siron, Mark

7/30/2012	Siron, Mark
6/14/2012	Siron, Mark
5/24/2012	Siron, Mark
4/27/2012	Siron, Mark
3/28/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/21/2011	Siron, Mark
11/30/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/25/2011	Siron, Mark
7/13/2011	Siron, Mark
6/24/2011	Siron, Mark
5/18/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

No action items recorded

Service History

Date	Status
8/1/2011	Active

Notes

Changed to Glenium 7500 mid 2012, same tanks, non-SPCC

General Information

Container/Area ID: BU1

Category: SPCC Tank

Description: Bulk Oil Storage - Red Rykon Tank

Location: Henderson Mine

Map Page: Figure 1 - Mine Area

Location Description: Bulk Oil Storage Building

Runoff Destination and Direction: Will remain inside building (North if reached outside)

Container Description: 1,500-gal

Container Contents: Rykon 46

Capacity of Largest Container: 1500.00000 gallons

Max Cumulative Capacity: 1,500.00 gallons

Containment

Number of Containers in Containment: 7

Containment Material: Building itself

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the building itself

Controls

Level Sensing Device:
Site tube

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection, 2) Periodic integrity testing;

Discharge/Drainage Controls (containment, berming):
(1) Contained by concrete containment berm around perimeter of building; (2) Spill kit available in the area.

Integrity Testing

Applicability: Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/8/2013	Siron, Mark
3/13/2013	Siron, Mark
2/18/2013	Siron, Mark
1/14/2013	Siron, Mark
12/13/2012	Siron, Mark
11/6/2012	Siron, Mark
10/23/2012	Siron, Mark
9/17/2012	Siron, Mark
8/7/2012	Siron, Mark

7/19/2012	Siron, Mark
6/27/2012	Siron, Mark
5/3/2012	Siron, Mark
4/18/2012	Siron, Mark
3/1/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/20/2011	Siron, Mark
11/28/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/22/2011	Siron, Mark
7/13/2011	Siron, Mark
6/22/2011	Siron, Mark
5/18/2011	Siron, Mark
4/25/2011	Siron, Mark
4/7/2011	Jensen, Mark

Action Item History

Description	Owner	Initiated Date	Due Date	Compl. Date	Verif. Date
fittings leak	Siron, Mark	12/1/2011	12/31/2011	12/15/2011	12/15/2011
Hose nozzles leak when hung on hangars of tank	Siron, Mark	12/21/2011	12/31/2011	4/19/2012	4/19/2012
Hose nozzles leak when hung on hangars of tank	Siron, Mark	2/14/2012	2/29/2012	4/19/2012	4/19/2012
Hose nozzles leak when hung on hangars of tank	Siron, Mark	2/14/2012	2/29/2012	4/19/2012	4/19/2012

Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

General Information

Container/Area ID: BU2

Category: SPCC Tank

Description: Bulk Oil Storage Building - Yellow Rykon 100 Tank

Location: Henderson Mine

Map Page: Figure 1 - Mine Area

Location Description: Bulk Oil Storage Building

Runoff Destination and Direction: Will remain inside building (North if reached outside)

Container Description: 1,500-gal

Container Contents: Rykon 100

Capacity of Largest Container: 1500.00000 gallons

Max Cumulative Capacity: 1,500.00 gallons

Containment

Number of Containers in Containment: 7

Containment Material: Building itself

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the building itself

Controls

Level Sensing Device:
Site tube

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection, 2) Periodic integrity testing;

Discharge/Drainage Controls (containment, berming):
(1) Contained by concrete containment berm around perimeter of building; (2) Spill kit available in the area.

Integrity Testing

Applicability: Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/8/2013	Siron, Mark
3/13/2013	Siron, Mark
2/18/2013	Siron, Mark
1/14/2013	Siron, Mark
12/13/2012	Siron, Mark
11/6/2012	Siron, Mark
10/22/2012	Siron, Mark
9/17/2012	Siron, Mark
8/7/2012	Siron, Mark

7/19/2012	Siron, Mark
6/27/2012	Siron, Mark
5/3/2012	Siron, Mark
4/18/2012	Siron, Mark
3/1/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/20/2011	Siron, Mark
11/28/2011	Siron, Mark
10/27/2011	Siron, Mark
9/27/2011	
9/21/2011	Siron, Mark
7/18/2011	
7/13/2011	Siron, Mark
6/22/2011	Siron, Mark
5/18/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

Description	Owner	Initiated Date	Due Date	Compl. Date	Verif. Date
visual guage leaks.	Siron, Mark	4/25/2011	11/30/2011	12/1/2011	12/1/2011
sight gage	Siron, Mark	8/29/2011	9/30/2011	9/27/2011	9/27/2011
sight gage leaks	Siron, Mark	9/29/2011	9/29/2011	9/29/2011	9/29/2011
fittings leak	Siron, Mark	12/1/2011	12/31/2011	12/15/2011	12/15/2011
Hose nozzles leak when hung on hangars of tank	Siron, Mark	12/21/2011	12/31/2011	4/19/2012	4/19/2012
Hose nozzles leak when hung on hangars of tank	Siron, Mark	2/14/2012	2/29/2012	4/19/2012	4/19/2012
Hose nozzles leak when hung on hangars of tank	Siron, Mark	2/14/2012	2/29/2012	4/19/2012	4/19/2012

Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

General Information

Container/Area ID: BU3

Category: SPCC Storage Area

Description: Bulk Oil Storage Building - Used Oil Storage Area

Location: Henderson Mine

Map Page: Figure 1 - Mine Area

Location Description: Bulk Oil Storage Building

Runoff Destination and Direction: Will remain inside building (North if reached outside)

Container Description: 0-4 55-gal

Container Contents: Used Oil

Capacity of Largest Container: 55.00000 gallons

Max Cumulative Capacity: 270.00 gallons

Containment

Number of Containers in Containment: 7

Containment Material: Building itself

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the building itself

Controls

Level Sensing Device:
Site tube

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection

Discharge/Drainage Controls (containment, berming):
(1) Contained by concrete containment berm around perimeter of building; (2) Spill kit available in the area.

Integrity Testing

Applicability: Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/29/2013	Siron, Mark
4/8/2013	Siron, Mark
3/13/2013	Siron, Mark
2/18/2013	Siron, Mark
1/14/2013	Siron, Mark
12/13/2012	Siron, Mark
11/6/2012	Siron, Mark
10/22/2012	Siron, Mark
9/17/2012	Siron, Mark

8/7/2012	Siron, Mark
7/19/2012	Siron, Mark
6/27/2012	Siron, Mark
5/3/2012	Siron, Mark
4/18/2012	Siron, Mark
3/1/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/20/2011	Siron, Mark
11/28/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/22/2011	Siron, Mark
7/13/2011	Siron, Mark
6/22/2011	Siron, Mark
5/18/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

Description	Owner	Initiated Date	Due Date	Compl. Date	Verif. Date
fittings leak	Siron, Mark	12/1/2011	12/31/2011	12/15/2011	12/15/2011
Hose nozzles leak when hung on hangars of tank	Siron, Mark	12/21/2011	12/31/2011	4/19/2012	4/19/2012
Hose nozzles leak when hung on hangars of tank	Siron, Mark	2/14/2012	2/29/2012	4/19/2012	4/19/2012
Hose nozzles leak when hung on hangars of tank	Siron, Mark	2/14/2012	2/29/2012	4/19/2012	4/19/2012

Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

General Information

Container/Area ID: BU5

Category: SPCC Tank

Description: Bulk Oil Building - 50 wt. Green Gear Oil Tank (1500 gal)

Location: Henderson Mine

Map Page: Figure 1 - Mine Area

Location Description: Bulk Oil Storage Building

Runoff Destination and Direction: Will remain inside building (North if reached outside)

Container Description: 1,500-gal

Container Contents: 50 wt. Gear Oil

Capacity of Largest Container: 1500.00000 gallons

Max Cumulative Capacity: 1,500.00 gallons

Containment

Number of Containers in Containment: 7

Containment Material: Building itself

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the building itself

Controls

Level Sensing Device:
Site tube

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection

Discharge/Drainage Controls (containment, berming):
(1) Contained by concrete containment berm around perimeter of building; (2) Spill kit available in the area.

Integrity Testing

Applicability: Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/8/2013	Siron, Mark
3/13/2013	Siron, Mark
2/18/2013	Siron, Mark
1/14/2013	Siron, Mark
12/13/2012	Siron, Mark
11/6/2012	Siron, Mark
10/22/2012	Siron, Mark
9/17/2012	Siron, Mark
9/17/2012	Siron, Mark

8/7/2012	Siron, Mark
7/19/2012	Siron, Mark
6/27/2012	Siron, Mark
5/3/2012	Siron, Mark
4/18/2012	Siron, Mark
3/1/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/20/2011	Siron, Mark
11/28/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/22/2011	Siron, Mark
7/13/2011	Siron, Mark
6/22/2011	Siron, Mark
5/18/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

Description	Owner	Initiated Date	Due Date	Compl. Date	Verif. Date
fittings leak	Siron, Mark	12/1/2011	12/31/2011	12/15/2011	12/15/2011
Hose nozzles leak when hung on hangars of tank	Siron, Mark	12/21/2011	12/31/2011	4/19/2012	4/19/2012
Hose nozzles leak when hung on hangars of tank	Siron, Mark	2/14/2012	2/29/2012	4/19/2012	4/19/2012
Hose nozzles leak when hung on hangars of tank	Siron, Mark	2/14/2012	2/29/2012	4/19/2012	4/19/2012

Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

General Information

Container/Area ID: BU6

Category: SPCC Tank

Description: Bulk Oil Building - 15-40 wt. Blue Motor Oil Tank (1500 gal) -

Location: Henderson Mine

Map Page: Figure 1 - Mine Area

Location Description: Bulk Oil Storage Building

Runoff Destination and Direction: Will remain inside building (North if reached outside)

Container Description: 1,500-gal

Container Contents: 15-40 wt. Motor Oil

Capacity of Largest Container: 1500.00000 gallons

Max Cumulative Capacity: 1,500.00 gallons

Containment

Number of Containers in Containment: 7

Containment Material: Building itself

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the building itself

Controls

Level Sensing Device:
Site tube

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection

Discharge/Drainage Controls (containment, berming):
(1) Contained by concrete containment berm around perimeter of building; (2) Spill kit available in the area.

Integrity Testing

Applicability: Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/8/2013	Siron, Mark
3/13/2013	Siron, Mark
2/18/2013	Siron, Mark
1/14/2013	Siron, Mark
12/13/2012	Siron, Mark
11/6/2012	Siron, Mark
10/22/2012	Siron, Mark
9/17/2012	Siron, Mark
8/7/2012	Siron, Mark

7/19/2012	Siron, Mark
6/27/2012	Siron, Mark
5/3/2012	Siron, Mark
4/18/2012	Siron, Mark
3/5/2012	Siron, Mark
3/1/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/20/2011	Siron, Mark
11/28/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/22/2011	Siron, Mark
7/13/2011	Siron, Mark
6/22/2011	Siron, Mark
5/20/2011	Siron, Mark
5/18/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

Description	Owner	Initiated Date	Due Date	Compl. Date	Verif. Date
fittings leak	Siron, Mark	12/1/2011	12/31/2011	12/15/2011	12/15/2011
Hose nozzles leak when hung on hangars of tank	Siron, Mark	12/21/2011	12/31/2011	4/19/2012	4/19/2012
Hose nozzles leak when hung on hangars of tank	Siron, Mark	2/14/2012	2/29/2012	4/19/2012	4/19/2012
Hose nozzles leak when hung on hangars of tank	Siron, Mark	2/14/2012	2/29/2012	4/19/2012	4/19/2012

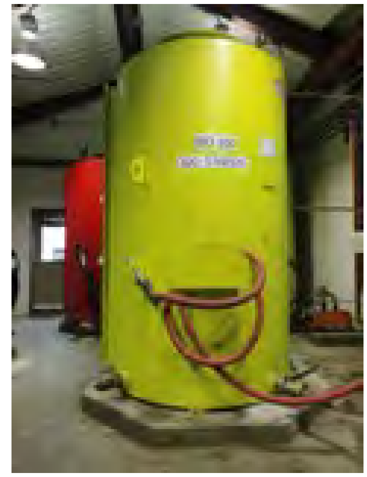
Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

General Information



Container/Area ID: BU7

Category: SPCC Tank

Description: Bulk Oil Building - ISO 100 yellow tank

Location: Henderson Mine

Map Page: Figure 1 - Mine Area

Location Description: Bulk Oil Storage Building

Runoff Destination and Direction: Will remain inside building (North if reached outside)

Container Description:

Container Contents: ISO 100

Capacity of Largest Container: 1500.00000 gallons

Max Cumulative Capacity: 1,500.00 gallons

Containment

Number of Containers in Containment: 7

Containment Material: Building itself

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the building itself

Controls

Level Sensing Device:
Site tube

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection

Discharge/Drainage Controls (containment, berming):
(1) Contained by concrete containment berm around perimeter of building; (2) Spill kit available in the area.

Integrity Testing

Applicability: Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/8/2013	Siron, Mark
3/13/2013	Siron, Mark
2/18/2013	Siron, Mark
1/14/2013	Siron, Mark
12/13/2012	Siron, Mark
11/6/2012	Siron, Mark
10/22/2012	Siron, Mark
9/17/2012	Siron, Mark

8/7/2012	Siron, Mark
7/19/2012	Siron, Mark
6/27/2012	Siron, Mark
5/3/2012	Siron, Mark
4/18/2012	Siron, Mark
3/1/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/20/2011	Siron, Mark
11/28/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/22/2011	Siron, Mark
7/13/2011	Siron, Mark
6/22/2011	Siron, Mark
5/18/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

Description	Owner	Initiated Date	Due Date	Compl. Date	Verif. Date
fittings leak	Siron, Mark	12/1/2011	12/31/2011	12/15/2011	12/15/2011
Hose nozzles leak when hung on hangars of tank	Siron, Mark	12/21/2011	12/31/2011	4/19/2012	4/19/2012
Hose nozzles leak when hung on hangars of tank	Siron, Mark	2/14/2012	2/29/2012	4/19/2012	4/19/2012
Hose nozzles leak when hung on hangars of tank	Siron, Mark	2/14/2012	2/29/2012	4/19/2012	4/19/2012

Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

General Information

Container/Area ID: BU8

Category: SPCC Mobile Tank

Description: Rykon 100 Mobile Tank(s) (750 gal) - Bulk Oil Building

Location: Henderson Mine

Map Page: Figure 1 - Mine Area

Location Description: Bulk Oil Storage Building

Runoff Destination and Direction: Will remain inside building (North if reached outside)

Container Description: 0-2 750-gal mobile tank

Container Contents: Rykon 100

Capacity of Largest Container: 750.00000 gallons

Max Cumulative Capacity: 1,500.00 gallons

Containment

Number of Containers in Containment: Varies

Containment Material: Building itself

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment provided by the building and sump system

Controls

Level Sensing Device:

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection

Discharge/Drainage Controls (containment, berming):
(1) Contained by concrete containment berm around perimeter of building; (2) Spill kit available in the area.

Integrity Testing

Applicability: Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected

Inspection History

Required Inspection Frequency: Annual

Date	Completed By
4/8/2013	Siron, Mark
3/13/2013	Siron, Mark
2/18/2013	Siron, Mark
1/14/2013	Siron, Mark
12/13/2012	Siron, Mark
11/6/2012	Siron, Mark
10/22/2012	Siron, Mark
9/17/2012	Siron, Mark
8/7/2012	Siron, Mark

7/19/2012	Siron, Mark
6/27/2012	Siron, Mark
5/3/2012	Siron, Mark
4/18/2012	Siron, Mark
3/1/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/20/2011	Siron, Mark
11/28/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/22/2011	Siron, Mark
7/13/2011	Siron, Mark
6/22/2011	Siron, Mark
5/20/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

Description	Owner	Initiated Date	Due Date	Compl. Date	Verif. Date
oil spilled under and on top	Siron, Mark	12/21/2011	12/31/2011	4/19/2012	4/19/2012
tank covered with oil	Siron, Mark	2/14/2012	2/29/2012	2/13/2012	3/28/2012

Service History

Date	Status
11/5/2012	Active

Notes

No notes recorded

General Information

Container/Area ID: C1

Category: SPCC Tank

Description: Compressor Building - Compressor #1 - Machine Oil

Location: Compressor Building

Map Page: Figure 1 - Mine Area

Location Description: Compressor Building - Compressor #1

Runoff Destination and Direction: Building sump system (North if reached outside)

Container Description: Green, steel box adjacent to pump

Container Contents: Machine Oil

Capacity of Largest Container: 125.00000 gallons

Max Cumulative Capacity: 125.00 gallons

Containment

Number of Containers in Containment: Varies

Containment Material: Concrete Lined Building

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment provided by the building and sump system

Controls

Level Sensing Device:
Operator Knowledge

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspections, 2) Routine shift inspections

Discharge/Drainage Controls (containment, berming):
1) Secondary containment is provided by the building sump system, 2) Spill cleanup materials are located nearby

Integrity Testing

Applicability: Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/29/2013	Siron, Mark
3/26/2013	Siron, Mark
2/27/2013	Siron, Mark
1/16/2013	Siron, Mark
12/20/2012	Siron, Mark
11/26/2012	Siron, Mark
10/23/2012	Siron, Mark
9/6/2012	Siron, Mark
8/29/2012	Siron, Mark

7/30/2012	Siron, Mark
6/14/2012	Siron, Mark
5/24/2012	Siron, Mark
4/27/2012	Siron, Mark
3/28/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/21/2011	Siron, Mark
11/30/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/22/2011	Siron, Mark
7/13/2011	Siron, Mark
6/24/2011	Siron, Mark
5/18/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

No action items recorded

Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

General Information

Container/Area ID: C2

Category: SPCC Tank

Description: Compressor Building - Compressor #2 - Machine Oil

Location: Compressor Building

Map Page: Figure 1 - Mine Area

Location Description: Compressor Building - Compressor #2

Runoff Destination and Direction: Building sump system (North if reached outside)

Container Description: Green, steel box

Container Contents: Machine Oil

Capacity of Largest Container: 125.00000 gallons

Max Cumulative Capacity: 125.00 gallons

Containment

Number of Containers in Containment: Varies

Containment Material: Concrete Lined Building

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment provided by the building and sump system

Controls

Level Sensing Device:
Operator Knowledge

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection, 2) Routine shift inspection

Discharge/Drainage Controls (containment, berming):
1) Secondary containment is provided by the building sump system, 2) Spill cleanup materials are located nearby

Integrity Testing

Applicability: Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/29/2013	Siron, Mark
3/26/2013	Siron, Mark
2/27/2013	Siron, Mark
1/16/2013	Siron, Mark
12/20/2012	Siron, Mark
11/26/2012	Siron, Mark
10/23/2012	Siron, Mark
9/6/2012	Siron, Mark
8/29/2012	Siron, Mark

7/30/2012	Siron, Mark
6/14/2012	Siron, Mark
5/24/2012	Siron, Mark
4/27/2012	Siron, Mark
3/28/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/21/2011	Siron, Mark
11/30/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/22/2011	Siron, Mark
7/7/2011	Siron, Mark
5/18/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

No action items recorded

Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

General Information

Container/Area ID: C3

Category: SPCC Tank

Description: Compressor Building - Compressor #3 - Machine Oil

Location: Compressor Building

Map Page: Figure 1 - Mine Area

Location Description: Compressor Building - Compressor #3

Runoff Destination and Direction: Building sump system (North if reached outside)

Container Description: Green, steel box

Container Contents: Machine Oil

Capacity of Largest Container: 100.00000 gallons

Max Cumulative Capacity: 100.00 gallons

Containment

Number of Containers in Containment: Varies

Containment Material: Concrete Lined Building

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment provided by the building and sump system

Controls

Level Sensing Device:
Operator Knowledge

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspections, 2) Routine shift inspections

Discharge/Drainage Controls (containment, berming):
1) Secondary containment is provided by the building sump system, 2) Spill cleanup materials are located nearby

Integrity Testing

Applicability: Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/29/2013	Siron, Mark
3/26/2013	Siron, Mark
2/27/2013	Siron, Mark
1/16/2013	Siron, Mark
12/20/2012	Siron, Mark
11/26/2012	Siron, Mark
10/23/2012	Siron, Mark
9/6/2012	Siron, Mark
8/29/2012	Siron, Mark

7/30/2012	Siron, Mark
6/14/2012	Siron, Mark
5/24/2012	Siron, Mark
4/27/2012	Siron, Mark
3/28/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/21/2011	Siron, Mark
12/1/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/22/2011	Siron, Mark
7/13/2011	Siron, Mark
7/13/2011	Siron, Mark
6/24/2011	Siron, Mark
5/18/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

No action items recorded

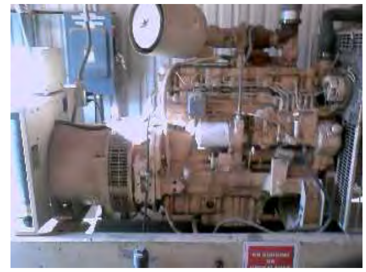
Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

General Information



Container / Area ID: C4

Category: SPCC Tank

Description: Compressor Building - Compressor #4 - Machine Oil

Location: Compressor Building

Map Page: Figure 1 - Mine Area

Location Description: Compressor Building - Compressor #4

Runoff Destination and Direction: Building sump system (North if reached outside)

Container Description: Green, steel box

Container Contents: Machine Oil

Capacity of Largest Container: 100.00000 gallons

Max Cumulative Capacity: 100.00 gallons

Containment

Number of Containers in Containment: Varies

Containment Material: Concrete Lined Building

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment provided by the building and sump system

Controls

Level Sensing Device:
Operator Knowledge

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection, 2) Routine shift inspection

Discharge / Drainage Controls (containment, berming):
1) Secondary containment is provided by the building sump system, 2) Spill cleanup materials are located nearby

Integrity Testing

Applicability: Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/29/2013	Siron, Mark
3/26/2013	Siron, Mark
2/27/2013	Siron, Mark
1/16/2013	Siron, Mark
12/20/2012	Siron, Mark
11/26/2012	Siron, Mark
10/23/2012	Siron, Mark
9/6/2012	Siron, Mark
8/29/2012	Siron, Mark

7/30/2012	Siron, Mark
6/14/2012	Siron, Mark
5/24/2012	Siron, Mark
4/27/2012	Siron, Mark
3/28/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
1/19/2012	Siron, Mark
12/21/2011	Siron, Mark
11/30/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/22/2011	Siron, Mark
7/14/2011	Siron, Mark
7/13/2011	Siron, Mark
6/24/2011	Siron, Mark
5/18/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

No action items recorded

Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

General Information

Container/Area ID: C6

Category: SPCC Storage Area

Description: South Side of Compressor Bldg - Used Oil and Rykon 46

Location: Compressor Building

Map Page: Figure 1 - Mine Area

Location Description: South side of compressor building, near bay doors

Runoff Destination and Direction: Building sump system (North if reached outside)

Container Description: 350-gallon Totes (0-3)

Container Contents: Used Oil and Rykon 46

Capacity of Largest Container: 350.00000 gallons

Max Cumulative Capacity: 1,050.00 gallons

Containment

Number of Containers in Containment: Varies

Containment Material: Building itself

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the building itself

Controls

Level Sensing Device:
Clock Gauge

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection, 2) Routine shift inspections

Discharge/Drainage Controls (containment, berming):
1) Secondary containment provided by the building itself, 2) Spill cleanup materials are located nearby

Integrity Testing

Applicability: Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/29/2013	Siron, Mark
3/26/2013	Siron, Mark
2/27/2013	Siron, Mark
1/16/2013	Siron, Mark
12/20/2012	Siron, Mark
11/26/2012	Siron, Mark
10/23/2012	Siron, Mark
9/6/2012	Siron, Mark
8/29/2012	Siron, Mark

7/30/2012	Siron, Mark
6/14/2012	Siron, Mark
5/24/2012	Siron, Mark
4/27/2012	Siron, Mark
3/28/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/21/2011	Siron, Mark
11/30/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/22/2011	Siron, Mark
7/13/2011	Siron, Mark
6/22/2011	Siron, Mark
5/18/2011	Siron, Mark
4/25/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

No action items recorded

Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

General Information

Container/Area ID: C7

Category: SPCC Storage Area

Description: Compressor Building - Machine Oil and Used Oil

Location: Compressor Building

Map Page: Figure 1 - Mine Area

Location Description: Compressor Building

Runoff Destination and Direction: Building sump system (North if reached outside)

Container Description: Varies

Container Contents: Machine Oil and Used Oil

Capacity of Largest Container: 55.00000 gallons

Max Cumulative Capacity: 55.00 gallons

Containment

Number of Containers in Containment: Varies

Containment Material: Building Itself

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the building itself

Controls

Level Sensing Device:
Clock Gauge

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection

Discharge/Drainage Controls (containment, berming):
(1) Contained within concrete lined building equipped with floor drain and sump system, oil/grease separator with discharge to WWTP; (2) Spill kit available in area.

Integrity Testing

Applicability: Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/29/2013	Siron, Mark
3/26/2013	Siron, Mark
2/27/2013	Siron, Mark
1/16/2013	Siron, Mark
12/20/2012	Siron, Mark
11/26/2012	Siron, Mark
10/23/2012	Siron, Mark

9/6/2012	Siron, Mark
8/29/2012	Siron, Mark
7/30/2012	Siron, Mark
6/14/2012	Siron, Mark
5/24/2012	Siron, Mark
4/27/2012	Siron, Mark
3/28/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/21/2011	Siron, Mark
11/30/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/22/2011	Siron, Mark
7/13/2011	Siron, Mark
6/24/2011	Siron, Mark
5/18/2011	Siron, Mark
4/25/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

No action items recorded

Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

General Information

Container/Area ID: C8A

Category: Non-SPCC Tank

Description: East Side of Compressor Building - Antifreeze Tanks

Location: Compressor Building

Map Page: Figure 1 - Mine Area

Location Description: East side of compressor building

Runoff Destination and Direction: Secondary containment structure (North)

Container Description: Steel, tank AST

Container Contents: Antifreeze

Capacity of Largest Container: 2000.00000 gallons

Max Cumulative Capacity: 2,000.00 gallons

Containment

Number of Containers in Containment: 3

Containment Material: Concrete Lined Area

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the surrounding concrete structure

Controls

Level Sensing Device:
Clock Gauge

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspections

Discharge/Drainage Controls (containment, berming):
1) Secondary containment is provided by the concrete structure, 2) Spill cleanup materials are located nearby

Integrity Testing

Applicability: Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/29/2013	Siron, Mark
3/26/2013	Siron, Mark
2/27/2013	Siron, Mark
1/16/2013	Siron, Mark
12/20/2012	Siron, Mark
11/15/2012	Siron, Mark
10/23/2012	Siron, Mark
9/6/2012	Siron, Mark
8/29/2012	Siron, Mark

7/30/2012	Siron, Mark
6/14/2012	Siron, Mark
5/25/2012	Siron, Mark
4/27/2012	Siron, Mark
3/28/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/21/2011	Siron, Mark
11/30/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/22/2011	Siron, Mark
7/13/2011	Siron, Mark
6/24/2011	Siron, Mark
6/22/2011	Siron, Mark
5/18/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

No action items recorded

Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

General Information

Container/Area ID: C8B

Category: Non-SPCC Tank

Description: East Side of Compressor Building - Antifreeze Tanks

Location: Compressor Building

Map Page: Figure 1 - Mine Area

Location Description: East side of compressor building

Runoff Destination and Direction: Secondary containment structure (North)

Container Description: Steel, tan AST

Container Contents: Antifreeze

Capacity of Largest Container: 2000.00000 gallons

Max Cumulative Capacity: 2,000.00 gallons

Containment

Number of Containers in Containment: 3

Containment Material: Concrete Lined Area

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the surrounding concrete structure

Controls

Level Sensing Device:
Clock Gauge

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection

Discharge/Drainage Controls (containment, berming):
1) Secondary containment is provided by the surrounding concrete structure, 2) Spill cleanup materials are located nearby

Integrity Testing

Applicability: Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/29/2013	Siron, Mark
3/26/2013	Siron, Mark
2/27/2013	Siron, Mark
1/16/2013	Siron, Mark
12/20/2012	Siron, Mark
11/15/2012	Siron, Mark
10/23/2012	Siron, Mark
9/6/2012	Siron, Mark
8/29/2012	Siron, Mark

7/30/2012	Siron, Mark
6/14/2012	Siron, Mark
5/25/2012	Siron, Mark
4/27/2012	Siron, Mark
3/28/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/21/2011	Siron, Mark
11/30/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/22/2011	Siron, Mark

Action Item History

No action items recorded

Notes

No notes recorded

General Information

Container/Area ID: C8C

Category: Non-SPCC Tank

Description: East Side of Compressor Building - Antifreeze Tanks

Location: Compressor Building

Map Page: Figure 1 - Mine Area

Location Description: East side of compressor building

Runoff Destination and Direction: Secondary containment structure (North)

Container Description: Steel, tan AST

Container Contents: Antifreeze

Capacity of Largest Container: 2000.00000 gallons

Max Cumulative Capacity: 2,000.00 gallons

Containment

Number of Containers in Containment: 3

Containment Material: Concrete Lined Area

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the surrounding concrete structure

Controls

Level Sensing Device:
Clock Gauge

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection

Discharge/Drainage Controls (containment, berming):
1) Secondary containment is provided by the surrounding concrete structure, 2) Spill cleanup materials are located nearby

Integrity Testing

Applicability: Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/29/2013	Siron, Mark
3/26/2013	Siron, Mark
2/27/2013	Siron, Mark
1/16/2013	Siron, Mark
12/20/2012	Siron, Mark
11/15/2012	Siron, Mark
10/23/2012	Siron, Mark
9/6/2012	Siron, Mark
8/29/2012	Siron, Mark

7/30/2012	Siron, Mark
6/14/2012	Siron, Mark
5/24/2012	Siron, Mark
4/27/2012	Siron, Mark
3/28/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/21/2011	Siron, Mark
11/30/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/22/2011	Siron, Mark

Action Item History

No action items recorded

Notes

No notes recorded

General Information

Container / Area ID: C9

Category: Non-SPCC Storage Area

Description: Compressor Building - Antifreeze Staging Area

Location: Compressor Building

Map Page: Figure 1 - Mine Area

Location Description: Outside, north of Compressor Building

Runoff Destination and Direction: Low-lying area(s) (North)

Container Description: Varies (0-2 totes)

Container Contents: Antifreeze

Capacity of Largest Container: 250.00000 gallons

Max Cumulative Capacity: 500.00 gallons

Containment

Number of Containers in Containment:

Containment Material: Low-lying area

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment provided by the low lying area

Controls

Level Sensing Device:
Container not refilled

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection

Discharge / Drainage Controls (containment, berming):
(1) Contained within concrete lined building equipped with floor drain and sump system, oil/grease separator with discharge to WWTP; (2) Spill kit available in area.

Integrity Testing

Applicability: Not required for another reason - See comments/notes

Inspection History

Required Inspection Frequency: Quarterly

Date	Completed By
4/29/2013	Siron, Mark
3/26/2013	Siron, Mark
2/27/2013	Siron, Mark
1/16/2013	Siron, Mark
12/20/2012	Siron, Mark
11/15/2012	Siron, Mark
10/23/2012	Siron, Mark
9/6/2012	Siron, Mark

8/29/2012	Siron, Mark
7/30/2012	Siron, Mark
6/14/2012	Siron, Mark
5/24/2012	Siron, Mark
4/27/2012	Siron, Mark
3/28/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/21/2011	Siron, Mark
11/30/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/22/2011	Siron, Mark

Action Item History

No action items recorded

Notes

Integrity testing not required - single use containers

General Information

Container / Area ID: CO1

Category: SPCC Storage Area

Description: Storage area inside, West side of Warehouse - New Product Storage

Location: Henderson Mine

Map Page: Figure 1 - Mine Area

Location Description: Storage area inside, West side of Warehouse - New Product Storage

Runoff Destination and Direction: Will remain inside building (South if reached outside)

Container Description: Varies (drums and totes) (0-200)

Container Contents: New Product Storage

Capacity of Largest Container: 900.00000 gallons

Max Cumulative Capacity: 5,000.00 gallons

Containment

Number of Containers in Containment: Varies

Containment Material: Concrete lined building

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the building itself

Controls

Level Sensing Device:
Container not refilled

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection

Discharge / Drainage Controls (containment, berming):
(1) Contained within concrete lined building equipped with floor drain and sump system, oil/grease separator with discharge to WWTP; (2) Spill kit available in area.

Integrity Testing

Applicability: Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/29/2013	Siron, Mark
3/26/2013	Siron, Mark
2/26/2013	Siron, Mark
1/16/2013	Siron, Mark
12/13/2012	Siron, Mark
11/26/2012	Siron, Mark
10/23/2012	Siron, Mark
9/6/2012	Siron, Mark

8/21/2012	Siron, Mark
7/24/2012	Siron, Mark
6/14/2012	Siron, Mark
5/3/2012	Siron, Mark
4/27/2012	Siron, Mark
3/28/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/21/2011	Siron, Mark
11/30/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/16/2011	Siron, Mark
7/13/2011	Siron, Mark
6/22/2011	Siron, Mark
5/18/2011	Siron, Mark
4/25/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

No action items recorded

Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

General Information

Container/Area ID: CO4

Category: SPCC Storage Area

Description: Emulsion Storage Area- Surface Mag

Location: Henderson Mine

Map Page: Figure 1 - Mine Area

Location Description: Inside gated explosive magazine, inside surface mag

Runoff Destination and Direction: Secondary containment structure (North)

Container Description: 0-15, 330 gallon totes

Container Contents: Emulsion

Capacity of Largest Container: 330.00000 gallons

Max Cumulative Capacity: 4,950.00 gallons

Containment

Number of Containers in Containment: Varies

Containment Material: Underground area

Actual Containment (gal): 1030 **Required Containment (gal):** 330

Containment Description:
Secondary containment is provided by the foam material berm around the concrete floor. There are two containment areas (see attached drawing in Notes tab): Containment Area #1 has a capacity of 1,030 gallons. Containment Area #2 has a capacity of 585 gallons.

Controls

Level Sensing Device:
Operator Knowledge

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection

Discharge/Drainage Controls (containment, berming):
1) Secondary containment provided by the surrounding addit area, 2) Spill cleanup materials are located nearby

Integrity Testing

Applicability: Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/16/2013	Siron, Mark
3/28/2013	Siron, Mark
2/26/2013	Siron, Mark
1/16/2013	Siron, Mark
12/13/2012	Siron, Mark

Action Item History

Description	Owner	Initiated Date	Due Date	Compl. Date	Verif. Date

no secondary containment	King, Timothy	12/19/2012	1/31/2013	2/27/2013	3/12/2013
emulsion spill cleaned/guarded	McCaslin, Robert	4/16/2013	4/16/2013	4/16/2013	4/16/2013

Service History

Date	Status
12/1/2012	Active

Notes

No notes recorded

General Information

Container/Area ID: F1

Category: SPCC Tank

Description: Fuel Island - West of No. 1 Pond - Gasoline Tank (8000 gal)

Location: Fuel Island

Map Page: Figure 1 - Mine Area

Location Description: Fuel island - W of No.1 settling pond

Runoff Destination and Direction: Secondary containment structure (Northeast)

Container Description: Steel, horizontal, tan AST

Container Contents: Gasoline

Capacity of Largest Container: 8000.00000 gallons

Max Cumulative Capacity: 8,000.00 gallons

Containment

Number of Containers in Containment: 2

Containment Material: Concrete

Actual Containment (gal): 64000 **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the concrete structure

Controls

Level Sensing Device:
Audible Alarm

Discharge Prevention Measures (BMPs):
(1) Level gauge; (2) High level alarm; (3) Hand-actuated electric switch; (4) Monthly inspection

Discharge/Drainage Controls (containment, berming):
(1) Contained by 64,000-gal concrete retaining wall; (2) Spill kit with empty drum, floor dry, sorbent pads, sorbent booms, Saranex coveralls, latex inner gloves, PVC outer gloves, duct tape, drum liners, and rags

Integrity Testing

Applicability: Not required as the tank is less than 30,000 gallons, elevated and bottom is accessible for inspection

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/10/2013	Siron, Mark
3/26/2013	Siron, Mark
2/27/2013	Siron, Mark
1/14/2013	Siron, Mark
12/13/2012	Siron, Mark
11/15/2012	Siron, Mark
10/23/2012	Siron, Mark
9/6/2012	Siron, Mark

8/7/2012	Siron, Mark
7/24/2012	Siron, Mark
6/28/2012	Siron, Mark
5/3/2012	Siron, Mark
4/27/2012	Siron, Mark
3/1/2012	Siron, Mark
2/13/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/20/2011	Siron, Mark
11/30/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/16/2011	Siron, Mark
7/13/2011	Siron, Mark
6/21/2011	Siron, Mark
5/18/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

Description	Owner	Initiated Date	Due Date	Compl. Date	Verif. Date
needs plowed	Siron, Mark	3/5/2012	3/8/2012	4/17/2012	4/17/2012
needs spill kit	Siron, Mark	3/5/2012	3/8/2012	3/12/2012	3/12/2012

Service History

Date	Status
11/5/2012	Active

Notes

No notes recorded

General Information

Container/Area ID: F2

Category: SPCC Tank

Description: Fuel Island - West of No. 1 Pond - Diesel Tank (10000 gal)

Location: Fuel Island

Map Page: Figure 1 - Mine Area

Location Description: Fuel island - W of No.1 settling pond

Runoff Destination and Direction: Secondary containment structure (Northeast)

Container Description: Steel, horizontal, tan AST

Container Contents: Diesel

Capacity of Largest Container: 10000.00000 gallons

Max Cumulative Capacity: 10,000.00 gallons

Containment

Number of Containers in Containment: 2

Containment Material: Concrete

Actual Containment (gal): 64000 **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the concrete structure

Controls

Level Sensing Device:
Audible Alarm

Discharge Prevention Measures (BMPs):
(1) Level gauge; (2) High level alarm; (3) Hand-actuated electric switch; (4) Monthly inspection

Discharge/Drainage Controls (containment, berming):
(1) 64,000-gal concrete retaining wall; (2) Spill kit with empty drum, floor dry, sorbent pads, sorbent booms, Saranex coveralls, latex inner gloves, PVC outer gloves, duct tape, drum liners, and rags

Integrity Testing

Applicability: Not required as the tank is less than 30,000 gallons, elevated and bottom is accessible for inspection

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/10/2013	Siron, Mark
3/26/2013	Siron, Mark
2/27/2013	Siron, Mark
1/14/2013	Siron, Mark
12/13/2012	Siron, Mark
11/15/2012	Siron, Mark
10/23/2012	Siron, Mark
9/6/2012	Siron, Mark

8/7/2012	Siron, Mark
7/24/2012	Siron, Mark
6/28/2012	Siron, Mark
5/3/2012	Siron, Mark
4/27/2012	Siron, Mark
3/1/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/20/2011	Siron, Mark
11/30/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/16/2011	Siron, Mark
7/13/2011	Siron, Mark
6/21/2011	Siron, Mark
5/18/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

Description	Owner	Initiated Date	Due Date	Compl. Date	Verif. Date
needs spill kit	Siron, Mark	3/5/2012	3/8/2012	3/12/2012	3/12/2012
needs plowed	Siron, Mark	3/5/2012	3/8/2012	4/17/2012	4/17/2012

Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

General Information

Container/Area ID: HH1

Category: SPCC Storage Area

Description: Hoist House Basement - S. End - Hydraulic Oil (200 gal)

Location: Hoist House

Map Page: Figure 1 - Mine Area

Location Description: Hoist House Basement - Double Deck Hoist (S end)

Runoff Destination and Direction: Will remain inside building (Will remain inside building)

Container Description: Blue, steel tank and associated piping

Container Contents: Hydraulic Oil

Capacity of Largest Container: 200.00000 gallons

Max Cumulative Capacity: 200.00 gallons

Containment

Number of Containers in Containment: Varies

Containment Material: Building Itself and rubber berming

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the rubber berming. Tertiary containment is provided by the building and sump system

Controls

Level Sensing Device:
Operator Knowledge

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection

Discharge/Drainage Controls (containment, berming):
(1) Contained within concrete lined building equipped with floor drain and sump system, oil/grease separator with discharge to WWTP; (2) Spill kit available in the area.

Integrity Testing

Applicability: Not required for this is an oil-filled electrical, operating, or manufacturing device/equipment

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/29/2013	Siron, Mark
3/26/2013	Siron, Mark
2/27/2013	Siron, Mark
1/16/2013	Siron, Mark
12/20/2012	Siron, Mark
11/26/2012	Siron, Mark
10/22/2012	Siron, Mark
9/6/2012	Siron, Mark

8/29/2012	Siron, Mark
7/30/2012	Siron, Mark
6/14/2012	Siron, Mark
5/30/2012	Siron, Mark
4/27/2012	Siron, Mark
3/28/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/21/2011	Siron, Mark
11/30/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/25/2011	Siron, Mark
6/24/2011	Siron, Mark
5/18/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

Description	Owner	Initiated Date	Due Date	Compl. Date	Verif. Date
tank containment needs replaced	Siron, Mark	9/29/2011	9/29/2011	9/29/2011	9/29/2011
containment not adequate	Siron, Mark	11/2/2011	11/2/2011	11/2/2011	11/2/2011
berm broken	Siron, Mark	12/1/2011	12/31/2011	12/21/2011	12/21/2011

Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

General Information

Container/Area ID: HH2

Category: SPCC Storage Area

Description: Hoist House Basement - N. End - Hydraulic Oil (200 gal)

Location: Hoist House

Map Page: Figure 1 - Mine Area

Location Description: Hoist House Basement - Service Hoist (N end)

Runoff Destination and Direction: Will remain inside building (Will remain inside building)

Container Description: Blue, steel tank and associated piping

Container Contents: Hydraulic Oil

Capacity of Largest Container: 200.00000 gallons

Max Cumulative Capacity: 200.00 gallons

Containment

Number of Containers in Containment: Varies

Containment Material: Building Itself and rubber berming

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the rubber berming. Tertiary containment is provided by the building and sump system

Controls

Level Sensing Device:
Operator Knowledge

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection

Discharge/Drainage Controls (containment, berming):
(1) Contained within concrete lined building equipped with floor drain and sump system, oil/grease separator with discharge to WWTP; (2) Spill kit available in the area.

Integrity Testing

Applicability: Not required for this is an oil-filled electrical, operating, or manufacturing device/equipment

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/29/2013	Siron, Mark
3/26/2013	Siron, Mark
2/27/2013	Siron, Mark
1/16/2013	Siron, Mark
12/20/2012	Siron, Mark
11/26/2012	Siron, Mark
10/22/2012	Siron, Mark
9/6/2012	Siron, Mark

8/29/2012	Siron, Mark
7/30/2012	Siron, Mark
6/14/2012	Siron, Mark
5/30/2012	Siron, Mark
4/27/2012	Siron, Mark
3/28/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/21/2011	Siron, Mark
11/30/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/25/2011	Siron, Mark
7/13/2011	Siron, Mark
6/24/2011	Siron, Mark
5/18/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

Description	Owner	Initiated Date	Due Date	Compl. Date	Verif. Date
tank containment needs replaced	Siron, Mark	9/29/2011	9/29/2011	9/29/2011	9/29/2011
containment inadequate	Siron, Mark	11/2/2011	10/27/2011	11/2/2011	11/2/2011
berm broken	Siron, Mark	12/1/2011	12/31/2011	12/21/2011	12/21/2011

Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

General Information

Container/Area ID: HH3

Category: SPCC Tank

Description: Hoist House Basement - W. Wall - Used Oil Tote, Hydraulic Oil, Rykon

Location: Hoist House

Map Page: Figure 1 - Mine Area

Location Description: Hoist House Basement - West Wall

Runoff Destination and Direction: Will remain inside building (Will remain inside building)

Container Description: Varies 330 tote, 55 gallon drums

Container Contents: Used Oil, Hydraulic Oil, Rykon

Capacity of Largest Container: 330.00000 gallons

Max Cumulative Capacity: 500.00 gallons

Containment

Number of Containers in Containment: Varies

Containment Material: Building Itself

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the building itself

Controls

Level Sensing Device:
Clock Gauge

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection

Discharge/Drainage Controls (containment, berming):
(1) Contained within concrete lined building equipped with floor drain and sump system, oil/grease separator with discharge to WWTP; (2) Spill kit available in the area.

Integrity Testing

Applicability: Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/29/2013	Siron, Mark
3/26/2013	Siron, Mark
2/27/2013	Siron, Mark
1/16/2013	Siron, Mark
12/20/2012	Siron, Mark
11/26/2012	Siron, Mark
10/22/2012	Siron, Mark
9/6/2012	Siron, Mark

8/29/2012	Siron, Mark
7/30/2012	Siron, Mark
6/14/2012	Siron, Mark
5/30/2012	Siron, Mark
4/27/2012	Siron, Mark
3/28/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/21/2011	Siron, Mark
11/30/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/25/2011	Siron, Mark
7/13/2011	Siron, Mark
6/24/2011	Siron, Mark
5/18/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

Description	Owner	Initiated Date	Due Date	Compl. Date	Verif. Date
flameable cabinets oily	King, Timothy	7/31/2012	8/9/2012	8/23/2012	11/5/2012
drums not on containment	King, Timothy	3/26/2013	4/26/2013	3/28/2013	4/3/2013

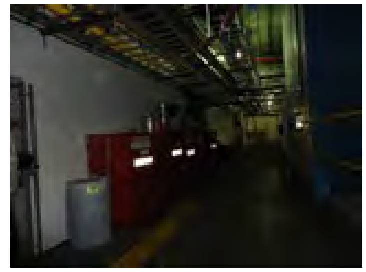
Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

General Information



Container/Area ID: HH4

Category: SPCC Storage Area

Description: Hoist House Basement - W. Wall - Oil/Lube Storage Area -

Location: Hoist House

Map Page: Figure 1 - Mine Area

Location Description: Hoist House Basement - West Wall

Runoff Destination and Direction: Will remain inside building (Will remain inside building)

Container Description: 0-10 55-gal drums

Container Contents: Hydraulic Oil, Gear Oil, Lube, Used Oil

Capacity of Largest Container: 55.00000 gallons

Max Cumulative Capacity: 550.00 gallons

Containment

Number of Containers in Containment: Varies

Containment Material: Building Itself

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the building itself

Controls

Level Sensing Device:
Clock Gauge

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection

Discharge/Drainage Controls (containment, berming):
(1) Contained within concrete lined building equipped with floor drain and sump system, oil/grease separator with discharge to WWTP; (2) Spill kit available in the area.

Integrity Testing

Applicability: Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/29/2013	Siron, Mark
3/26/2013	Siron, Mark
2/27/2013	Siron, Mark
1/16/2013	Siron, Mark
12/20/2012	Siron, Mark
11/26/2012	Siron, Mark
10/22/2012	Siron, Mark
9/6/2012	Siron, Mark

8/29/2012	Siron, Mark
7/30/2012	Siron, Mark
6/14/2012	Siron, Mark
5/30/2012	Siron, Mark
4/27/2012	Siron, Mark
3/28/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/21/2011	Siron, Mark
11/30/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/25/2011	Siron, Mark
7/13/2011	Siron, Mark
6/22/2011	Siron, Mark
5/18/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

Description	Owner	Initiated Date	Due Date	Compl. Date	Verif. Date
flameable cabinets oily	King, Timothy	7/31/2012	8/9/2012	8/23/2012	11/5/2012
drums not on containment	King, Timothy	2/27/2013	2/28/2013	2/28/2013	3/28/2013
drums not on containment	Siron, Mark	3/26/2013	3/28/2013	3/28/2013	4/3/2013

Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

General Information

Container/Area ID: M2

Category: SPCC Storage Area

Description: Maintenance Shop - Lube, Oil and Antifreeze Storage Area

Location: Maintenance Shop

Map Page: Figure 1 - Mine Area

Location Description: Maintenance Shop - Lube Rack.

Runoff Destination and Direction: Building sump system (Building sump system)

Container Description: Yellow, vertical AST

Container Contents: Lubricant, Oil and Antifreeze

Capacity of Largest Container: 500.00000 gallons

Max Cumulative Capacity: 500.00 gallons

Containment

Number of Containers in Containment: Varies

Containment Material: Concrete lined building with sump system

Actual Containment (gal):

Required Containment (gal):

Containment Description:
Secondary containment is provided by the building itself and its sump system

Controls

Level Sensing Device:
Operator Knowledge

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection, 2) Routine shift inspections

Discharge/Drainage Controls (containment, berming):
1) Secondary containment provided by the building itself and sump system, 2) Spill cleanup materials are located nearby

Integrity Testing

Applicability: Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/29/2013	Siron, Mark
3/19/2013	Siron, Mark
2/27/2013	Siron, Mark
1/14/2013	Siron, Mark
12/13/2012	Siron, Mark
11/27/2012	Siron, Mark
10/23/2012	Siron, Mark
9/6/2012	Siron, Mark
8/29/2012	Siron, Mark

7/24/2012	Siron, Mark
6/14/2012	Siron, Mark
5/3/2012	Siron, Mark
4/27/2012	Siron, Mark
3/28/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/21/2011	Siron, Mark
11/30/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/16/2011	Siron, Mark
7/13/2011	Siron, Mark
6/22/2011	Siron, Mark
5/18/2011	Siron, Mark
4/25/2011	Siron, Mark
12/17/2010	Nunez, Natalie

Action Item History

No action items recorded

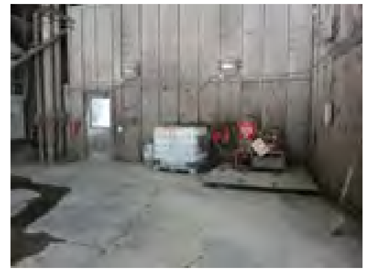
Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

General Information



Container/Area ID: M4

Category: SPCC Storage Area

Description: Maint. Shop, Steam Bay - Gear and Motor Oil, Lube, Antifreeze, Soap

Location: Maintenance Shop

Map Page: Figure 1 - Mine Area

Location Description:

Runoff Destination and Direction:

Container Description: Storage Area - 55 gallons (0-10)

Container Contents: Gear and Motor Oils, Lube, Antifreeze, Soap

Capacity of Largest Container: 55.00000 gallons

Max Cumulative Capacity: 550.00 gallons

Containment

Number of Containers in Containment:

Containment Material: Concrete lined building

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the building itself

Controls

Level Sensing Device:
Operator Knowledge

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection, 2) Routine shift inspection

Discharge/Drainage Controls (containment, berming):
1) Secondary containment is provided by the building and sump, 2) Spill cleanup materials are located nearby

Integrity Testing

Applicability: Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/29/2013	Siron, Mark
3/19/2013	Siron, Mark
2/27/2013	Siron, Mark
1/14/2013	Siron, Mark
12/13/2012	Siron, Mark
11/27/2012	Siron, Mark
10/23/2012	Siron, Mark
9/6/2012	Siron, Mark
8/29/2012	Siron, Mark

7/24/2012	Siron, Mark
6/14/2012	Siron, Mark
5/3/2012	Siron, Mark
4/27/2012	Siron, Mark
3/28/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/21/2011	Siron, Mark
11/30/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/17/2011	Siron, Mark
7/13/2011	Siron, Mark
6/22/2011	Siron, Mark
5/18/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

No action items recorded

Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

General Information

Container/Area ID: PB1

Category: Non-SPCC Storage Area

Description: PWB - Sodium Hypochlorite, Corrosion Inhibitor, Caustic Soda

Location: Potable Water Building

Map Page: Figure 1 - Mine Area

Location Description: Potable Water Building

Runoff Destination and Direction: Secondary containment structure (Northwest)

Container Description: 0-3 55-gal

Container Contents: Sodium Hypochlorite, Corr. Inhibitor, Caustic Soda

Capacity of Largest Container: 55.00000 gallons

Max Cumulative Capacity: 165.00 gallons

Containment

Number of Containers in Containment: Varies

Containment Material: Spill containment pallets / Building itself

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment provided by spill containment pallets and the building itself

Controls

Level Sensing Device:
Container not refilled

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection

Discharge/Drainage Controls (containment, berming):
(1) Contained by storage on containment pallets; (2) Tertiary containment via potable water building/concrete floor; (3) Spill kit available in the area.

Integrity Testing

Applicability: Not required for another reason - See comments/notes

Inspection History

Required Inspection Frequency: Quarterly

Date	Completed By
4/10/2013	Siron, Mark
3/26/2013	Siron, Mark
2/27/2013	Siron, Mark
1/16/2013	Siron, Mark
12/20/2012	Siron, Mark
11/15/2012	Siron, Mark
10/23/2012	Siron, Mark
9/6/2012	Siron, Mark

8/29/2012	Siron, Mark
7/30/2012	Siron, Mark
6/28/2012	Siron, Mark
5/30/2012	Siron, Mark
4/27/2012	Siron, Mark
3/28/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/21/2011	Siron, Mark
11/30/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/25/2011	Siron, Mark
7/13/2011	Siron, Mark
6/24/2011	Siron, Mark
5/18/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

Description	Owner	Initiated Date	Due Date	Compl. Date	Verif. Date
pump leaks	Siron, Mark	11/2/2011	11/2/2011	11/2/2011	11/2/2011

Service History

Date	Status
8/1/2011	Active

Notes

Integrity testing not required - single use containers

General Information

Container/Area ID: PS1

Category: SPCC Storage Area

Description: Used Oil Storage Building, Outside N. Side - Used Oil/Gear Oil Totes (250-350 gal)

Location: Mine Bulk Oil Building

Map Page: Figure 1 - Mine Area

Location Description: Used Oil Storage Building - Outside Storage Area on North Side of Bldg

Runoff Destination and Direction: Secondary containment structure

Container Description: 350-gallon totes 55-gallon drums (0-4)

Container Contents: Used Oil, Gear Oil

Capacity of Largest Container: 350.00000 gallons

Max Cumulative Capacity: 700.00 gallons

Containment

Number of Containers in Containment:

Containment Material: Spill Pallets

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment provided by spill pallets and the building itself

Controls

Level Sensing Device:
Container not refilled

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection

Discharge/Drainage Controls (containment, berming):
(1) Contained on spill pallets (2) Tertiary containment by impermeable asphalt area where spill may be isolated and promptly cleaned up; (3) Spill kit available in the area.

Integrity Testing

Applicability: Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/29/2013	Siron, Mark
3/13/2013	Siron, Mark
2/18/2013	Siron, Mark
1/14/2013	Siron, Mark
12/13/2012	Siron, Mark
11/6/2012	Siron, Mark
10/23/2012	Siron, Mark
9/17/2012	Siron, Mark

8/7/2012	Siron, Mark
7/19/2012	Siron, Mark
6/27/2012	Siron, Mark
5/3/2012	Siron, Mark
4/18/2012	Siron, Mark
3/1/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/20/2011	Siron, Mark
11/28/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/16/2011	Siron, Mark
7/13/2011	Siron, Mark
6/21/2011	Siron, Mark
5/18/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

Description	Owner	Initiated Date	Due Date	Compl. Date	Verif. Date
NE containment outside, B/O	Siron, Mark	7/7/2011	7/31/2011	8/10/2011	8/17/2011

Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

General Information

Container/Area ID: PS10

Category: SPCC Tank

Description: North Fan House at 5 Shaft - Oil Reservoir

Location: Henderson Mine

Map Page: Figure 1 - Mine Area

Location Description: North fan house at 5 shaft

Runoff Destination and Direction: Secondary containment structure (Building itself)

Container Description: Steel, white AST

Container Contents: Bearing Oil

Capacity of Largest Container: 70.00000 gallons

Max Cumulative Capacity: 70.00 gallons

Containment

Number of Containers in Containment: 1

Containment Material: Steel containment

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the steel structure surrounding the reservoir.

Controls

Level Sensing Device:
Clock Gauge

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection

Discharge/Drainage Controls (containment, berming):
(1) Secondary containment provided by the steel structure surrounding the reservoirs (2) Spill kit available in the area.

Integrity Testing

Applicability: Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/10/2013	Siron, Mark
3/13/2013	Siron, Mark
2/27/2013	Siron, Mark
1/14/2013	Siron, Mark
12/13/2012	Siron, Mark
11/15/2012	Siron, Mark
10/23/2012	Siron, Mark
9/17/2012	Siron, Mark
8/21/2012	Siron, Mark

8/7/2012	Siron, Mark

Action Item History

No action items recorded

Notes

No notes recorded

General Information

Container/Area ID: PS11

Category: SPCC Tank

Description: South Fan House at 5 Shaft - Oil Reservoir

Location: Henderson Mine

Map Page: Figure 1 - Mine Area

Location Description: South fan house at 5 shaft

Runoff Destination and Direction: Secondary containment structure (Building itself)

Container Description: Steel, white AST

Container Contents: Bearing Oil

Capacity of Largest Container: 70.00000 gallons

Max Cumulative Capacity: 70.00 gallons

Containment

Number of Containers in Containment: 1

Containment Material: Steel containment

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the steel structure surrounding the reservoir.

Controls

Level Sensing Device:
Clock Gauge

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection

Discharge/Drainage Controls (containment, berming):
(1) Secondary containment provided by the steel structure surrounding the reservoirs (2) Spill kit available in the area.

Integrity Testing

Applicability: Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/10/2013	Siron, Mark
3/13/2013	Siron, Mark
2/27/2013	Siron, Mark
2/27/2013	Siron, Mark
1/14/2013	Siron, Mark
12/13/2012	Siron, Mark
11/15/2012	Siron, Mark
10/23/2012	Siron, Mark
9/17/2012	Siron, Mark

8/21/2012	Siron, Mark
8/7/2012	Siron, Mark

Action Item History

Description	Owner	Initiated Date	Due Date	Compl. Date	Verif. Date
flange leaks	Washam, Steve	8/21/2012	8/31/2012	8/30/2012	

Notes

No notes recorded

General Information

Container/Area ID: PS3

Category: SPCC Storage Area

Description: Used Oil Storage Building - Used Grease/Oil, Antifreeze Storage -

Location: Mine Used Oil Building

Map Page: Figure 1 - Mine Area

Location Description: Used Oil Storage Building

Runoff Destination and Direction: Will remain inside building (North if reached outside)

Container Description: 0-30 55-gal drums 0-2 350-gal totes

Container Contents: Used Grease, Used Oil, Used Antifreeze

Capacity of Largest Container: 350.00000 gallons

Max Cumulative Capacity: 7,000.00 gallons

Containment

Number of Containers in Containment: Varies

Containment Material: Concrete

Actual Containment (gal): 4000 **Required Containment (gal):**

Containment Description:
Secondary containment provided by building itself

Controls

Level Sensing Device:
Container not refilled

Discharge Prevention Measures (BMPs):
Quarterly Inspection

Discharge/Drainage Controls (containment, berming):
(1) Contained by 4,000-gal concrete containment berm; (2) Spill kit available in the area.

Integrity Testing

Applicability: Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/29/2013	Siron, Mark
3/13/2013	Siron, Mark
2/27/2013	Siron, Mark
1/14/2013	Siron, Mark
12/13/2012	Siron, Mark
11/6/2012	Siron, Mark
10/23/2012	Siron, Mark
9/17/2012	Siron, Mark
8/7/2012	Siron, Mark

7/19/2012	Siron, Mark
6/27/2012	Siron, Mark
5/3/2012	Siron, Mark
4/18/2012	Siron, Mark
3/1/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/20/2011	Siron, Mark
11/28/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/16/2011	Siron, Mark
7/13/2011	Siron, Mark
6/21/2011	Siron, Mark
5/18/2011	Siron, Mark
4/25/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

Description	Owner	Initiated Date	Due Date	Compl. Date	Verif. Date
damaged and open containers	Siron, Mark	12/1/2011	12/31/2011	1/19/2012	1/19/2012
2 drums pinched	Siron, Mark	12/21/2011	12/31/2011	1/19/2012	1/19/2012

Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

General Information

Container/Area ID: PS5

Category: SPCC Tank

Description: Tanker Loadout Area, Next to No. 5 Shaft - Diesel Tanker

Location: Henderson Mine

Map Page: Figure 1 - Mine Area

Location Description: Tanker Load Out Area - hose next to No. 5 shaft

Runoff Destination and Direction: Secondary containment structure (North)

Container Description: Tanker loadout area

Container Contents: Diesel

Capacity of Largest Container: 7500.00000 gallons

Max Cumulative Capacity: 7,500.00 gallons

Containment

Number of Containers in Containment: Varies

Containment Material: Depressed concrete containment structure

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment provided by the depressed concrete containment structure

Controls

Level Sensing Device:
Operator Knowledge

Discharge Prevention Measures (BMPs):
Monthly inspection; load out procedure is posted at this location covering proper load out, spill prevention and containment procedures.

Discharge/Drainage Controls (containment, berming):
(1) Contained by depressed concrete pad under unloading area; (2) Tertiary containment via earthen berms to the Northwest of the unloading area (discharge would sheet flow to the Northwest). Note: This area does not require specific secondary containment

Integrity Testing

Applicability: Not required for another reason - See comments/notes

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/8/2013	Siron, Mark
3/13/2013	Siron, Mark
2/27/2013	Siron, Mark
1/16/2013	Siron, Mark
12/13/2012	Siron, Mark
11/15/2012	Siron, Mark
10/23/2012	Siron, Mark
9/17/2012	Siron, Mark

8/7/2012	Siron, Mark
7/24/2012	Siron, Mark
6/27/2012	Siron, Mark
5/9/2012	Siron, Mark
5/3/2012	Siron, Mark
4/27/2012	Siron, Mark
3/28/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/20/2011	Siron, Mark
11/30/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/15/2011	Siron, Mark
7/13/2011	Siron, Mark
6/21/2011	Siron, Mark
5/18/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

Description	Owner	Initiated Date	Due Date	Compl. Date	Verif. Date
old siphon valve leaks	King, Timothy	10/16/2012	10/31/2012	2/28/2013	
pressure valve	King, Timothy	2/27/2013	3/31/2013	4/4/2013	4/4/2013

Service History

Date	Status
8/1/2011	Active

Notes

Integrity testing not required - transfer area

General Information

Container / Area ID: PS6

Category: Non-SPCC Storage Area

Description: Hazardous Waste Storage Building - Haz. Waste Storage Area

Location: Mine Hazardous Waste Storage Building

Map Page: Figure 1 - Mine Area

Location Description: Hazardous Waste Storage Building

Runoff Destination and Direction: Will remain inside building (North if reached outside)

Container Description: 0-20 55-gal drums to 350-gal transfer totes

Container Contents: Hazardous Waste

Capacity of Largest Container: 350.00000 gallons

Max Cumulative Capacity: 5,000.00 gallons

Containment

Number of Containers in Containment: Varies

Containment Material: Building Itself

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the building itself

Controls

Level Sensing Device:
Container not refilled

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection

Discharge / Drainage Controls (containment, berming):
(1) Contained within concrete building; (2) Tertiary containment by impermeable asphalt area where spill may be isolated and promptly cleaned up; (3) Spill kit available in the area.

Integrity Testing

Applicability: Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected

Inspection History

Required Inspection Frequency: Quarterly

Date	Completed By
4/8/2013	Siron, Mark
3/13/2013	Siron, Mark
2/18/2013	Siron, Mark
1/28/2013	Siron, Mark
1/14/2013	Siron, Mark
12/13/2012	Siron, Mark
11/6/2012	Siron, Mark
10/23/2012	Siron, Mark

9/17/2012	Siron, Mark
8/7/2012	Siron, Mark
7/19/2012	Siron, Mark
6/27/2012	Siron, Mark
5/3/2012	Siron, Mark
4/24/2012	Siron, Mark
3/1/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/20/2011	Siron, Mark
11/28/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/16/2011	Siron, Mark
7/13/2011	Siron, Mark
6/21/2011	Siron, Mark
5/18/2011	Siron, Mark
4/25/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

Description	Owner	Initiated Date	Due Date	Compl. Date	Verif. Date
berm broken by nipper	Siron, Mark	8/17/2011	8/31/2011	8/29/2011	8/22/2011
damaged and open containers	Siron, Mark	12/1/2011	12/31/2011	1/19/2012	1/19/2012
containers damaged and not labeled properly	Siron, Mark	5/7/2012	5/7/2012	5/3/2012	6/14/2012

Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

General Information

Container/Area ID: PS7

Category: SPCC Tank

Description: Used Oil Tank (47000 gal)

Location: Plant Services

Map Page: Figure 1 - Mine Area

Location Description: Used Oil Tank

Runoff Destination and Direction: Will remain inside building (North if reached outside)

Container Description: Steel, vertical AST

Container Contents: Used Oil

Capacity of Largest Container: 47000.00000 gallons

Max Cumulative Capacity: 47,000.00 gallons

Containment

Number of Containers in Containment: Varies

Containment Material: Concrete

Actual Containment (gal): 48300 **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the building itself

Controls

Level Sensing Device:
Audible Alarm

Discharge Prevention Measures (BMPs):
Monthly inspection; empty drums, floor dry, buckets, broom and a shovel

Discharge/Drainage Controls (containment, berming):
(1) Contained by 48,300-gal concrete retaining wall.

Integrity Testing

Applicability: Tank Integrity Testing is Required
Testing Method: API 653
Next Due: Internal: N/A External: N/A

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/8/2013	Siron, Mark
3/13/2013	Siron, Mark
2/27/2013	Siron, Mark
2/18/2013	Siron, Mark
1/14/2013	Siron, Mark
12/13/2012	Siron, Mark
11/6/2012	Siron, Mark

10/23/2012	Siron, Mark
9/17/2012	Siron, Mark
8/7/2012	Siron, Mark
7/19/2012	Siron, Mark
6/27/2012	Siron, Mark
5/3/2012	Siron, Mark
4/27/2012	Siron, Mark
3/1/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/20/2011	Siron, Mark
11/30/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/16/2011	Siron, Mark
7/13/2011	Siron, Mark
6/22/2011	Siron, Mark
5/18/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

Description	Owner	Initiated Date	Due Date	Compl. Date	Verif. Date
oil stain around drain connector inside containment	McCaslin, Robert	7/23/2012	8/23/2012	10/8/2012	11/5/2012

Service History

Date	Status
8/1/2011	Active

Notes

north of bulk oil building

General Information

Container/Area ID: PS9

Category: SPCC Storage Area

Description: Solvent Storage Area - Used and New Parts Washer Solvent

Location: Mine Bulk Oil Building

Map Page: Figure 1 - Mine Area

Location Description: Containment Cabinet on N side of Bulk Oil Storage Building

Runoff Destination and Direction: Low-lying area(s) (North)

Container Description: 0-12 55-gal drums

Container Contents: Used and New Parts Washer Solvent

Capacity of Largest Container: 55.00000 gallons

Max Cumulative Capacity: 700.00 gallons

Containment

Number of Containers in Containment: Varies

Containment Material: Self-Contained Cabinet

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the self-contained cabinet. Tertiary containment is provided by the low-lying areas

Controls

Level Sensing Device:
Container not refilled

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection

Discharge/Drainage Controls (containment, berming):
(1) Contained via self-contained cabinet; (2) Tertiary containment by impermeable asphalt area where spill may be isolated and promptly cleaned up.

Integrity Testing

Applicability: Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/29/2013	Siron, Mark
3/13/2013	Siron, Mark
2/27/2013	Siron, Mark
1/14/2013	Siron, Mark
12/13/2012	Siron, Mark
11/6/2012	Siron, Mark
10/23/2012	Siron, Mark
9/17/2012	Siron, Mark

8/7/2012	Siron, Mark
7/19/2012	Siron, Mark
6/27/2012	Siron, Mark
5/3/2012	Siron, Mark
4/27/2012	Siron, Mark
3/1/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/20/2011	Siron, Mark
11/30/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/16/2011	Siron, Mark
7/13/2011	Siron, Mark
6/21/2011	Siron, Mark
5/18/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

No action items recorded

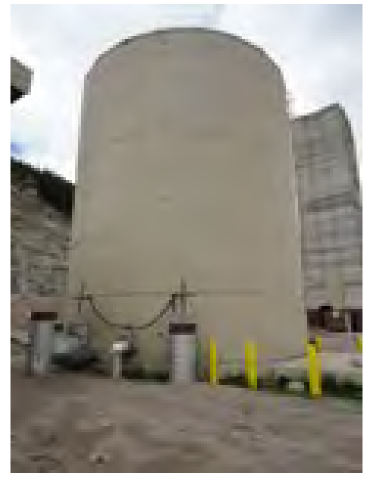
Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

General Information



Container/Area ID: PW1

Category: Non-SPCC Tank

Description: Potable Water Tank - 25,000 gal

Location: Potable Water Building

Map Page: Figure 1 - Mine Area

Location Description:

Runoff Destination and Direction: Low-lying area surrounded by berm (North)

Container Description: Steel, tan, vertical AST

Container Contents: Potable Water

Capacity of Largest Container: 25000.00000 gallons

Max Cumulative Capacity: 25,000.00 gallons

Containment

Number of Containers in Containment: 1

Containment Material: SCADA System

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the low-lying area

Controls

Level Sensing Device:
Audible Alarm

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection, 2) Audible alarm system

Discharge/Drainage Controls (containment, berming):
1) Secondary containment provided by the low-lying area

Integrity Testing

Applicability: Tank Integrity Testing is Required
Testing Method: STI-SP-001 Category 2
Testing Type: Internal and External
Next Due: Internal: N/A External: N/A

Inspection History

Required Inspection Frequency: Quarterly

Date	Completed By
4/10/2013	Siron, Mark
3/26/2013	Siron, Mark
2/27/2013	Siron, Mark
1/16/2013	Siron, Mark
12/20/2012	Siron, Mark
11/15/2012	Siron, Mark

10/23/2012	Siron, Mark
9/6/2012	Siron, Mark
8/29/2012	Siron, Mark
7/30/2012	Siron, Mark
6/28/2012	Siron, Mark
5/30/2012	Siron, Mark
4/27/2012	Siron, Mark
3/28/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/21/2011	Siron, Mark

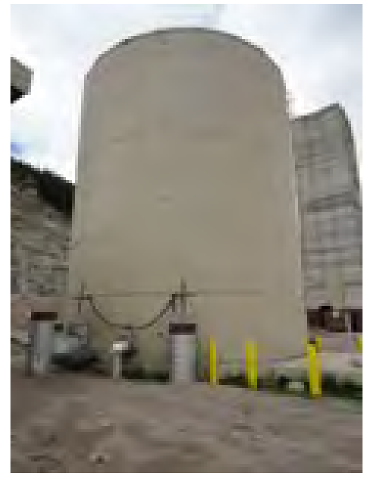
Action Item History

No action items recorded

Notes

No notes recorded

General Information



Container / Area ID: PW2

Category: Non-SPCC Tank

Description: Potable Water Tank - 25,000 gal

Location: Potable Water Building

Map Page: Figure 1 - Mine Area

Location Description:

Runoff Destination and Direction: Low-lying area surrounded by berm (North)

Container Description: Steel, vertical AST

Container Contents: Potable Water

Capacity of Largest Container: 25000.00000 gallons

Max Cumulative Capacity: 25,000.00 gallons

Containment

Number of Containers in Containment:

Containment Material: SCADA System

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the building itself

Controls

Level Sensing Device:
Audible Alarm

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection, 2) Audible alarm system

Discharge / Drainage Controls (containment, berming):
1) Secondary containment is provided by the surrounding low-lying area

Integrity Testing

Applicability: Tank Integrity Testing is Required
Testing Method: STI-SP-001 Category 2
Testing Type: Internal and External
Next Due: Internal: N/A External: N/A

Inspection History

Required Inspection Frequency: Quarterly

Date	Completed By
4/10/2013	Siron, Mark
3/26/2013	Siron, Mark
2/27/2013	Siron, Mark
1/16/2013	Siron, Mark
12/20/2012	Siron, Mark
11/15/2012	Siron, Mark

10/23/2012	Siron, Mark
9/6/2012	Siron, Mark
8/29/2012	Siron, Mark
7/30/2012	Siron, Mark
6/28/2012	Siron, Mark
5/30/2012	Siron, Mark
4/27/2012	Siron, Mark
3/28/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/21/2011	Siron, Mark

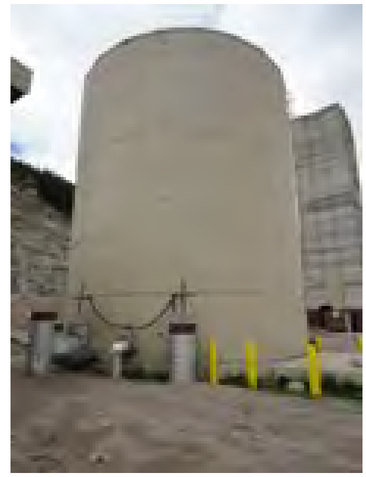
Action Item History

No action items recorded

Notes

No notes recorded

General Information



Container / Area ID: PW3

Category: Non-SPCC Tank

Description: Potable Water Tank - 25,000 gal

Location: Potable Water Building

Map Page: Figure 1 - Mine Area

Location Description:

Runoff Destination and Direction: Low-lying area surrounded by berm (Northeast)

Container Description: Steel, vertical AST

Container Contents: Potable Water

Capacity of Largest Container: 25000.00000 gallons

Max Cumulative Capacity: 25,000.00 gallons

Containment

Number of Containers in Containment: Varies

Containment Material: SCADA System

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the surrounding low-lying area

Controls

Level Sensing Device:
Audible Alarm

Discharge Prevention Measures (BMPs):
1) Monthly SPCC Inspection, 2) Audible alarm system

Discharge / Drainage Controls (containment, berming):
1) Secondary containment is provided by the low-lying area

Integrity Testing

Applicability: Tank Integrity Testing is Required
Testing Method: STI-SP-001 Category 2
Testing Type: Internal and External
Next Due: Internal: N/A External: N/A

Inspection History

Required Inspection Frequency: Quarterly

Date	Completed By
4/10/2013	Siron, Mark
3/26/2013	Siron, Mark
2/27/2013	Siron, Mark
1/16/2013	Siron, Mark
12/20/2012	Siron, Mark
11/15/2012	Siron, Mark

10/23/2012	Siron, Mark
9/6/2012	Siron, Mark
8/29/2012	Siron, Mark
7/30/2012	Siron, Mark
6/28/2012	Siron, Mark
5/30/2012	Siron, Mark
4/27/2012	Siron, Mark
3/28/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/21/2011	Siron, Mark

Action Item History

No action items recorded

Notes

No notes recorded

General Information

Container/Area ID: PWR1

Category: Non-SPCC Tank

Description: Process Water Tank - 25,000 gal

Location: Process Water Tank

Map Page: Figure 1 - Mine Area

Location Description:

Runoff Destination and Direction:

Container Description: Steel, vertical AST

Container Contents: Process Water

Capacity of Largest Container: 25000.00000 gallons

Max Cumulative Capacity: 25,000.00 gallons

Containment

Number of Containers in Containment:

Containment Material: SCADA System

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the surrounding low-lying area

Controls

Level Sensing Device:
Slide Rule

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection

Discharge/Drainage Controls (containment, berming):
1) Secondary containment is provided by the surrounding low-lying area

Integrity Testing

Applicability: N/A

Inspection History

Required Inspection Frequency: Quarterly

Date	Completed By
4/10/2013	Siron, Mark
3/26/2013	Siron, Mark
2/27/2013	Siron, Mark
1/16/2013	Siron, Mark
12/13/2012	Siron, Mark
11/15/2012	Siron, Mark
10/23/2012	Siron, Mark
9/6/2012	Siron, Mark
8/29/2012	Siron, Mark

7/30/2012	Siron, Mark
6/28/2012	Siron, Mark
5/24/2012	Siron, Mark
4/27/2012	Siron, Mark
3/28/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/21/2011	Siron, Mark
11/30/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/22/2011	Siron, Mark
7/13/2011	Siron, Mark
6/22/2011	Siron, Mark
5/18/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

No action items recorded

Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

General Information

Container/Area ID: T1A

Category: SPCC Transformer

Description: Transformer - West of Hoist House - North Unit

Location: Hoist House

Map Page: Figure 1 - Mine Area

Location Description: West of Hoist House - North Unit

Runoff Destination and Direction: Low-lying area surrounded by berm (North if reached outside)

Container Description: Steel, brown, horizontal tank

Container Contents: Oil

Capacity of Largest Container: 795.00000 gallons

Max Cumulative Capacity: 795.00 gallons

Containment

Number of Containers in Containment: 3

Containment Material: Earthen Berm

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the surrounding earthen berm

Controls

Level Sensing Device:
Clock Gauge

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection

Discharge/Drainage Controls (containment, berming):
1) Secondary containment provided by the earthen berm, 2) Spill cleanup materials are located nearby

Integrity Testing

Applicability: Not required for this is an oil-filled electrical, operating, or manufacturing device/equipment

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/29/2013	Siron, Mark
3/19/2013	Siron, Mark
2/27/2013	Siron, Mark
1/14/2013	Siron, Mark
12/13/2012	Siron, Mark
11/15/2012	Siron, Mark
10/23/2012	Siron, Mark
9/6/2012	Siron, Mark
8/21/2012	Siron, Mark

7/24/2012	Siron, Mark
6/14/2012	Siron, Mark
5/3/2012	Siron, Mark
4/27/2012	Siron, Mark
3/28/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/21/2011	Siron, Mark
11/28/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/22/2011	Siron, Mark
7/13/2011	Siron, Mark
6/22/2011	Siron, Mark
5/18/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

No action items recorded

Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

General Information

Container / Area ID: T1B

Category: SPCC Transformer

Description: Transformer - West of Hoist House - South Unit

Location: Hoist House

Map Page: Figure 1 - Mine Area

Location Description: West of Hoist House - South Unit

Runoff Destination and Direction:

Container Description: Grey, steel

Container Contents: Oil

Capacity of Largest Container: 795.00000 gallons

Max Cumulative Capacity: 795.00 gallons

Containment

Number of Containers in Containment: 3

Containment Material: Earthen Berm

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the surrounding earthen berm

Controls

Level Sensing Device:
Clock Gauge

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection

Discharge / Drainage Controls (containment, berming):
1) Secondary containment is provided by the surrounding earthen berm, 2) Spill cleanup materials are located nearby

Integrity Testing

Applicability: Not required for this is an oil-filled electrical, operating, or manufacturing device/equipment

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/29/2013	Siron, Mark
3/19/2013	Siron, Mark
2/27/2013	Siron, Mark
1/14/2013	Siron, Mark
12/13/2012	Siron, Mark
11/15/2012	Siron, Mark
10/23/2012	Siron, Mark
9/6/2012	Siron, Mark
8/21/2012	Siron, Mark

7/24/2012	Siron, Mark
6/14/2012	Siron, Mark
5/3/2012	Siron, Mark
4/27/2012	Siron, Mark
3/28/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/21/2011	Siron, Mark
11/30/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/22/2011	Siron, Mark

Action Item History

No action items recorded

Notes

No notes recorded

General Information

Container/Area ID: T2

Category: SPCC Transformer

Description: Transformer - North of 3 MAV- spare unit

Location: Plant Services

Map Page: Figure 1 - Mine Area

Location Description: North of 3 MAV- spare unit

Runoff Destination and Direction: Low-lying area(s) (North)

Container Description: 3 x 3,000 2 x 1,000 vehicles

Container Contents: Oil

Capacity of Largest Container: 620.00000 gallons

Max Cumulative Capacity: 620.00 gallons

Containment

Number of Containers in Containment: Varies

Containment Material: Low-lying area

Actual Containment (gal): 700 **Required Containment (gal):** 682

Containment Description:
Secondary containment is provided by the surrounding earthen berm

Controls

Level Sensing Device:
Clock Gauge

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection

Discharge/Drainage Controls (containment, berming):
1) Secondary containment provided by the surrounding earthen berm, 2) Spill cleanup materials are located nearby

Integrity Testing

Applicability: Not required for this is an oil-filled electrical, operating, or manufacturing device/equipment

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/8/2013	Siron, Mark
3/13/2013	Siron, Mark
2/18/2013	Siron, Mark
1/14/2013	Siron, Mark
12/13/2012	Siron, Mark
11/6/2012	Siron, Mark
10/23/2012	Siron, Mark
9/6/2012	Siron, Mark
8/21/2012	Siron, Mark

7/24/2012	Siron, Mark
6/14/2012	Siron, Mark
5/3/2012	Siron, Mark
4/27/2012	Siron, Mark
3/28/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/21/2011	Siron, Mark
11/30/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/22/2011	Siron, Mark
7/13/2011	Siron, Mark
6/22/2011	Siron, Mark
5/18/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

No action items recorded

Service History

Date	Status
8/1/2011	Active

Notes

Moved from the collar area to North of 3 MAV- spare unit

General Information

Container/Area ID: T3

Category: SPCC Transformer

Description: Transformer #2 - W. of MAV (N. Unit)

Location: Plant Services

Map Page: Figure 1 - Mine Area

Location Description: Transformers - West of Mine Air Ventilation building (MAV) (north unit)

Runoff Destination and Direction: Low-lying area surrounded by berm (North)

Container Description: Green, steel

Container Contents: Oil

Capacity of Largest Container: 609.00000 gallons

Max Cumulative Capacity: 609.00 gallons

Containment

Number of Containers in Containment: 2

Containment Material: Earthen Berms

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the surrounding earthen berm

Controls

Level Sensing Device:
Clock Gauge

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection

Discharge/Drainage Controls (containment, berming):
(1) Transformers are contained within earthen berms. Note: Oil filled electrical equipment is not regulated as a bulk storage container and therefore does not require specific secondary containment but must meet general containment requirements to prevent

Integrity Testing

Applicability: Not required for this is an oil-filled electrical, operating, or manufacturing device/equipment

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/29/2013	Siron, Mark
4/8/2013	Siron, Mark
3/13/2013	Siron, Mark
2/18/2013	Siron, Mark
1/14/2013	Siron, Mark
12/13/2012	Siron, Mark
11/6/2012	Siron, Mark
10/23/2012	Siron, Mark

9/17/2012	Siron, Mark
8/7/2012	Siron, Mark
7/19/2012	Siron, Mark
6/27/2012	Siron, Mark
5/3/2012	Siron, Mark
4/18/2012	Siron, Mark
3/1/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/20/2011	Siron, Mark
11/30/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/22/2011	Siron, Mark
7/13/2011	Siron, Mark
6/21/2011	Siron, Mark
5/18/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

No action items recorded

Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

General Information

Container/Area ID: T4

Category: SPCC Transformer

Description: Transformer #1 - W. of MAV (S. Unit)

Location: Plant Services

Map Page: Figure 1 - Mine Area

Location Description: Transformers - West of Mine Air Ventilation building (MAV) (south unit)

Runoff Destination and Direction: Low-lying area surrounded by berm (North)

Container Description: Steel, orange AST on pump

Container Contents: Oil

Capacity of Largest Container: 610.00000 gallons

Max Cumulative Capacity: 610.00 gallons

Containment

Number of Containers in Containment: 2

Containment Material: Earthen Berms

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the surrounding earthen berm

Controls

Level Sensing Device:
Clock Gauge

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection

Discharge/Drainage Controls (containment, berming):
(1) Transformers are contained within earthen berms. Note: Oil filled electrical equipment is not regulated as a bulk storage container and therefore does not require specific secondary containment but must meet general containment requirements to prevent

Integrity Testing

Applicability: Not required for this is an oil-filled electrical, operating, or manufacturing device/equipment

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/8/2013	Siron, Mark
3/13/2013	Siron, Mark
2/18/2013	Siron, Mark
1/14/2013	Siron, Mark
12/13/2012	Siron, Mark
11/6/2012	Siron, Mark
10/23/2012	Siron, Mark
9/17/2012	Siron, Mark

8/7/2012	Siron, Mark
7/19/2012	Siron, Mark
6/27/2012	Siron, Mark
5/3/2012	Siron, Mark
4/18/2012	Siron, Mark
3/1/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/20/2011	Siron, Mark
11/30/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/22/2011	Siron, Mark
7/13/2011	Siron, Mark
6/21/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

No action items recorded

Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

General Information

Container/Area ID: T5

Category: SPCC Transformer

Description: Transformer - Spare north of T2 spare by 3MAV

Location: Plant Services

Map Page: Figure 1 - Mine Area

Location Description: North of T2 spare by 3MAV

Runoff Destination and Direction: Low-lying area surrounded by berm

Container Description: Grey, steel

Container Contents: Oil

Capacity of Largest Container: 795.00000 gallons

Max Cumulative Capacity: 795.00 gallons

Containment

Number of Containers in Containment: 3

Containment Material: Earthen Berm

Actual Containment (gal): N/A [1] **Required Containment (gal):** N/A [1]

Containment Description:
Secondary containment is provided by the surrounding earthen berm

1 - This container/area need only comply with the general containment requirements of 40 CFR 112.7(c). As such sized containment is not required.

Controls

Level Sensing Device:
Clock Gauge

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection

Discharge/Drainage Controls (containment, berming):
1) Secondary containment provided by the earthen berm, 2) Spill cleanup materials are located nearby

Integrity Testing

Applicability: Not required for this is an oil-filled electrical, operating, or manufacturing device/equipment

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/8/2013	Siron, Mark
3/13/2013	Siron, Mark
2/18/2013	Siron, Mark
1/14/2013	Siron, Mark

Action Item History

No action items recorded

Notes

No notes recorded

General Information

Container/Area ID: U1

Category: Non-SPCC Tank

Description: Sulfuric Acid Tank - Between Urad WWTP and Clarifier

Location: Urad Treatment Plant

Map Page: Figure 2 - Urad

Location Description: Between Urad WWTP and Clarifier

Runoff Destination and Direction: Building sump system (Building sump system)

Container Description: Steel, double-walled, vertical

Container Contents: Sulfuric Acid

Capacity of Largest Container: 4000.00000 gallons

Max Cumulative Capacity: 4,000.00 gallons

Containment

Number of Containers in Containment: Varies

Containment Material: Building itself and sump system

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment provided by the building and sump system

Controls

Level Sensing Device:
Audible Alarm

Discharge Prevention Measures (BMPs):
Monthly inspection; periodic integrity testing

Discharge/Drainage Controls (containment, berming):
(1) Contained via double walled pipes with a dead man switch that automatically closes if released; (2) Tertiary containment by Urad process ponds immediately below WWTP; (3) spill kit available in the area.

Integrity Testing

Applicability: Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected

Inspection History

Required Inspection Frequency: Quarterly

Date	Completed By
4/29/2013	Siron, Mark
3/28/2013	Siron, Mark
2/27/2013	Siron, Mark
1/16/2013	Siron, Mark
12/13/2012	Siron, Mark
11/26/2012	Siron, Mark
10/22/2012	Siron, Mark
9/20/2012	Siron, Mark

8/29/2012	Siron, Mark
7/25/2012	Siron, Mark
6/28/2012	Siron, Mark
5/30/2012	Siron, Mark
4/27/2012	Siron, Mark
3/1/2012	Siron, Mark
2/16/2012	Siron, Mark
1/19/2012	Siron, Mark
12/20/2011	Siron, Mark
11/28/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/17/2011	Siron, Mark
7/13/2011	Siron, Mark
6/28/2011	Siron, Mark
5/20/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

Description	Owner	Initiated Date	Due Date	Compl. Date	Verif. Date
tank leaked at flange on front	King, Timothy	7/26/2012	7/31/2012	7/25/2012	8/21/2012
alarms not functioning	King, Timothy	7/26/2012	7/31/2012	7/25/2012	11/5/2012
spill cleanup in progress	King, Timothy	7/26/2012	7/31/2012	7/25/2012	10/23/2012
inner tank leaks	King, Timothy	7/26/2012	7/31/2012	7/25/2012	8/21/2012
alarms not functioning	Washam, Steve	8/29/2012	9/29/2012	10/15/2012	11/5/2012
loading area still being reworked	Washam, Steve	8/29/2012	9/29/2012	10/15/2012	11/5/2012
gages and alarm	King, Timothy	10/16/2012	10/31/2012	10/23/2012	11/6/2012
alarm connectivity to plc	King, Timothy	11/5/2012	11/15/2012	11/26/2012	

Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

General Information

Container/Area ID: U2

Category: Non-SPCC Storage Area

Description: Process Solution - WWTP - Two Mix Tanks

Location: Urad Treatment Plant

Map Page: Figure 2 - Urad

Location Description: Urad WWTP-rapid mix, sludge/lime, clarifier, lime reactor

Runoff Destination and Direction: Building sump system (Building sump system)

Container Description: Rapid mix tanks

Container Contents: Process Solution

Capacity of Largest Container: 10000.00000 gallons

Max Cumulative Capacity: 12,000.00 gallons

Containment

Number of Containers in Containment: Varies

Containment Material: Building itself and sump system

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment provided by the building and sump system

Controls

Level Sensing Device:
Audible Alarm

Discharge Prevention Measures (BMPs):
Monthly inspection; periodic integrity testing

Discharge/Drainage Controls (containment, berming):
(1) Contained by WWTP building drainage system and sump; (2) Tertiary containment by URAD process ponds immediately below WWTP; (3) Spill kit available in the area.

Integrity Testing

Applicability: Tank Integrity Testing is Required
Testing Method: STI-SP-001 Category 2
Next Due: Internal: N/A External: N/A

Inspection History

Required Inspection Frequency: Quarterly

Date	Completed By
4/29/2013	Siron, Mark
3/28/2013	Siron, Mark
2/27/2013	Siron, Mark
1/16/2013	Siron, Mark
12/13/2012	Siron, Mark
11/26/2012	Siron, Mark

10/22/2012	Siron, Mark
9/20/2012	Siron, Mark
8/29/2012	Siron, Mark
7/25/2012	Siron, Mark
6/28/2012	Siron, Mark
5/30/2012	Siron, Mark
4/27/2012	Siron, Mark
3/1/2012	Siron, Mark
2/16/2012	Siron, Mark
1/19/2012	Siron, Mark
12/20/2011	Siron, Mark
11/28/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/17/2011	Siron, Mark
7/13/2011	Siron, Mark
6/28/2011	Siron, Mark
5/20/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

No action items recorded

Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

General Information

Container/Area ID: U3

Category: Non-SPCC Tank

Description: Mix Tank

Location: Urad Treatment Plant

Map Page: Figure 2 - Urad

Location Description: wwtp

Runoff Destination and Direction: Building sump system (Building sump system)

Container Description: Steel

Container Contents: Process Water

Capacity of Largest Container: 187000.00000 gallons

Max Cumulative Capacity: 187,000.00 gallons

Containment

Number of Containers in Containment: Varies

Containment Material: Building itself and sump system

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment provided by the building and sump system

Controls

Level Sensing Device:

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection, 2) Routine shift inspections

Discharge/Drainage Controls (containment, berming):
(1) Contained by WWTP building drainage system and sump; (2) Tertiary containment by URAD process ponds immediately below WWTP; (3) Spill kit available in the area.

Integrity Testing

Applicability: Tank Integrity Testing is Required
Testing Method: API 653
Testing Type: Internal and External
Next Due: Internal: N/A External: N/A

Inspection History

Required Inspection Frequency: Quarterly

Date	Completed By
3/28/2013	Siron, Mark
2/27/2013	Siron, Mark
1/16/2013	Siron, Mark
12/13/2012	Siron, Mark
11/26/2012	Siron, Mark
10/22/2012	Siron, Mark

9/20/2012	Siron, Mark
8/29/2012	Siron, Mark
7/25/2012	Siron, Mark
6/28/2012	Siron, Mark
5/30/2012	Siron, Mark
4/27/2012	Siron, Mark
3/1/2012	Siron, Mark
2/16/2012	Siron, Mark
1/19/2012	Siron, Mark
12/20/2011	Siron, Mark
11/28/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/17/2011	Siron, Mark
7/13/2011	Siron, Mark

Action Item History

No action items recorded

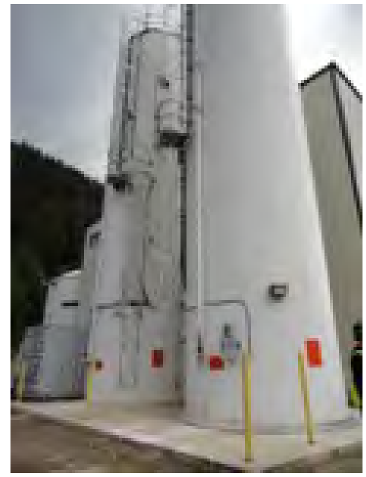
Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

General Information



Container / Area ID: U4A

Category: Non-SPCC Tank

Description: Quicklime Storage - Lime Silo 1 north unit

Location: Urad Treatment Plant

Map Page: Figure 2 - Urad

Location Description: Urad WWTP - West of Urad treatment building, north unit

Runoff Destination and Direction: Low-lying area surrounded by berm (Northeast)

Container Description:

Container Contents: Quicklime (Calcium Oxide)

Capacity of Largest Container:

Max Cumulative Capacity:

Containment

Number of Containers in Containment: Varies

Containment Material: Urad ponds area

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment provided by the Urad treatment ponds and low lying area

Controls

Level Sensing Device:
Operator Knowledge

Discharge Prevention Measures (BMPs):
Monthly inspection; periodic integrity testing

Discharge / Drainage Controls (containment, berming):
(1) Non-viscous; easily contained and cleaned up.

Integrity Testing

Applicability: No discharge potential to navigable waters

Inspection History

Required Inspection Frequency: Quarterly

Date	Completed By
4/29/2013	Siron, Mark
3/28/2013	Siron, Mark
2/27/2013	Siron, Mark
1/16/2013	Siron, Mark
12/13/2012	Siron, Mark
11/26/2012	Siron, Mark
10/22/2012	Siron, Mark
9/20/2012	Siron, Mark

8/29/2012	Siron, Mark
7/25/2012	Siron, Mark
6/28/2012	Siron, Mark
5/30/2012	Siron, Mark
4/27/2012	Siron, Mark
3/1/2012	Siron, Mark
2/16/2012	Siron, Mark
1/19/2012	Siron, Mark
12/20/2011	Siron, Mark
11/28/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/17/2011	Siron, Mark
7/13/2011	Siron, Mark
6/28/2011	Siron, Mark
5/20/2011	Siron, Mark
4/25/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

No action items recorded

Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

General Information

Container/Area ID: U4B

Category: Non-SPCC Tank

Description: Quicklime Storage - Lime Silo 2, south unit

Location: Urad Treatment Plant

Map Page: Figure 2 - Urad

Location Description: Urad WWTP - West of Urad treatment building, south unit

Runoff Destination and Direction: Low-lying area surrounded by berm (Northeast)

Container Description:

Container Contents: Quicklime (Calcium Oxide)

Capacity of Largest Container:

Max Cumulative Capacity:

Containment

Number of Containers in Containment: Varies

Containment Material: Urad ponds area

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment provided by the Urad treatment ponds and low lying area

Controls

Level Sensing Device:
Operator Knowledge

Discharge Prevention Measures (BMPs):
Monthly inspection; periodic integrity testing

Discharge/Drainage Controls (containment, berming):
(1) Non-viscous; easily contained and cleaned up.

Integrity Testing

Applicability: No discharge potential to navigable waters

Inspection History

Required Inspection Frequency: Quarterly

Date	Completed By
4/29/2013	Siron, Mark
3/28/2013	Siron, Mark
2/27/2013	Siron, Mark
1/16/2013	Siron, Mark
12/13/2012	Siron, Mark
11/26/2012	Siron, Mark
10/22/2012	Siron, Mark
9/20/2012	Siron, Mark

8/29/2012	Siron, Mark
7/25/2012	Siron, Mark
6/28/2012	Siron, Mark
5/30/2012	Siron, Mark
4/27/2012	Siron, Mark
3/1/2012	Siron, Mark
2/16/2012	Siron, Mark
1/19/2012	Siron, Mark
12/20/2011	Siron, Mark
11/28/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/17/2011	Siron, Mark

Action Item History

No action items recorded

Notes

No notes recorded

General Information

Container/Area ID: U5

Category: Non-SPCC Tank

Description: Urad WWTP - Flocculant

Location: Urad Treatment Plant

Map Page: Figure 2 - Urad

Location Description: Urad WWTP

Runoff Destination and Direction: Building sump system (Building sump system)

Container Description: Steel, AST

Container Contents: Flocculent

Capacity of Largest Container: 500.00000 gallons

Max Cumulative Capacity: 500.00 gallons

Containment

Number of Containers in Containment: Varies

Containment Material: Building itself and sump system

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment provided by the building and sump system

Controls

Level Sensing Device:
Audible Alarm

Discharge Prevention Measures (BMPs):
Monthly inspection; periodic integrity testing

Discharge/Drainage Controls (containment, berming):
(1) Contained by WWTP building drainage system and sump; (2) Tertiary containment by URAD process ponds immediately below WWTP; (3) Spill kit available in the area.

Integrity Testing

Applicability: Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected

Inspection History

Required Inspection Frequency: Quarterly

Date	Completed By
4/29/2013	Siron, Mark
3/28/2013	Siron, Mark
2/27/2013	Siron, Mark
1/16/2013	Siron, Mark
12/13/2012	Siron, Mark
11/26/2012	Siron, Mark
10/22/2012	Siron, Mark
9/20/2012	Siron, Mark

8/29/2012	Siron, Mark
7/25/2012	Siron, Mark
6/28/2012	Siron, Mark
5/30/2012	Siron, Mark
4/27/2012	Siron, Mark
3/1/2012	Siron, Mark
2/16/2012	Siron, Mark
1/19/2012	Siron, Mark
12/20/2011	Siron, Mark
11/28/2011	Siron, Mark
10/27/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/17/2011	Siron, Mark
7/13/2011	Siron, Mark
6/28/2011	Siron, Mark
5/20/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

No action items recorded

Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

General Information

Container/Area ID: U6

Category: Non-SPCC Tank

Description: Clarifier

Location: Urad Treatment Plant

Map Page: Figure 2 - Urad

Location Description: Urad WW Treatment

Runoff Destination and Direction: Building sump system (Building sump system)

Container Description: Steel

Container Contents: Process Solution

Capacity of Largest Container: 644000.00000 gallons

Max Cumulative Capacity: 644,000.00 gallons

Containment

Number of Containers in Containment: Varies

Containment Material: Building itself and sump system

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment provided by the building and sump system

Controls

Level Sensing Device:

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection, 2) Routine shift inspections

Discharge/Drainage Controls (containment, berming):
(1) Contained by WWTP building drainage system and sump; (2) Tertiary containment by URAD process ponds immediately below WWTP; (3) Spill kit available in the area.

Integrity Testing

Applicability: Tank Integrity Testing is Required
Testing Method: API 653
Testing Type: Internal and External
Next Due: Internal: N/A External: N/A

Inspection History

Required Inspection Frequency: Quarterly

Date	Completed By
4/29/2013	Siron, Mark
3/28/2013	Siron, Mark
2/27/2013	Siron, Mark
1/16/2013	Siron, Mark
12/13/2012	Siron, Mark
11/26/2012	Siron, Mark

10/22/2012	Siron, Mark
9/20/2012	Siron, Mark
8/29/2012	Siron, Mark
7/25/2012	Siron, Mark
6/28/2012	Siron, Mark
5/30/2012	Siron, Mark
4/27/2012	Siron, Mark
3/1/2012	Siron, Mark
2/16/2012	Siron, Mark
1/19/2012	Siron, Mark
12/20/2011	Siron, Mark
11/28/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/17/2011	Siron, Mark
7/13/2011	Siron, Mark

Action Item History

No action items recorded

Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

General Information

Container/Area ID: U7

Category: SPCC Transformer

Description: Transformer at Urad

Location: Urad Treatment Plant

Map Page: Figure 2 - Urad

Location Description: Outside of Urad Treatment building

Runoff Destination and Direction: Low-lying area surrounded by berm (Southeast)

Container Description: Green, steel transformer

Container Contents: Transformer Oil

Capacity of Largest Container: 75.00000 gallons

Max Cumulative Capacity: 75.00 gallons

Containment

Number of Containers in Containment: Varies

Containment Material: Earthen Berm

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the earthen berm surrounding the low lying around around the Urad treatment ponds.

Controls

Level Sensing Device:

Discharge Prevention Measures (BMPs):
1) Monthly inspections

Discharge/Drainage Controls (containment, berming):
1) Secondary containment is provided by the Urad Treatment Ponds area; 2) Spill cleanup materials are located inside the Urad building

Integrity Testing

Applicability: Not required for this is an oil-filled electrical, operating, or manufacturing device/equipment

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/29/2013	Siron, Mark
3/28/2013	Siron, Mark
2/27/2013	Siron, Mark
1/16/2013	Siron, Mark
12/13/2012	Siron, Mark
11/15/2012	Siron, Mark
10/22/2012	Siron, Mark
9/20/2012	Siron, Mark
8/29/2012	Siron, Mark

Action Item History

No action items recorded

Service History

Date	Status
5/1/2012	Active

Notes

Note that this transformer is not owned/managed by CMC-Henderson.

General Information

Container / Area ID: U8

Category: SPCC Tank

Description: Lower Urad Genset

Location: Urad Treatment Plant

Map Page: Figure 2 - Urad

Location Description: Adjacent to Lower Urad Pumphouse

Runoff Destination and Direction: Low-lying area surrounded by berm (East)

Container Description: Yellow, steel genset on concrete pad

Container Contents: Diesel

Capacity of Largest Container: 300.00000 gallons

Max Cumulative Capacity: 300.00 gallons

Containment

Number of Containers in Containment: Varies

Containment Material: Earthen Berm

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the earthen berm/low lying area surrounding the genset. Tertiary containment is provided by the process water pump back system to the Urad Treatment Plant

Controls

Level Sensing Device:

Discharge Prevention Measures (BMPs):
1) Monthly inspections

Discharge / Drainage Controls (containment, berming):
1) Secondary containment is provided by an earthen berm/low lying area surrounding the genset; 2) Tertiary containment is provided by the Urad Treatment Ponds area; 3) Spill cleanup materials are located inside the Lower Urad Pumphouse

Integrity Testing

Applicability: Not required for this is an oil-filled electrical, operating, or manufacturing device/equipment

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/29/2013	Siron, Mark
3/28/2013	Siron, Mark
2/27/2013	Siron, Mark
1/16/2013	Siron, Mark
12/13/2012	Siron, Mark
11/15/2012	Siron, Mark
10/22/2012	Siron, Mark

9/20/2012	Siron, Mark
8/29/2012	Siron, Mark

Action Item History

No action items recorded

Notes

Note that this transformer is not owned/managed by CMC-Henderson.

General Information

Container/Area ID: U9

Category: Non-SPCC Tank

Description: Lower Urad Pumphouse

Location: Urad Treatment Plant

Map Page: Figure 2 - Urad

Location Description: Inside Lower Urad Pumphouse

Runoff Destination and Direction: Will remain inside building (East)

Container Description: 3 pumps in Pumphouse

Container Contents: Used Oil

Capacity of Largest Container: 10.00000 gallons

Max Cumulative Capacity: 30.00 gallons

Containment

Number of Containers in Containment: Varies

Containment Material: Building itself

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment is provided by the pumphouse building itself. Tertiary containment is provided by the process water pump back system to the Urad Treatment Plant

Controls

Level Sensing Device:

Discharge Prevention Measures (BMPs):
1) Monthly inspections

Discharge/Drainage Controls (containment, berming):
1) Secondary containment is provided by the Lower Urad Pumphouse building itself; 2) Tertiary containment is provided by the Urad Treatment Ponds area; 3) Spill cleanup materials are located inside the Lower Urad Pumphouse

Integrity Testing

Applicability: Not required for this is an oil-filled electrical, operating, or manufacturing device/equipment

Inspection History

Required Inspection Frequency: Monthly

Date	Completed By
4/29/2013	Siron, Mark
3/28/2013	Siron, Mark
2/27/2013	Siron, Mark
2/27/2013	Siron, Mark
1/16/2013	Siron, Mark
12/13/2012	Siron, Mark
11/15/2012	Siron, Mark

10/22/2012	Siron, Mark
9/20/2012	Siron, Mark
8/29/2012	Siron, Mark

Action Item History

No action items recorded

Notes

No notes recorded

General Information

Container/Area ID: Urad Pipeline

Category: Non-SPCC Storage Area

Description: Untreated Mine Water Buried Pipeline (to Urad WWTP)

Location: Urad Treatment Plant

Map Page: Figure 3 - Pipeline to Urad

Location Description: Pipeline to Urad WWTP

Runoff Destination and Direction:

Container Description: NA

Container Contents: Untreated Mine Water

Capacity of Largest Container:

Max Cumulative Capacity:

Containment

Number of Containers in Containment:

Containment Material: Earthen Berms

Actual Containment (gal): **Required Containment (gal):**

Containment Description:

Controls

Level Sensing Device:

Discharge Prevention Measures (BMPs):
Pipeline is fully buried from the storage tank to Urad treatment.

Discharge/Drainage Controls (containment, berming):
(1) Spills can be contained in earthen berms and pumped to ponds at Henderson Mine and Urad WWTP which have ample storage capacity for emergency situations; (2) Manual control valve closure in the case of pipeline rupture or leak; back-up pipeline

Integrity Testing

Applicability: N/A

Inspection History

Required Inspection Frequency: Not Required

Date	Completed By
4/29/2013	Siron, Mark
3/28/2013	Siron, Mark
2/27/2013	Siron, Mark
1/16/2013	Siron, Mark
12/13/2012	Siron, Mark
11/15/2012	Siron, Mark
10/22/2012	Siron, Mark
9/20/2012	Siron, Mark
8/29/2012	Siron, Mark

7/25/2012	Siron, Mark
6/28/2012	Siron, Mark
5/30/2012	Siron, Mark
4/27/2012	Siron, Mark
3/1/2012	Siron, Mark
2/16/2012	Siron, Mark
1/19/2012	Siron, Mark
12/20/2011	Siron, Mark
11/28/2011	Siron, Mark
10/27/2011	Siron, Mark
9/21/2011	Siron, Mark
8/17/2011	Siron, Mark
7/13/2011	Siron, Mark
6/28/2011	Siron, Mark
5/18/2011	Siron, Mark
4/25/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

No action items recorded

Service History

Date	Status
11/5/2012	Active

Notes

No notes recorded

General Information

Container / Area ID: WW1

Category: Non-SPCC Storage Area

Description: Domestic WWTP, S. Room Near Discharge Point - Sodium Hypochlorite, Flocculent

Location: Domestic WWTP

Map Page: Figure 1 - Mine Area

Location Description: Domestic WWTP - S. Room NE corner.

Runoff Destination and Direction: Building sump system (Will remain inside building)

Container Description: 0-20 55-gal

Container Contents: Sodium Hypochlorite, Flocculent

Capacity of Largest Container: 55.00000 gallons

Max Cumulative Capacity: 1,100.00 gallons

Containment

Number of Containers in Containment:

Containment Material:

Actual Containment (gal): **Required Containment (gal):**

Containment Description:

Controls

Level Sensing Device:
Clock Gauge

Discharge Prevention Measures (BMPs):
Monthly inspection.

Discharge / Drainage Controls (containment, berming):
(1) Contained on spill pallets or on floor grates above contained process water.

Integrity Testing

Applicability: Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected

Inspection History

Required Inspection Frequency: Quarterly

Date	Completed By
4/29/2013	Siron, Mark
3/26/2013	Siron, Mark
2/27/2013	Siron, Mark
1/24/2013	Siron, Mark
12/13/2012	Siron, Mark
11/15/2012	Siron, Mark
10/22/2012	Siron, Mark
9/6/2012	Siron, Mark
8/29/2012	Siron, Mark

7/30/2012	Siron, Mark
6/28/2012	Siron, Mark
5/30/2012	Siron, Mark
4/27/2012	Siron, Mark
3/1/2012	Siron, Mark
2/13/2012	Siron, Mark
1/19/2012	Siron, Mark
12/20/2011	Siron, Mark
11/30/2011	Siron, Mark

Action Item History

Description	Owner	Initiated Date	Due Date	Compl. Date	Verif. Date
needs spill kit	Siron, Mark	3/5/2012	3/8/2012	3/12/2012	3/12/2012

Notes

No notes recorded

General Information

Container/Area ID: WW3

Category: SPCC Storage Area

Description: Domestic WWTP, N. Room Near Bay Door - Oils, Corrosion Inhibitor Storage

Location: Domestic WWTP

Map Page: Figure 1 - Mine Area

Location Description: Domestic WWTP - N. room near bay door.

Runoff Destination and Direction: Building sump system (Northeast)

Container Description: 0-20 55-gal

Container Contents: Corrosion Inhibitor, Oil (Gear, Motor), Used Oil

Capacity of Largest Container: 55.00000 gallons

Max Cumulative Capacity: 1,100.00 gallons

Containment

Number of Containers in Containment: Varies

Containment Material: Spill pallets / Building sump system

Actual Containment (gal): **Required Containment (gal):**

Containment Description:
Secondary containment provided by the building and sump system

Controls

Level Sensing Device:
Clock Gauge

Discharge Prevention Measures (BMPs):
1) Monthly SPCC inspection

Discharge/Drainage Controls (containment, berming):
(1) Contained on spill pallets or on floor grates above contained process water.

Integrity Testing

Applicability: Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected

Inspection History

Required Inspection Frequency: Quarterly

Date	Completed By
4/29/2013	Siron, Mark
3/26/2013	Siron, Mark
2/27/2013	Siron, Mark
1/24/2013	Siron, Mark
12/13/2012	Siron, Mark
11/15/2012	Siron, Mark
10/22/2012	Siron, Mark
9/6/2012	Siron, Mark
8/29/2012	Siron, Mark

7/30/2012	Siron, Mark
6/28/2012	Siron, Mark
5/30/2012	Siron, Mark
4/27/2012	Siron, Mark
3/1/2012	Siron, Mark
2/14/2012	Siron, Mark
1/19/2012	Siron, Mark
12/20/2011	Siron, Mark
11/30/2011	Siron, Mark
11/2/2011	Siron, Mark
9/28/2011	Siron, Mark
8/22/2011	Siron, Mark
7/13/2011	Siron, Mark
6/28/2011	Siron, Mark
5/18/2011	Siron, Mark
4/25/2011	Siron, Mark

Action Item History

Description	Owner	Initiated Date	Due Date	Compl. Date	Verif. Date
containment needs cleaned out	Siron, Mark	2/14/2012	2/29/2012	4/19/2012	4/27/2012

Service History

Date	Status
8/1/2011	Active

Notes

No notes recorded

Appendix D

SPCC Coordinator and Emergency Contact List

Appendix D
SPCC Coordinator and Emergency Contact List

<table>
<tr><th colspan="4">EMERGENCY COORDINATORS</th></tr>
<tr><th>Name / Title</th><th>Business</th><th>Cell</th><th>Home</th></tr>
<tr><td>Miguel Hamarat</td><td>303-569-3221
x1233</td><td>303-476-3632</td><td>N/A</td></tr>
<tr><td>Bryce Romig</td><td>303-569-3221
x1204</td><td>303-809-1503</td><td>970-762-4101</td></tr>
<tr><th colspan="4">SPILL RESPONSE CONTRACTORS</th></tr>
<tr><th colspan="2">Organization / Contractor</th><th colspan="2">Phone Number</th></tr>
<tr><td colspan="2">Belfor Environmental</td><td colspan="2">1-800-930-0011
303-425-7526</td></tr>
<tr><th colspan="4">EMERGENCY NOTIFICATION NUMBERS</th></tr>
<tr><th colspan="4">Federal</th></tr>
<tr><td colspan="2">National Response Center</td><td colspan="2">1-800-424-8802</td></tr>
<tr><td colspan="2">EPA Region 8</td><td colspan="2">303-312-6312</td></tr>
<tr><th colspan="4">State</th></tr>
<tr><td colspan="2">Colorado Department of Public Health and Environment (CDPHE) - Emergency Response Line</td><td colspan="2">1-877-518-5608.</td></tr>
<tr><td colspan="2">CDPHE (non-emergency)</td><td colspan="2">303-692-3300</td></tr>
<tr><td colspan="2">Colorado Emergency Response Commission (SERC)</td><td colspan="2">720-852-6603</td></tr>
<tr><td colspan="2">Colorado State Oil Inspector</td><td colspan="2">303-318-8505</td></tr>
<tr><td colspan="2">Colorado State Police</td><td colspan="2">911 or
1-970-668-6840 (Frisco Office)</td></tr>
<tr><th colspan="4">Local</th></tr>
<tr><td colspan="2">Fire, Police, Medical</td><td colspan="2">911</td></tr>
<tr><td colspan="2">Clear Creek County Sheriff</td><td colspan="2">(303) 679-2393</td></tr>
<tr><td colspan="2">CCLEPC - Clear Creek County Local Emergency Planning Committee</td><td colspan="2">(303) 679-2320</td></tr>
<tr><td colspan="2">Clear Creek County Health Department</td><td colspan="2">(303) 679-2335</td></tr>
</table>

Appendix E

Incident Response Manual

Incident Response Manual
(IRM)

HENDERSON MINE

May 2013

Climax Molybdenum
A Freeport-McMoRan Company

Prepared by:

Aquionix

Aquionix. Inc
3700 E. 41st Ave
Denver, CO 80216
303-289-7520
www.aquionix.com

FACILITY INFORMATION

MINE FACILITY	
Facility Name	Henderson Mine
Facility Owner	Climax Molybdenum Company
Facility Type	Underground molybdenum mining and associated operations
Physical Address	1746 County Road 202, Empire, Colorado 80438
Mailing Address	1746 County Road 202, Empire, Colorado 80438
Phone Number	303-569-3221
Fax Number	303-569-2829
Facility Contact	Miguel Hamarat, Chief Env. Engineer (303) 569-3221, x1233

TABLE OF CONTENTS

LIST OF APPENDICES

UPDATES AND REVISION HISTORY

It is important that this document be updated in a timely manner to reflect changes in operations, as well as responsible people at the site. Such revisions will be made in accordance with related compliance calendars, document control and other applicable procedures specified in Henderson's Environmental Management System (EMS). Revisions to this document are summarized in the Revision History log below.

Revision Date	Completed By:	Summary of Revisions or Record of Review
April 2011	Geoff Clothier	Added reference to SPCC Bulk Chemical Inventory list to Appendix E with select MSDSs, edited contacts, edited and updated flowchart (Appendix A)
May 2011	Aquionix, Inc.	IRM Update: Separated Hazardous Waste LQG Requirements into a distinct document; Added reference to the Henderson Operations Spill Management Procedure.
May 2013	Geoff Clothier, Whitney Koester	Annual Update and Review

1.0 GENERAL INFORMATION

1.1 Introduction (Purpose and Scope)

This manual is an Environmental Management System (EMS) tool to be used in the event of an environmental incident involving the spill or release of products at the Henderson Mine site. This plan has been written to meet the emergency response requirements associated with the following plans and regulations.

- Spill Prevention Control and Countermeasures (SPCC) – Requirement to update emergency contacts and reporting procedures.
- Colorado Pollutant Discharge Elimination System (CPDES) permit – Requirement to update the reporting system that will be used to notify, at a minimum, responsible facility management, the Colorado Department of Public Health and Environment (Water Quality Control Division), the Environmental Protection Agency, water users within 5 miles downstream of the facility, and local health officials.
- Henderson Spill Management Procedure.
- Henderson Stormwater Management Plan.
- Henderson Waste Management Plan.
- Environmental Protection Plan.

1.2 What is an Environmental Incident?

An environmental incident includes the following:

1. Petroleum product or other chemical (hazardous or non-hazardous) that could contact surface water;
2. Petroleum product or other chemical and non-petroleum product in quantities as outlined in Section 1.1 that spills on the ground or other surface area;
3. Hazardous waste that spills on the ground or other surface area;
4. Water treatment upsets (potable, domestic or industrial);
5. A release of waters outside of the treatment system;
6. Imminent or actual failure of any surface impoundment or other environmental protection facility (EPF); and
7. Air monitoring equipment or control upset or failure.

If you are unsure whether a situation is an environmental incident, treat it as such until you are informed otherwise by the Environmental staff.

2.0 OVERVIEW OF FACILITY OPERATIONS

2.1 Operations

The scope of the Henderson operation can best be understood by separately discussing its four major components: (1) Henderson Mine; (2) URAD Minesite; (3) Henderson Mill; and (4) the Overland Conveyor System.

2.1.1 Henderson Mine

The Henderson Mine is located on the North side of Red Mountain near the confluence of Butler Gulch and the West Fork of Clear Creek. It is nine miles west of Empire, CO in Clear Creek County on the Eastern Slope of the Continental Divide. The elevation at the mine site is 10,400 feet. Access to the mine is gained by a 28 foot diameter vertical shaft which is 3,100 feet deep. Four other shafts service the ventilation requirements for intake and discharge air. Horizontal drifts (tunnels) at the bottom of the shafts provide access to the ore body. A highly mechanized panel-cave system of mining is being employed with a nominal capacity of 40,000 tons per day

2.1.2 URAD Minesite

The URAD Mine Site is a reclaimed mine located southeast of the Henderson Mine in Woods Creek Valley. This site consists of two reclaimed tailing impoundments, two plugged portals, water treatment collection ponds, and a water treatment plant.

2.1.3 Overland Conveyor System

A conveyor belt system is used to haul the mined ore from the Henderson Mine to the Henderson Mill. The conveyor system begins as a tunnel below the ore body at an elevation of 7000 feet. The tunnel runs west for 9.6 miles, surfacing at an elevation of 9,000 feet. After surfacing, the Overland Conveyor System continues west and north for another 4.8 miles to the Henderson Mill Site.

2.1.4 Henderson Mill

The Henderson Mill is approximately 22 miles south of Parshall, CO, just off of Grand County Road No. 3. The ore processing facilities (mill and concentrator) are located off the western slope of the ridge between the Williams Fork River and the East Branch of Ute Creek, Grand County, CO.

2.2 Hazardous Waste Activities

Much of the waste generated at Henderson is from mineral processing and is thus excluded from hazardous waste regulation under the mineral processing exclusion found in 6 CCR 1007-3 261.4(b)(7). However, periodically some potentially regulated hazardous waste is generated at Henderson, such as unusable products and various other maintenance related wastes. As such, the Henderson Mine may become an episodic Large Quantity Generator (LQG) of hazardous waste.

A LQG of hazardous waste is required to document very specific emergency preparedness and response information, which is not included within the scope of this IRM. As such, during a month where the site surpasses the LQG threshold, the *Henderson Mine Hazardous Waste Contingency Plan* will be used in conjunction with this IRM to ensure that required solid and hazard waste protocols are addressed and implemented (see Appendix D).

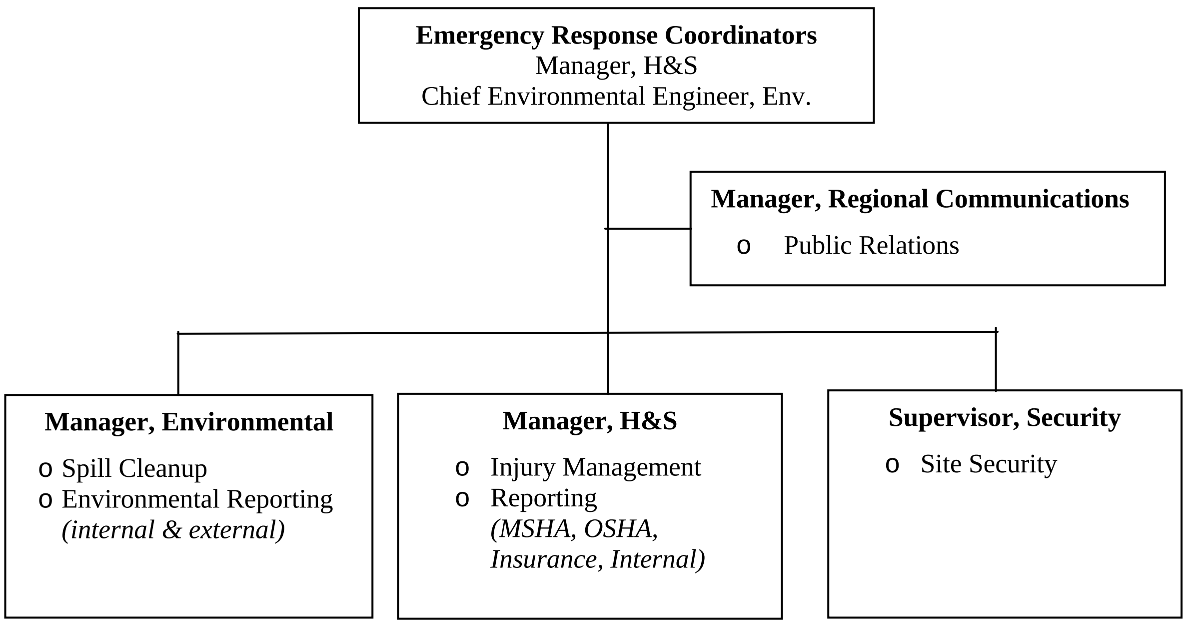
2.3 Petroleum and Other Chemicals

Henderson also manages petroleum products, petroleum containing equipment, chemicals, and waste oils/lubricants. Storage and other technical features of these items are discussed in the facility's SPCC Plan. Refer to Appendix B for the locations of bulk storage chemicals at Henderson Mine.

3.0 ORGANIZATION RESPONSIBILITY AND DUTIES

3.1 Organizational Structure

The following flowchart summarizes the emergency response organizational structure for Henderson. The names and contact information for all listed positions are provided on the *Incident Response Flowcharts* found in Appendix A. The responsibilities of each function are further discussed below the flowchart.



3.2 Emergency Response Coordinators

The Emergency Response Coordinator (ERC) shall:

- Be familiar with all aspects of this Emergency Response and Contingency Plan, all operations and activities at the Henderson Mine, the location and characteristics of hazardous wastes handled on-site, the location of records within the facility, and the facility layout;
- Be responsible for managing all emergency response incidents. This individual has the authority to commit resources needed to carry out this Contingency plan;
- Take all reasonable measures to ensure that fires, explosions, and releases do not occur, recur, or spread to other areas of the facility. These measures must include, as appropriate, stopping processes and operations, collecting and containing releases, and removing and isolating leaking systems and containers;
- Be on the facility premises or on call with the responsibility for coordinating emergency response measures (at least one coordinator); and
- Be responsible for Emergency Response Coordinator Procedures identified in section 6.0.

3.3 Public Relations Coordinator

The Public Relations Coordinator is responsible for all communications with external parties (excluding government agencies) that are not immediately involved with an emergency response.

3.4 Environmental Manager

Upon being notified of an incident, the Environmental Manager (or his representative) shall be responsible for the following:

a. Providing technical expertise and resources during response and cleanup efforts;
b. If releases are likely to impact “waters of the United States,” coordinate the development of dams and berms such that they are in compliance with the Nationwide Section 404 Permit 20 – Oil Spill Cleanup. Under this permit, such dams and berms are only allowed for the containment and cleanup of oil and hazardous substances which are:
    - Subject to the National Contingency Plan (NCP), and
    - Performed in accordance with a Spill Control and Countermeasures Plan (SPCC), and are in concurrence with the NCP “Regional Response Team.”
c. Notifying the appropriate Divisional Manager relative to where the incident occurred;
d. Notifying the General Manager and briefing him on applicable regulatory requirements and recommended actions;
e. Notifying the Corporate Director of Environment, Land and Water; and
f. As appropriate to the incident, notification of governmental agencies.

3.5 Health and Safety Department

The Health and Safety Department shall be responsible for providing technical health and safety expertise during an emergency response. Upon being notified of an emergency incident, the Health and Safety Department shall also be responsible for the following:

a. Providing technical expertise and resources regarding the safety of cleanup operations;
b. Notifying Corporate Director of Occupational Health and Safety; and
c. Notifying Mine Safety and Health Administration and other health and safety agencies (if necessary).

3.6 Hoistman and Dispatch

Upon being notified of an emergency incident, the Hoistman shall be responsible for:

a. Contacting the Command Center

Upon being notified of an emergency incident, the dispatchers shall be responsible for:

a. Contacting the Emergency Response Team, if there is an injury or fire;

b. Ensuring that the Facility Emergency Response Coordinator or one of the alternates has been notified; and
c. Notifying the on call safety and environmental representative.

3.7 Area Supervisors and Superintendents

Area Supervisors and Superintendents (or their designees) shall be responsible for assisting the Emergency Coordinator in understanding the systems involved and, as is appropriate and safe to do so, coordinating the shut-down of impacted processes and monitoring of operating systems for leaks, pressure build-ups, gas generation, etc. The Area Supervisor or Superintendent shall also be responsible for notifying their immediate supervisor of the occurrence of any incidents.

3.8 Employees and Contractors

Employees and contractors are to report hazardous waste spills, releases, fires or explosions to their supervisors and to the Hoistman via the emergency telephone numbers or radio procedures. Employees and contractors may also participate in emergency response activities as directed by the emergency coordinator and as appropriate to their level of training.

4.0 EMERGENCY PREPAREDNESS

4.1 Emergency Response Equipment

Emergency equipment is located throughout the facility and in close proximity to areas that have an increased risk for potentially harmful releases and incidents.

4.2 Emergency Response and Communication Equipment Maintenance and Testing

Emergency response and preparedness equipment is inspected by the personnel staffing the area in which it is located, with the exception of annual fire extinguisher inspections which are contracted to a private company for the mine site. Preventive maintenance of other critical equipment is managed through Henderson's Preventive Maintenance System (SAP).

4.3 Emergency Response Training

Henderson employees receive emergency incident training during initial MSHA training and annually thereafter through their MSHA refresher course. Personnel receive training on the proper management of hazardous wastes and materials during an annual environmental training class (this class is commonly held in conjunction with the annual MSHA refresher training).

Records of annual environmental training are maintained, on site, by the Henderson Environmental Department.

Contractors and visitors must receive site-specific MSHA training prior to being allowed outside of the office complex. This training covers incident reporting and evacuation requirements.

Henderson's emergency responders receive extensive training on responding to emergency incidents. Standard training for personnel who are authorized to respond to and direct work at an emergency includes 24-hour or 40-hour of initial emergency response training combined with an 8-hour refresher course.

4.4 Emergency Response Drills

Periodic environmental incident drills are conducted for training purposes and to verify the effectiveness of Henderson's environmental incident response systems. These drills serve the primary purposes of ensuring that:

- Site personnel are thoroughly familiar with the applicable incident response procedures;
- Henderson incident response procedures are followed in the event of an environmental incident;
- Henderson incident response procedures are effective; and
- Necessary revisions to Henderson's incident response procedures are identified and implemented.

These drills are not subject to any set schedule, but are conducted at least once every two years.

4.5 Coordination with Local Emergency Response Agencies

Henderson works with local emergency response organizations and teams to:

- Familiarize their personnel with our facility;
- Verify they are capable of providing the resources that may be required in the event of an emergency; and
- Verify that response procedures are compatible and able to be effectively implemented during an emergency.

5.0 RESPONSE AND REPORTING PROCEDURES

The emergency response and reporting procedures to be followed in the event of an environmental incident OR any other spill, injury, fire or explosion are located on the Mine Incident Response Flowchart found in Appendix A of this Plan. This flowchart is also posted throughout the Henderson Mine Site. The sections below expand on the procedures and requirements listed on this flowchart.

5.1 Initial Notification and Evacuation

Immediately upon observing an incident, employees, contractors and visitors are to evacuate the immediate vicinity and call the Hoistman, if they have a radio, dial any channel **1 through 8** and follow reporting procedures appropriate for the incident area. Immediately upon hearing the procedural call, all employees, visitors, and contractors are required to stop what they are doing and listen for further instructions, observing radio silence in the meantime.

It is highly unlikely that an evacuation of all Henderson facilities would be required. However, individual evacuation routes and assembly areas have been developed and posted for each area of the Henderson Mine Site. These assembly areas will be added to the Incident Response Flowcharts as they are posted in areas of the facility.

If instructed to evacuate, personnel must immediately evacuate the area and immediately proceed to a designated assembly area via the safest route possible.

5.2 Emergency Response Coordinator (ERC) Response Procedures

EMERGENCY RESPONSE COORDINATOR (ERC) PROCEDURES
1. Whenever there is an imminent or actual emergency situation, the ERC (or his/her designee when on-call) must immediately: (a) Activate internal alarms or communications systems if they have not already been activated to notify all facility personnel; (b) Notify appropriate state or local agencies with designated response roles if their help is needed.
2. Whenever there is a release, fire, or explosion, the ERC shall immediately identify the following related to the released materials: • Its character; • The exact source; • The amount or volume of the release; and • The aerial extent. This can be accomplished by observation or review of facility records or manifests and, if necessary, by chemical analysis.
3. The ERC shall assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment shall consider both direct and indirect effects of the release, fire or explosion.
4. If the ERC determines that the facility has had a release, fire or explosion that could threaten human health or the environment outside of the Henderson Mine site, he/she must immediately notify government authorities as required within this IRM.
5. During an emergency, the ERC shall take all reasonable measures necessary to ensure that fires,

explosions, and releases do not occur, recur, or spread to other hazardous waste at the facility.
6. The ERC shall determine objectives and priorities in response to the incident including: • Determine mitigation actions; • Identify resources required for response; • Mobilize those resources; • Stopping processes and operations; • Collecting and containing released waste; and • Removing or isolating containers.
7. If Henderson stops operations in response to a fire, explosion or release, the ERC shall monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes or other equipment, wherever this is appropriate.
8. Immediately after an emergency, the ERC shall provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release fire or explosion at the Mine.
9. The ERC shall ensure that, in the affected area(s) of the facility: • No waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed; and • All emergency equipment listed herein is cleaned and fit for its intended use before operations are resumed.

5.3 Emergency Assistance from Outside Organizations

In the event of an emergency incident that is outside the response capabilities of Henderson personnel, assistance from the appropriate resources identified on the Incident Response Flowchart will be requested. Phone numbers for each of these organizations are provided on the Flowchart, which is located in Appendix A of this IRM.

Personnel from the emergency service providers (i.e., hospital, local ambulance services, etc.) will be advised of materials involved and their likely hazards. Material Safety Data Sheets and other technical references pertaining to hazardous materials will be provided for use by hospital and emergency service providers' personnel as necessary or requested.

5.4 Internal Facility Reporting

The Incident Response Flowchart found in Appendix A lays out the steps for *immediate* internal notification procedures in the case of an environmental spill, injury, fire or explosion. It is **critical** that the incident is reported to the Environmental Department to ensure that:

- Any release is properly cleaned up;
- Any resulting waste is properly characterized, managed and disposed of; and
- Any applicable reporting of the incident is made to company officials and government agencies.

As indicated on the flowchart, the area supervisor for which a spill or release has occurred shall fill out the *Release Report Form* (located on Sharepoint within the Henderson Mine SPCC/MCP) and submit it to the Environmental Department as soon as possible. The form is then completed by the Environmental Department and sent to Legal Counsel, where it will be evaluated further and ultimately returned to the facility. Details of the Henderson operations Spill Management Procedures can be found in Appendix C.

5.5 Internal Corporate Reporting

Required reporting to the Freeport-McMoRan corporate environmental group is managed through the Corporate Incident Management System (IRM) database. The Environmental Department is responsible for adding all relevant information to this database related to any environmental incident occurring at Henderson.

Verbal reports of environmental incidents are also required to be made to appropriate corporate environmental/legal contacts. As with the preceding electronic reporting, the Environmental Department is responsible for making these verbal reports. The Incident Response Flowchart in Appendix A contains the required contact information.

5.6 External Reporting

Depending on the situation, it may be necessary to report the environmental incident to government or other non-Henderson contacts. The decision to make such a report will be made by the Environmental Department. The Incident Response Flowchart located in Appendix A contains information for potential external contacts to whom an incident may need to be reported. **Unless otherwise instructed, communication with these contacts will only be made by the Environmental Department.**

5.7 Government Agency Reporting

Certain environmental incidents are required to be reported to specified government agencies. These requirements are time sensitive and typically based on:

- Time and duration of the release/spill;
- Type of material released/spilled;
- Quantity of material released/spilled;
- Rate of release/spill of material; and
- Location of release/spill and affected media (i.e. soil, water, air, etc.).

The determination of whether a release/spill is subject to government reporting requirements is often based on complex factors that require special environmental and legal analyses. Additionally, noncompliance with these reporting requirements can result in significant corporate, as well as personal liability. As such, reporting to government agencies will always be coordinated by the Environmental Department.

5.8 Reporting to Downstream Water Users

Downstream water users must also be notified if a spill might affect them. Because of retention times and control points in ponds and settlers, it is very unlikely that such a notification will be necessary. The Water User Advisory Procedure can be found in Appendix E. In the event a spill is in jeopardy of reaching Clear Creek this procedure needs to be followed. As with the other external contacts, the Environmental Department will make these notifications if necessary.

5.9 Other Reporting (SPCC, SWMP, EPP)

Henderson is required under certain regulatory requirements to maintain environmental plans that contain additional emergency response and reporting requirements. Refer to the Incident Response Flowchart in Appendix A for guidance as to which document should be used in an incident situation.

5.10 Follow-up

Following an initial emergency response, the Emergency Coordinator must work with the appropriate Henderson personnel and departments to ensure that cleanup and other recovery activities are completed expediently.

If Henderson personnel cannot safely cleanup a release, a qualified private cleanup company will be hired. To reduce liability, wastes must be disposed of in strict accordance with Federal and State Regulations. As such, it is essential that environmental personnel be involved in cleanup and disposal activities.

Following the emergency incident, all employees involved in the response should participate in a critique which will evaluate:

1. Response;
2. Equipment problems;
3. Training requirements;
4. Root cause, including who, what, when and why; and/or
5. Applicable SOPs, infrastructure, and surveillance.

6.0 RECORDKEEPING

Records are maintained per the appropriate plan and procedure and in accordance with the Company's Records Retention Program.

Appendix A
Incident Response Flowchart

INCIDENT OCCURS

RESPOND

In the event of ANY emergency involving **INJURY, FIRE,** or **PETROLEUM OR CHEMICAL SPILLS,** call the HOISTMAN at **1320.**

If you do not have access to a telephone, state the status of the emergency on any of the radio channels **"1 through 8"** State: The nature of the problem; Try to give damage report over the phone; What other information can you give on the item involved? (i.e., fire or injury involved).

If you are unable to use the Henderson radio or regular mine phones to report any emergency, you can use any **RED GAITRONICS PHONES**. Lift the receiver and hold the bar down, push in the round button (located on the bottom right hand corner) and talk into the receiver. Release button of unit. To talk and receive messages, hold the bar down on the receiver.

All of the systems operate to the HOIST HOUSE. In the event of an emergency, the HOIST OPERATOR will handle **ALL** communications until the communications center can be established at the COMMAND CENTER.

If the release involves a **HAZARDOUS MATERIAL,** remain a safe distance away from the material unless you are trained in hazardous materials response procedures.

If the release involves **HIGHLY TOXIC MATERIALS** or is a **LARGE VOLUME SPILL,** evacuate the area and call the **HOISTMAN** at **1320, 1911, or 1428.**

If able to do so safely, **MITIGATE THE RELEASE**

1. Attempt to extinguish incipient stage fires
2. Shut off pumps, close valves, etc. if material is still being released. Shut off motors and electrical circuits.
3. In case of injury, begin first aid up to the level of your training.

If able to do so safely, **CONTAIN THE RELEASE**

1. Contain the spread of the released material with absorbent booms and floor dry.
   - Cover material with enough floor dry or absorbent pads to contain all the liquid.
   - Start from the outer edge of the spill and work towards the center.
2. If necessary, construct berms or pits to contain the released material.

If able to do so safely, **CLEAN UP THE RELEASE**

1. Use a brush and dust pan to sweep up saturated floor dry; avoid creating dust.
2. WHILE WEARING GLOVES pick up the saturated booms.
3. Place materials in a steel 55 gallon drum

NOTIFY

Immediate Supervisor

Hoistman
(303) 569-3221, x1320

Mine Superintendent
Mike Callahan
(303) 569-3221, x1232

Maintenance Superintendent
Chris Rizzardi
(303) 569-3221, x1359

Mine Manager
Lee Fronapfel
(303) 569-3221, x1478

Technical Services Manager
David Brence
(303) 569-3221, x1240

Chief Environmental Engineer
Miguel Hamarat
(303) 569-3221, x1233

Mine Environmental Engineer
Geoff Clothier
(303) 569-3221, x1287

Mill Sr. Environmental Engineer
Tim Haynes
(303) 569-3221, x2284

Environmental Manager
Bryce Romig
(303) 569-3221, x1204

Mill Manager
Marcus Ammon
(303) 569-3221, x2214

Information Exchange and Coordination

STOP
Unless otherwise instructed, communication with these contacts will only be made by the Environmental Department

REPORTABLE QUANTITY?

NO

Document and complete Incident/Spill Report

Send report to: Freeport McMoRan Legal Counsel

YES

INTERNAL REPORTING

Vice President
Fred Menzer
(303) 569-3221 x1215

General Manager
Michael McDonald
(303)-569-3221 x1000

Environmental Manager
Bryce Romig
(303) 569-3221 x1204

OR if unavailable
Senior Site Representative

Freeport McMoRan – Environmental Department
Bill Cobb
(480) 929-4587

Other (as necessary)
Jerry Roose
(602) 206-7295

Ken Kloska
(303) 642-6501

Freeport McMoRan – Legal Counsel
Michael Wood
(480) 929-4586

Gallagher and Kennedy – Legal Counsel
Lee Decker
(602)-530-8135

STOP
Unless otherwise instructed, communication with these contacts will only be made by the Environmental Department

EXTERNAL REPORTING

EPF FAILURE

Refer to Section 8.1 (a)-(d) in Hard Rock, Metal and Designated Mining Operations Regulations. Contact Peter Hayes: (303) 866-3567 ext. 8124

Follow emergency procedures and reporting protocol in the Environmental Protection Plan.

AIR UPSET

For additional guidance, reference the **Air Permit**

HAZARDOUS WASTE SPILL

In general, a reportable spill includes **hazardous chemicals equal to or in excess** of the "Federal Reportable Quantity" and/or the Extremely Hazardous Substances (EHS) RQ under EPCRA

For additional guidance, reference the **Solid and Hazardous Waste Management Plan**

VERBAL NOTIFICATION needs to be made to the following **IMMEDIATELY:**

The National Response Center (NRC)
1-800-424-8802

The Colorado Department of Public Health and Environment (CDPHE)
1-877-518-5608

Clear Creek County (LEPC Local Dispatch and committee contact)
303-534-5777

Grand County (LEPC Local Dispatch and committee contact)
970-887-2732

Summit County (LEPC Local Dispatch and committee contact)
970-453-2561

Colorado Division of Reclamation and Mining Safety (DRMS)
303-866-3567

A **WRITTEN REPORT** must be submitted **by the Emergency Coordinator** to the following:

Colorado Department of Public Health and Environment (CDPHE)
WITHIN 15 DAYS of release

A COPY must be sent to the following:

The Colorado Division of Reclamation and Mining Safety (DRMS)

Clear Creek County LEPC
Grand County LEPC
Summit County LEPC

NON-STORMWATER DISCHARGE

For additional guidance, reference the **Stormwater Management Plan**

VERBAL NOTIFICATION needs to be made to the **CDPHE Water Quality Emergency Management Program** within **24 HOURS** if ANY non-stormwater discharge:

1. Leads to any noncompliance which may endanger health of the environment regardless of the cause of the incident

2. Leads to any unanticipated bypass which exceeds an effluent limitations in the permit

3. Leads to any upset or spill which causes an exceedance of any effluent limitation in the permit

4. Causes daily maximum violations for any of the pollutants limited by the permit and specified as requiring 24-hour notification

A **WRITTEN REPORT** must be submitted to the Division **WITHIN 5 DAYS of release**

PETROLEUM OR CHEMICAL SPILL THAT HAS REACHED/HAS POTENITAL TO REACH SURFACE WATER

For additional guidance, reference the **Spill Prevention Control and Countermeasure Plan and Water User Advisory Procedure**

VERBAL NOTIFICATION needs to be made to the following **IMMEDIATELY:**

Water User Advisory for Clear Creek
303-679-2393

Colorado Department of Public Health and Environment (CDPHE)
1-877-518-5608

VERBAL NOTIFICATION needs to be made to the following within **24 HOURS:**

Colorado Division of Reclamation and Mining Safety (DRMS)
303-866-3567

VERBAL NOTIFICATION needs to be made to the **Nation Response Center (NRC) AS SOON AS POSSIBLE** if ANY discharge of oil:

1. Violates water quality standards
2. Cause a film or sheen on the water's surface
3. Forms a sludge or emulsion beneath the water's surface

1-800-424-8802

NOTE: Before notifying the NRC, be sure that ALL internal contacts have been notified

A **WRITTEN REPORT** must be submitted to the following:

Colorado Department of Public Health and Environment (CDPHE)
WITHIN 5 DAYS of release

Environmental Protection Agency (EPA) ONLY IF greater than 1.000 gallons has been released OR is the 2nd release of 42 gallons or greater
WITHIN 60 DAYS of release

EMERGENCY CONTACTS

POLICE, FIRE, AMBULANCE - 911

EMERGENCY COORDINATORS

TITLE	NAME	WORK PHONE	CELL PHONE	HOME PHONE	HOME ADDRESS
Primary	Miguel Hamarat	303-569-3221 x1233	303-476-3632		On File With Security
Secondary	Bryce Romig	303-569-3221 x1204	303-809-1503	970-762-4104	On File With Security
Backup	Hoistman	303-569-3221 x1320			

EMERGENCY RESPONSE CONTRACTORS

CONTRACTOR	PHONE NUMBER	CONTACT NAME
Belfor Environmental	1-800-930-0011	Mark Churchill

EXTERNAL CONTACTS *(TO BE MADE BY ENV. OR H&S DEPTS.)*

AGENCY	PHONE NUMBER
National Response Center (NRC)	(800) 424-8802
Clear Creek County Local Emergency Planning Committee (LEPC)	(303) 534-5777
Clear Creek County Health Department	(303) 679-2335
Clear Creek County Sheriff	(303) 679-2376
Grand County Local Emergency Planning Committee	(970) 887-2732
Grand County Health Department	(970) 725-3288
Grand County Sheriff	(970) 725-3343
Summit County Local Emergency Planning Committee	(970) 453-2561
Summit County Health Department	(970) 668-9161
Summit County Sheriff	(970) 453-2232
Kremmling Memorial Hospital	(970) 724-3442
Summit Medical Center	(970) 668-3300
Colorado State Oil Inspector	(303) 318-8505
Colorado State Patrol	(303) 567-4201 (Idaho Springs Office)
Colorado Emergency Planning Commission (CEPC)	(303) 692-3017; (303) 756-4455 (after business hours)
Colorado Department of Public Health and Environment (CDPHE); HazMat and Emergency Response Division	(303) 692-3020; (303) 756-4455 (after business hours)
Division of Mining Reclamation and Safety (DRMS)	(303) 866-3567
Colorado Department of Public Health and Environment (CDPHE) - Water Quality Control Division	(303) 692-3500 (303) 756-4455 (after business hours) (877) 518-5608 (Spill #)
Region VIII of the United States Environmental Protection Agency (EPA)	(303) 293-1788 (24 hours)

EMERGENCY EVACUATION ASSEMBLY AREAS

	Primary	Secondary
Evacuation		
Shelter-In-Place		

Climax Molybdenum
A Freeport-McMoRan Company

REVISION	DATE

CLIMAX MOLYBDENUM COMPANY
HENDERSON OPERATIONS
EMPIRE, CO

HENDERSON MINE
INCIDENT RESPONSE FLOWCHART

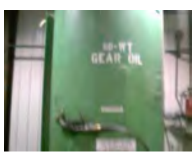
Aquionix
3700 E. 41st Ave.
Denver, CO 80216-6504
303-289-7520 (Office)
303-289-7521 (Fax)

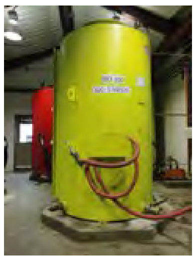
DESIGNED BY: MT
DRAWN BY: MT
DATE DRAWN: 11/20/2010

SCALE: NONE
FILE:

Appendix B
SPCC Bulk Chemical Inventory List

Tank ID	Photo	Location	Map Page	Container Type	Container Contents	Capacity (gallons)	Discharge Prevention Measures (BMPs)	Discharge/Drainage Controls (containment, berming)	Integrity Testing Applicability	Integrity Testing Deadline
A1		Storage Area South of 2 Shaft- Lube and Gear Oils	Figure 1 - Mine Area	SPCC Storage Area	Lube and Gear Oils	7,000.00	1) Monthly SPCC inspection	1) Secondary containment is provided by spill pallets and enviro huts	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
BP1A		Batch Plant	Figure 1 - Mine Area	Non-SPCC Tank	Concrete	1,000.00	1) Monthly SPCC inspection.	1) Secondary containment is provided by the low-lying area, 2) Spill cleanup materials are located nearby.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
BP1B		Batch Plant	Figure 1 - Mine Area	Non-SPCC Tank	Concrete	1,000.00	1) Monthly SPCC inspection.	1) Secondary containment is provided by the low-lying area	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
BP2		Batch Plant - at No. 2 Shaft	Figure 1 - Mine Area	Non-SPCC Tank	Glenium 7500	5,000.00	1) Monthly SPCC inspection	1) Contained within steel secondary containment basin.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A

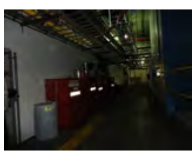
Tank ID	Photo	Location	Map Page	Container Type	Container Contents	Capacity (gallons)	Discharge Prevention Measures (BMPs)	Discharge/Drainage Controls (containment, berming)	Integrity Testing Applicability	Integrity Testing Deadline
BU1		Bulk Oil Storage Building	Figure 1 - Mine Area	SPCC Tank	Rykon 46	1,500.00	1) Monthly SPCC inspection, 2) Periodic integrity testing;	(1) Contained by concrete containment berm around perimeter of building; (2) Spill kit available in the area.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
BU2		Bulk Oil Storage Building	Figure 1 - Mine Area	SPCC Tank	Rykon 100	1,500.00	1) Monthly SPCC inspection, 2) Periodic integrity testing;	(1) Contained by concrete containment berm around perimeter of building; (2) Spill kit available in the area.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
BU3		Bulk Oil Storage Building	Figure 1 - Mine Area	SPCC Storage Area	Used Oil	270.00	1) Monthly SPCC inspection	(1) Contained by concrete containment berm around perimeter of building; (2) Spill kit available in the area.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
BU5		Bulk Oil Storage Building	Figure 1 - Mine Area	SPCC Tank	50 wt. Gear Oil	1,500.00	1) Monthly SPCC inspection	(1) Contained by concrete containment berm around perimeter of building; (2) Spill kit available in the area.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A

Tank ID	Photo	Location	Map Page	Container Type	Container Contents	Capacity (gallons)	Discharge Prevention Measures (BMPs)	Discharge/Drainage Controls (containment, berming)	Integrity Testing Applicability	Integrity Testing Deadline
BU6		Bulk Oil Storage Building	Figure 1 - Mine Area	SPCC Tank	15-40 wt. Motor Oil	1,500.00	1) Monthly SPCC inspection	(1) Contained by concrete containment berm around perimeter of building; (2) Spill kit available in the area.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
BU7		Bulk Oil Storage Building	Figure 1 - Mine Area	SPCC Tank	ISO 100	1,500.00	1) Monthly SPCC inspection	(1) Contained by concrete containment berm around perimeter of building; (2) Spill kit available in the area.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
BU8		Bulk Oil Storage Building	Figure 1 - Mine Area	SPCC Mobile Tank	Rykon 100	1,500.00	1) Monthly SPCC inspection	(1) Contained by concrete containment berm around perimeter of building; (2) Spill kit available in the area.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
C1		Compressor Building - Compressor #1	Figure 1 - Mine Area	SPCC Tank	Machine Oil	125.00	1) Monthly SPCC inspections, 2) Routine shift inspections	1) Secondary containment is provided by the building sump system, 2) Spill cleanup materials are located nearby	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A

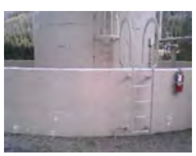
Tank ID	Photo	Location	Map Page	Container Type	Container Contents	Capacity (gallons)	Discharge Prevention Measures (BMPs)	Discharge/Drainage Controls (containment, berming)	Integrity Testing Applicability	Integrity Testing Deadline
C2		Compressor Building - Compressor #2	Figure 1 - Mine Area	SPCC Tank	Machine Oil	125.00	1) Monthly SPCC inspection, 2) Routine shift inspection	1) Secondary containment is provided by the building sump system, 2) Spill cleanup materials are located nearby	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
C3		Compressor Building - Compressor #3	Figure 1 - Mine Area	SPCC Tank	Machine Oil	100.00	1) Monthly SPCC inspections, 2) Routine shift inspections	1) Secondary containment is provided by the building sump system, 2) Spill cleanup materials are located nearby	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
C4		Compressor Building - Compressor #4	Figure 1 - Mine Area	SPCC Tank	Machine Oil	100.00	1) Monthly SPCC inspection, 2) Routine shift inspection	1) Secondary containment is provided by the building sump system, 2) Spill cleanup materials are located nearby	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
C6		South side of compressor building, near bay doors	Figure 1 - Mine Area	SPCC Storage Area	Used Oil and Rykon 46	1,050.00	1) Monthly SPCC inspection, 2) Routine shift inspections	1) Secondary containment provided by the building itself, 2) Spill cleanup materials are located nearby	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A

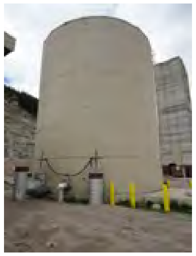
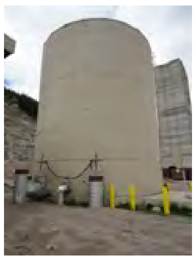
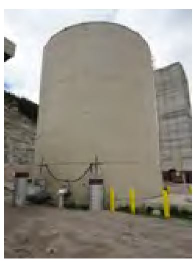
Tank ID	Photo	Location	Map Page	Container Type	Container Contents	Capacity (gallons)	Discharge Prevention Measures (BMPs)	Discharge/Drainage Controls (containment, berming)	Integrity Testing Applicability	Integrity Testing Deadline
C7		Compressor Building	Figure 1 - Mine Area	SPCC Storage Area	Machine Oil and Used Oil	55.00	1) Monthly SPCC inspection	(1) Contained within concrete lined building equipped with floor drain and sump system, oil/grease separator with discharge to WWTP; (2) Spill kit available in area.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
C8A		East side of compressor building	Figure 1 - Mine Area	Non-SPCC Tank	Antifreeze	2,000.00	1) Monthly SPCC inspections	1) Secondary containment is provided by the concrete structure, 2) Spill cleanup materials are located nearby	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
C8B		East side of compressor building	Figure 1 - Mine Area	Non-SPCC Tank	Antifreeze	2,000.00	1) Monthly SPCC inspection	1) Secondary containment is provided by the surrounding concrete structure, 2) Spill cleanup materials are located nearby	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
C8C		East side of compressor building	Figure 1 - Mine Area	Non-SPCC Tank	Antifreeze	2,000.00	1) Monthly SPCC inspection	1) Secondary containment is provided by the surrounding concrete structure, 2) Spill cleanup materials are located nearby	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A

Tank ID	Photo	Location	Map Page	Container Type	Container Contents	Capacity (gallons)	Discharge Prevention Measures (BMPs)	Discharge/Drainage Controls (containment, berming)	Integrity Testing Applicability	Integrity Testing Deadline
C9		Outside, north of Compressor Building	Figure 1 - Mine Area	Non-SPCC Storage Area	Antifreeze	500.00	1) Monthly SPCC inspection	(1) Contained within concrete lined building equipped with floor drain and sump system, oil/grease separator with discharge to WWTP; (2) Spill kit available in area.	Not Required - Not required for another reason - See comments/notes	Internal: N/A External: N/A
CO1		Storage area inside, West side of Warehouse - New Product Storage	Figure 1 - Mine Area	SPCC Storage Area	New Product Storage	5,000.00	1) Monthly SPCC inspection	(1) Contained within concrete lined building equipped with floor drain and sump system, oil/grease separator with discharge to WWTP; (2) Spill kit available in area.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
CO4		Inside gated explosive magazine, inside surface mag	Figure 1 - Mine Area	SPCC Storage Area	Emulsion	4,950.00	1) Monthly SPCC inspection	1) Secondary containment provided by the surrounding addit area, 2) Spill cleanup materials are located nearby	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
F1		Fuel island - W of No.1 settling pond	Figure 1 - Mine Area	SPCC Tank	Gasoline	8,000.00	(1) Level gauge; (2) High level alarm; (3) Hand-actuated electric switch; (4) Monthly inspection	(1) Contained by 64,000-gal concrete retaining wall; (2) Spill kit with empty drum, floor dry, sorbent pads, sorbent booms, Saranex coveralls, latex inner gloves, PVC outer gloves, duct tape, drum liners, and rags	Not Required - Not required as the tank is less than 30,000 gallons, elevated and bottom is accessible for inspection	Internal: N/A External: N/A
F2		Fuel island - W of No.1 settling pond	Figure 1 - Mine Area	SPCC Tank	Diesel	10,000.00	(1) Level gauge; (2) High level alarm; (3) Hand-actuated electric switch; (4) Monthly inspection	(1) 64,000-gal concrete retaining wall; (2) Spill kit with empty drum, floor dry, sorbent pads, sorbent booms, Saranex coveralls, latex inner gloves, PVC outer gloves, duct tape, drum liners, and rags	Not Required - Not required as the tank is less than 30,000 gallons, elevated and bottom is accessible for inspection	Internal: N/A External: N/A

Tank ID	Photo	Location	Map Page	Container Type	Container Contents	Capacity (gallons)	Discharge Prevention Measures (BMPs)	Discharge/Drainage Controls (containment, berming)	Integrity Testing Applicability	Integrity Testing Deadline
HH1		Hoist House Basement - Double Deck Hoist (S end)	Figure 1 - Mine Area	SPCC Storage Area	Hydraulic Oil	200.00	1) Monthly SPCC inspection	(1) Contained within concrete lined building equipped with floor drain and sump system, oil/grease separator with discharge to WWTP; (2) Spill kit available in the area.	Not Required - Not required for this is an oil-filled electrical, operating, or manufacturing device/equipment	Internal: N/A External: N/A
HH2		Hoist House Basement - Service Hoist (N end)	Figure 1 - Mine Area	SPCC Storage Area	Hydraulic Oil	200.00	1) Monthly SPCC inspection	(1) Contained within concrete lined building equipped with floor drain and sump system, oil/grease separator with discharge to WWTP; (2) Spill kit available in the area.	Not Required - Not required for this is an oil-filled electrical, operating, or manufacturing device/equipment	Internal: N/A External: N/A
HH3		Hoist House Basement - West Wall	Figure 1 - Mine Area	SPCC Tank	Used Oil, Hydraulic Oil, Rykon	500.00	1) Monthly SPCC inspection	(1) Contained within concrete lined building equipped with floor drain and sump system, oil/grease separator with discharge to WWTP; (2) Spill kit available in the area.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
HH4		Hoist House Basement - West Wall	Figure 1 - Mine Area	SPCC Storage Area	Hydraulic Oil, Gear Oil, Lube, Used Oil	550.00	1) Monthly SPCC inspection	(1) Contained within concrete lined building equipped with floor drain and sump system, oil/grease separator with discharge to WWTP; (2) Spill kit available in the area.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
M2		Maintenance Shop - Lube Rack.	Figure 1 - Mine Area	SPCC Storage Area	Lubricant, Oil and Antifreeze	500.00	1) Monthly SPCC inspection, 2) Routine shift inspections	1) Secondary containment provided by the building itself and sump system, 2) Spill cleanup materials are located nearby	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A

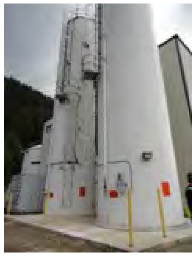
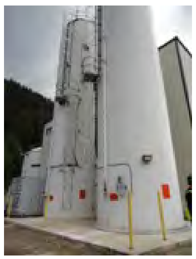
Tank ID	Photo	Location	Map Page	Container Type	Container Contents	Capacity (gallons)	Discharge Prevention Measures (BMPs)	Discharge/Drainage Controls (containment, berming)	Integrity Testing Applicability	Integrity Testing Deadline
M4		Maintenance Shop	Figure 1 - Mine Area	SPCC Storage Area	Gear and Motor Oils, Lube, Antifreeze, Soap	550.00	1) Monthly SPCC inspection, 2) Routine shift inspection	1) Secondary containment is provided by the building and sump, 2) Spill cleanup materials are located nearby	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
PB1		Potable Water Building	Figure 1 - Mine Area	Non-SPCC Storage Area	Sodium Hypochlorite, Corr. Inhibitor, Caustic Soda	165.00	1) Monthly SPCC inspection	(1) Contained by storage on containment pallets; (2) Tertiary containment via potable water building/concrete floor; (3) Spill kit available in the area.	Not Required - Not required for another reason - See comments/notes	Internal: N/A External: N/A
PS1		Used Oil Storage Building - Outside Storage Area on North Side of Bldg	Figure 1 - Mine Area	SPCC Storage Area	Used Oil, Gear Oil	700.00	1) Monthly SPCC inspection	(1) Contained on spill pallets (2) Tertiary containment by impermeable asphalt area where spill may be isolated and promptly cleaned up; (3) Spill kit available in the area.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
PS10		North fan house at 5 shaft	Figure 1 - Mine Area	SPCC Tank	Bearing Oil	70.00	1) Monthly SPCC inspection	(1) Secondary containment provided by the steel structure surrounding the reservoirs (2) Spill kit available in the area.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
PS11		South fan house at 5 shaft	Figure 1 - Mine Area	SPCC Tank	Bearing Oil	70.00	1) Monthly SPCC inspection	(1) Secondary containment provided by the steel structure surrounding the reservoirs (2) Spill kit available in the area.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A

Tank ID	Photo	Location	Map Page	Container Type	Container Contents	Capacity (gallons)	Discharge Prevention Measures (BMPs)	Discharge/Drainage Controls (containment, berming)	Integrity Testing Applicability	Integrity Testing Deadline
PS3		Used Oil Storage Building	Figure 1 - Mine Area	SPCC Storage Area	Used Grease, Used Oil, Used Antifreeze	7,000.00	Quarterly Inspection	(1) Contained by 4,000-gal concrete containment berm; (2) Spill kit available in the area.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
PS5		Tanker Load Out Area - hose next to No. 5 shaft	Figure 1 - Mine Area	SPCC Tank	Diesel	7,500.00	Monthly inspection; load out procedure is posted at this location covering proper load out, spill prevention and containment procedures.	(1) Contained by depressed concrete pad under unloading area; (2) Tertiary containment via earthen berms to the Northwest of the unloading area (discharge would sheet flow to the Northwest). Note: This area does not require specific secondary containment	Not Required - Not required for another reason - See comments/notes	Internal: N/A External: N/A
PS6		Hazardous Waste Storage Building	Figure 1 - Mine Area	Non-SPCC Storage Area	Hazardous Waste	5,000.00	1) Monthly SPCC inspection	(1) Contained within concrete building; (2) Tertiary containment by impermeable asphalt area where spill may be isolated and promptly cleaned up; (3) Spill kit available in the area.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
PS7		Used Oil Tank	Figure 1 - Mine Area	SPCC Tank	Used Oil	47,000.00	Monthly inspection; empty drums, floor dry, buckets, broom and a shovel	(1) Contained by 48,300-gal concrete retaining wall.	Required - API 653	Internal: N/A External: N/A
PS9		Containment Cabinet on N side of Bulk Oil Storage Building	Figure 1 - Mine Area	SPCC Storage Area	Used and New Parts Washer Solvent	700.00	1) Monthly SPCC inspection	(1) Contained via self-contained cabinet; (2) Tertiary containment by impermeable asphalt area where spill may be isolated and promptly cleaned up.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A

Tank ID	Photo	Location	Map Page	Container Type	Container Contents	Capacity (gallons)	Discharge Prevention Measures (BMPs)	Discharge/Drainage Controls (containment, berming)	Integrity Testing Applicability	Integrity Testing Deadline
PW1		Potable Water Building	Figure 1 - Mine Area	Non-SPCC Tank	Potable Water	25,000.00	1) Monthly SPCC inspection, 2) Audible alarm system	1) Secondary containment provided by the low-lying area	Required - STI-SP-001 (2)	Internal: N/A External: N/A
PW2		Potable Water Building	Figure 1 - Mine Area	Non-SPCC Tank	Potable Water	25,000.00	1) Monthly SPCC inspection, 2) Audible alarm system	1) Secondary containment is provided by the surrounding low-lying area	Required - STI-SP-001 (2)	Internal: N/A External: N/A
PW3		Potable Water Building	Figure 1 - Mine Area	Non-SPCC Tank	Potable Water	25,000.00	1) Monthly SPCC Inspection, 2) Audible alarm system	1) Secondary containment is provided by the low-lying area	Required - STI-SP-001 (2)	Internal: N/A External: N/A
PWR1		Process Water Tank	Figure 1 - Mine Area	Non-SPCC Tank	Process Water	25,000.00	1) Monthly SPCC inspection	1) Secondary containment is provided by the surrounding low-lying area	Not Required	Internal: N/A External: N/A

Tank ID	Photo	Location	Map Page	Container Type	Container Contents	Capacity (gallons)	Discharge Prevention Measures (BMPs)	Discharge/Drainage Controls (containment, berming)	Integrity Testing Applicability	Integrity Testing Deadline
T1A		West of Hoist House - North Unit	Figure 1 - Mine Area	SPCC Transformer	Oil	795.00	1) Monthly SPCC inspection	1) Secondary containment provided by the earthen berm, 2) Spill cleanup materials are located nearby	Not Required - Not required for this is an oil-filled electrical, operating, or manufacturing device/equipment	Internal: N/A External: N/A
T1B		West of Hoist House - South Unit	Figure 1 - Mine Area	SPCC Transformer	Oil	795.00	1) Monthly SPCC inspection	1) Secondary containment is provided by the surrounding earthen berm, 2) Spill cleanup materials are located nearby	Not Required - Not required for this is an oil-filled electrical, operating, or manufacturing device/equipment	Internal: N/A External: N/A
T2		North of 3 MAV- spare unit	Figure 1 - Mine Area	SPCC Transformer	Oil	620.00	1) Monthly SPCC inspection	1) Secondary containment provided by the surrounding earthen berm, 2) Spill cleanup materials are located nearby	Not Required - Not required for this is an oil-filled electrical, operating, or manufacturing device/equipment	Internal: N/A External: N/A
T3		Transformers - West of Mine Air Ventilation building (MAV) (north unit)	Figure 1 - Mine Area	SPCC Transformer	Oil	609.00	1) Monthly SPCC inspection	(1) Transformers are contained within earthen berms. Note: Oil filled electrical equipment is not regulated as a bulk storage container and therefore does not require specific secondary containment but must meet general containment requirements to prevent	Not Required - Not required for this is an oil-filled electrical, operating, or manufacturing device/equipment	Internal: N/A External: N/A

Tank ID	Photo	Location	Map Page	Container Type	Container Contents	Capacity (gallons)	Discharge Prevention Measures (BMPs)	Discharge/Drainage Controls (containment, berming)	Integrity Testing Applicability	Integrity Testing Deadline
T4		Transformers - West of Mine Air Ventilation building (MAV) (south unit)	Figure 1 - Mine Area	SPCC Transformer	Oil	610.00	1) Monthly SPCC inspection	(1) Transformers are contained within earthen berms. Note: Oil filled electrical equipment is not regulated as a bulk storage container and therefore does not require specific secondary containment but must meet general containment requirements to prevent	Not Required - Not required for this is an oil-filled electrical, operating, or manufacturing device/equipment	Internal: N/A External: N/A
T5		North of T2 spare by 3MAV	Figure 1 - Mine Area	SPCC Transformer	Oil	795.00	1) Monthly SPCC inspection	1) Secondary containment provided by the earthen berm, 2) Spill cleanup materials are located nearby	Not Required - Not required for this is an oil-filled electrical, operating, or manufacturing device/equipment	Internal: N/A External: N/A
U1		Between Urad WWTP and Clarifier	Figure 2 - Urad	Non-SPCC Tank	Sulfuric Acid	4,000.00	Monthly inspection; periodic integrity testing	(1) Contained via double walled pipes with a dead man switch that automatically closes if released; (2) Tertiary containment by Urad process ponds immediately below WWTP; (3) spill kit available in the area.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
U2		Urad WWTP-rapid mix, sludge/lime, clarifier, lime reactor	Figure 2 - Urad	Non-SPCC Storage Area	Process Solution	12,000.00	Monthly inspection; periodic integrity testing	(1) Contained by WWTP building drainage system and sump; (2) Tertiary containment by URAD process ponds immediately below WWTP; (3) Spill kit available in the area.	Required - STI-SP-001 (2)	Internal: N/A External: N/A
U3		wwtp	Figure 2 - Urad	Non-SPCC Tank	Process Water	187,000.00	1) Monthly SPCC inspection, 2) Routine shift inspections	(1) Contained by WWTP building drainage system and sump; (2) Tertiary containment by URAD process ponds immediately below WWTP; (3) Spill kit available in the area.	Required - API 653	Internal: N/A External: N/A

Tank ID	Photo	Location	Map Page	Container Type	Container Contents	Capacity (gallons)	Discharge Prevention Measures (BMPs)	Discharge/Drainage Controls (containment, berming)	Integrity Testing Applicability	Integrity Testing Deadline
U4A		Urad WWTP - West of Urad treatment building, north unit	Figure 2 - Urad	Non-SPCC Tank	Quicklime (Calcium Oxide)	0.00	Monthly inspection; periodic integrity testing	(1) Non-viscous; easily contained and cleaned up.	Not Required - No discharge potential to navigable waters	Internal: N/A External: N/A
U4B		Urad WWTP - West of Urad treatment building, south unit	Figure 2 - Urad	Non-SPCC Tank	Quicklime (Calcium Oxide)	0.00	Monthly inspection; periodic integrity testing	(1) Non-viscous; easily contained and cleaned up.	Not Required - No discharge potential to navigable waters	Internal: N/A External: N/A
U5		Urad WWTP	Figure 2 - Urad	Non-SPCC Tank	Flocculent	500.00	Monthly inspection; periodic integrity testing	(1) Contained by WWTP building drainage system and sump; (2) Tertiary containment by URAD process ponds immediately below WWTP; (3) Spill kit available in the area.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
U6		Urad WW Treatment	Figure 2 - Urad	Non-SPCC Tank	Process Solution	644,000.00	1) Monthly SPCC inspection, 2) Routine shift inspections	(1) Contained by WWTP building drainage system and sump; (2) Tertiary containment by URAD process ponds immediately below WWTP; (3) Spill kit available in the area.	Required - API 653	Internal: N/A External: N/A

Tank ID	Photo	Location	Map Page	Container Type	Container Contents	Capacity (gallons)	Discharge Prevention Measures (BMPs)	Discharge/Drainage Controls (containment, berming)	Integrity Testing Applicability	Integrity Testing Deadline
U7		Outside of Urad Treatment building	Figure 2 - Urad	SPCC Transformer	Transformer Oil	75.00	1) Monthly inspections	1) Secondary containment is provided by the Urad Treatment Ponds area; 2) Spill cleanup materials are located inside the Urad building	Not Required - Not required for this is an oil-filled electrical, operating, or manufacturing device/equipment	Internal: N/A External: N/A
U8		Adjacent to Lower Urad Pumphouse	Figure 2 - Urad	SPCC Tank	Diesel	300.00	1) Monthly inspections	1) Secondary containment is provided by an earthen berm/low lying area surrounding the genset; 2) Tertiary containment is provided by the Urad Treatment Ponds area; 3) Spill cleanup materials are located inside the Lower Urad Pumphouse	Not Required - Not required for this is an oil-filled electrical, operating, or manufacturing device/equipment	Internal: N/A External: N/A
U9		Inside Lower Urad Pumphouse	Figure 2 - Urad	Non-SPCC Tank	Used Oil	30.00	1) Monthly inspections	1) Secondary containment is provided by the Lower Urad Pumphouse building itself; 2) Tertiary containment is provided by the Urad Treatment Ponds area; 3) Spill cleanup materials are located inside the Lower Urad Pumphouse	Not Required - Not required for this is an oil-filled electrical, operating, or manufacturing device/equipment	Internal: N/A External: N/A
Urad Pipeline		Pipeline to Urad WWTP	Figure 3 - Pipeline to Urad	Non-SPCC Storage Area	Untreated Mine Water	0.00	Pipeline is fully buried from the storage tank to Urad treatment.	(1) Spills can be contained in earthen berms and pumped to ponds at Henderson Mine and Urad WWTP which have ample storage capacity for emergency situations; (2) Manual control valve closure in the case of pipeline rupture or leak; back-up pipeline	Not Required	Internal: N/A External: N/A

Tank ID	Photo	Location	Map Page	Container Type	Container Contents	Capacity (gallons)	Discharge Prevention Measures (BMPs)	Discharge/Drainage Controls (containment, berming)	Integrity Testing Applicability	Integrity Testing Deadline
WW1		Domestic WWTP - S. Room NE corner.	Figure 1 - Mine Area	Non-SPCC Storage Area	Sodium Hypochlorite, Flocculent	1,100.00	Monthly inspection.	(1) Contained on spill pallets or on floor grates above contained process water.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
WW3		Domestic WWTP - N. room near bay door.	Figure 1 - Mine Area	SPCC Storage Area	Corrosion Inhibitor, Oil (Gear, Motor), Used Oil	1,100.00	1) Monthly SPCC inspection	(1) Contained on spill pallets or on floor grates above contained process water.	Not Required - Not Required by STI SP001 as the Tank is equal or less than 5,000 gallons and frequently inspected	Internal: N/A External: N/A
					Total Capacity	1,084,309.00				

APPENDIX B

SPCC Bulk Chemical Inventory List

The most current Bulk Chemical Inventory List may be found on the Henderson Environmental Department's Sharepoint Site in the SPCC folder under the Water Quality Tab.

Appendix C
Henderson Operations Spill Management Procedure

Climax Molybdenum A Freeport-McMoRan Company	Henderson Operations Standard Operating Procedure

Department	Operating Area
Environmental	All Operational Areas

SOP Title

Spill Management and Reporting Procedure

Purpose & Scope

This procedure is to be used as a guidance document for the spill of common chemicals[1]. The Environmental Department should be contacted whenever there is a spill of a chemical not identified in this procedure or if any question exists relative to how to manage or report a spill. This procedure applies to spills on the surface and underground.

Safety

PPE Requirements:
Wear appropriate PPE including safety glasses, hard hat, steel toed boots, hearing protection, reflective clothing and respirator in areas that require them.

Warnings and Precautions:
Performing this task improperly could result in damage to equipment, damage or loss of materials, environmental hazards or spills, disciplinary action or other consequences. To prevent danger and avoid errors strictly follow all safety guidelines, inspect work areas before starting, inspect all equipment, and follow any other appropriate precautions.

Environmental

Entire SOP is Environmental-related.

Responsible Parties

All Henderson personnel and contractors

Specialized Tools/Skills/Training

Review and understand this procedure and applicable regulations.

Reference Materials

Henderson Mine Incident Response Manual (IRM)

[1] Common Chemicals assumes chemicals which do not have a reportable quantity that is one gallon or less. There are believed to be none on site at the time of this revision.

Henderson Mill Incident Response Manual (IRM)

Spill Prevention and Countermeasures Plan (SPCC)

Henderson Operations Emergency Response Plans/Procedures

Waste Management Plan

Step by Step Procedure

Environmental Department Must be Contacted

If any one of the items listed below is true, the Environmental department must be notified:

- More than one gallon of a non-petroleum product[2] or gasoline is spilled
- More than 10 gallons of a petroleum product[3] is spilled
- The spill is on a permeable surface above ground
- The spill cannot be cleaned up before the end of shift
- The spill may enter a stream, pond, or other surface water body

Environmental Department Does Not Need to be Contacted

All of the items listed below must be true for the Environmental department not to be notified:

- Less than 10 gallons of petroleum products (except gasoline) is spilled
- Less than one gallon some other chemical (including gasoline) is spilled
- The spill is on an impermeable surface
- The spill will be cleaned up before the end of shift
- The spill will not enter any stream, pond, or other surface water body

Clean-up Methods

- Petroleum products should be cleaned up with an absorbent material such as floor dry or absorbent booms and pads. The oily floor dry, booms and pads should be placed in the trash if the absorbent material is not saturated (dripping or free, unabsorbed liquid). If the spill material IS saturated, please contain and contact the environmental department for further guidance.
- Other chemicals should be cleaned up according their MSDS and other requirements specified by the Environmental Department.

Spill Reporting

Any member of the environmental department can be notified when a spill occurs. The environmental department will decide if further reporting and/or notifications are necessary. When spill notification is required, the environmental depart should be contacted as soon as possible.

IF YOU HAVE ANY QUESTIONS REGARDING THESE PROCEDURES, PLEASE CONTACT THE ENVIRONMENTAL DEPARTMENT

Revision History

Rev	Revision Summary
08/28/12	Comprehensive revision to entire procedure
11/1/12	Revision of "clean-up methods"

2 Gasoline, paint, concrete accelerant, degreasers, cement, coagulant, antifreeze, epoxies, micon and other chemicals
3 Used oil, new oil, diesel fuel, hydraulic oil, grease

Appendix D
Hazardous Waste Contingency Plan

Hazardous Waste Contingency Plan

EPA Identification Number COD041517343

HENDERSON MINE

May 2013

Climax Molybdenum
A Freeport-McMoRan Company

Prepared by:

Aquionix

Aquionix. Inc
3700 E. 41st Ave
Denver, CO 80216
303-289-7520
www.aquionix.com

FACILITY INFORMATION

MINE FACILITY	
Facility Name	Henderson Mine
Facility Owner	Climax Molybdenum Company
Facility Type	Underground molybdenum mining and associated operations
Physical Address	1746 County Road 202, Empire, Colorado 80438
Mailing Address	1746 County Road 202, Empire, Colorado 80438
Phone Number	303-569-3221
Fax Number	303-569-2829
Facility Contact	Miguel Hamarat, Chief Env. Engineer (303) 569-3221, x1233

TABLE OF CONTENTS

LIST OF APPENDICES

DISTRIBUTION LIST

Upon becoming a large quantity generator of hazardous waste, a copy of this Contingency Plan will be forwarded to the following Agencies.

Copy #	Copy Holder
1	Clear Creek County Fire Department
2	Clear Creek County LEPC
3	Clear Creek County Sheriff's Office

REVISION HISTORY

Revision Date	Description of Changes
May 2011	Initial Release
May 2013	Annual Update

EXECUTIVE SUMMARY

Purpose

The Henderson Mine has the potential to become an episodic Large Quantity Generator (LQG) of hazardous waste. In the event that this occurs, this plan will be implemented and included with the facility's Incident Response Manual (IRM). In combination, these documents will be the primary emergency response documents used by the facility in the event of a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

Although this facility is designed, constructed, maintained, and operated in a manner that minimizes the possibility for emergency incidents such as fire, explosions and any unplanned sudden or non-sudden releases of hazardous waste or hazardous waste constituents to air, soil, or surface water, this Contingency Plan and the facility's IRM have been developed to describe actions that will be performed at the Henderson Mine to minimize the hazards to human health and the environment in the unlikely event of such incidents.

Regulatory References

This Contingency Plan has been developed in general accordance with 6 Code of Colorado Regulations (CCR) 1007-3:

- 262.34(a)(4) – Large Quantity Generator Requirements
- 265 Subpart C – Preparedness and Prevention
- 265 Subpart D – Contingency Plan and Emergency Procedures

Review and Revision:

During periods when the facility is a large quantity generator of hazardous waste, this Contingency Plan will be reviewed and amended, if necessary, when:

- Applicable regulations are revised;
- The plan fails in an emergency;
- There are significant changes in the facility, in its design, construction, operation, maintenance or other circumstances that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents or changes the response necessary in an emergency;
- The list of ERCs changes;
- The list of emergency equipment changes; and/or
- Drills, exercises, or inspections (internal or external) indicate that a change is needed.

Related Plans and Procedures:

This contingency plan has been developed in association with the following plans and procedures:

Title	Purpose
Henderson Mine IRM	This is the facility's primary source of response procedures that are to be used in the event of an environmental incident.
Henderson Mine Emergency Notification and Emergency Procedures Manual	Outlines emergency notification and emergency procedures for Mine emergency response activities.
Hazardous Waste Management Plan	Describes procedures and regulatory requirements for pre-transport handling, labeling, and management of hazardous waste generated on-site.
SPCC/MCP Plan	Spill control, containment and countermeasures plan includes the engineering and administrative controls in place to prevent the discharge of oil or hazardous chemicals to navigable waters.
Stormwater Management Plan	Outlines the facilities drainage patterns and practices for preventing storm water contamination.

1.0 DESCRIPTION OF FACILITIES

Henderson Mine is located on the north side of Red Mountain near the confluence of Butler Gulch and the West Fork of Clear Creek. It is nine miles west of Empire, Colorado, in Clear Creek County on the eastern slope of the Continental Divide. The 1.5 mile access road to the mine site leaves U. S. Highway 40 at the small village of Berthoud Falls, Colorado. The elevation at the mine site is 10,400 feet. Expressed as longitude and latitude the Henderson Mine location is: 39^{o} 45' north latitude and 105^{o} 52' west longitude.

Access to the mine is gained by a 28 foot diameter vertical shaft which is 3,100 feet deep. Four other shafts service the ventilation requirements for intake and discharge air. Horizontal drifts (tunnels) at the bottom of the shafts provide access to the ore body. A highly mechanized panel-cave system of mining is being employed with a nominal capacity of 40,000 tons per day. Diesel powered rubber-tired equipment is used in the mining process.

A conveyor belt system is used to haul the mined ore to the Henderson Mill. The conveyor system begins as a tunnel below the ore body at an elevation of 7,000 feet (5,300 feet below the summit of Red Mountain). The tunnel runs west for 9.6 miles, surfacing at an elevation of 9,000 feet near the confluence of the Williams Fork River and Darling Creek on the western slope of the Continental Divide.

2.0 DESCRIPTION OF HAZARDOUS WASTE

2.1 Routinely Generated Hazardous Wastes

Henderson has the potential to routinely generate the following types of hazardous waste:

- Spent solvents;
- Waste paints;
- Broken light bulbs; and
- Broken lead acid batteries.

These hazardous wastes are typically generated in the Mine and outlying shops and are stored in satellite accumulation containers (see Satellite and Central Accumulation Area List in Appendix C). From satellite accumulation areas, waste materials are transported to the central accumulation area prior to being shipped off-site.

These hazardous wastes have been characterized and are shipped off-site via DOT and EPA approved transportation companies, and disposed, recycled or reclaimed at properly permitted facilities.

2.2 Non-Routinely Generated Hazardous Wastes

Hazardous waste may also periodically be generated from sources such as:

- Broken mercury containing devices;
- Outdated chemicals; and
- Spill cleanup debris and materials.

Upon generation, these wastes will be characterized and managed according to the procedures discussed in the Henderson Waste Management Plan. Non-routine wastes are typically transported directly to the central accumulation area for accumulation prior to transportation off-site.

3.0 EMERGENCY RESPONSE ORGANIZATION AND RESPONSIBILITES

Emergency response organization and responsibilities are detailed in Section 3.0 of the facility's IRM.

4.0 COORDINATION WITH EXTERNAL RESPONSE ORGANIZATIONS

To ensure a rapid and efficient response, Henderson has contacted the following emergency organizations that may have a role in responding to emergencies at the facilities. Unless otherwise agreed upon by Henderson and responding agency personnel, Henderson will be the primary emergency response authority for all on-property incidents. In such cases, the agencies/organizations outlined below will have supporting roles, as is requested by the Henderson Emergency Response Coordinator (ERC).

Agency	Agreements/Arrangements
Clear Creek County Fire Department	Henderson has contacted the Clear Creek County Fire Department to verify that they are capable of providing emergency response services in the event of an environmental incident. At this time, neither party believes there is a need for a formal agreement.
Clear Creek County Sheriff's Office	Henderson has contacted the Clear Creek County Sheriff's Office to verify that they are capable of providing emergency response services in the event of an environmental incident. At this time, neither party believes there is a need for a formal agreement.
Clear Creek County LEPC	Henderson has contacted the Clear Creek County LEPC to notify them of the types of hazards that are present at the mine site and verify that additional resources are not required. At this time, neither party believes there is a need for additional resources.
Kremmling Memorial Hospital	Henderson has contacted representatives of Kremmling Memorial Hospital to coordinate responses to emergency medical activities. It has been confirmed that the hospital has the equipment and training required to decontaminate Henderson personnel (with respect to the chemicals located at our facilities) and to handle the types of incidents that may result from a fire or explosion that may occur at the facility. At this time, neither party believes there is a need to document these discussions/arrangements.
Summit Medical Center	Henderson has contacted representatives of Summit Medical Center to coordinate responses to emergency medical activities. It has been confirmed that the hospital has the equipment and training required to decontaminate Henderson personnel (with respect to the chemicals located at our facilities) and to handle the types of incidents that may result from a fire or explosion that may occur at the facility. At this time, neither party believes there is a need to document these discussions/arrangements.
Belfor Environmental	Henderson routinely works with Belfor Environmental personnel. As such they are familiar with the mine site and the hazards that are present. Belfor Environmental has agreed to provide assistance in responding to spills that are too large or hazardous to be controlled and cleaned up with internal resources. An agreement has been developed and executed between Henderson and Belfor (see Appendix D).

5.0 TRAINING

5.1 Training

Employees, contractors, visitors, and emergency response personnel receive emergency response training at least once per year as discussed in the facility's IRM.

5.2 Evacuation Drills

Evacuation drills are periodically performed to ensure alarms, communication equipment and procedures effectively enable evacuation of hazardous areas. These drills are further discussed in the facility's IRM.

5.3 Mock Incident Drills

Periodic environmental incident drills are conducted as discussed in the facility's IRM. These drills are performed for training purposes and to verify the effectiveness of Henderson's environmental incident response systems.

5.4 Incident Response Debriefing

Post incident debriefings are held to discuss emergency response activities, share lessons learned and assess areas of opportunity for improvement (tools, preparedness, machinery, etc.). As appropriate based on the outcome of these debriefings, Henderson's incident response procedures are updated to reflect lessons learned.

5.5 Incident Investigation

All safety and environmental incidents are thoroughly investigated to determine their root cause(s) and to assess opportunities for future prevention of similar incidents.

6.0 EMERGENCY RESPONSE PROCEDURES

The facility's IRM details the procedures to be followed in an emergency situation as well as the responsibilities specific to the Emergency Response Coordinator (ERC) and reporting/notification requirements.

7.0 EVACUATION PLANS

Due to the size and complexity of the Mine property, evacuation plans/procedures have been divided into two categories, general procedures and area-specific procedures.

7.1 General Procedures

Immediately upon observing an incident, employees, contractors and visitors are to evacuate the immediate vicinity and call security, if they have a radio, dial any channel "1 through 8" and call "Mayday, mayday, mayday". Immediately upon hearing the Mayday call, all employees, visitors, and contractors are required to stop what they are doing and listen for further instructions, observing radio silence in the meantime.

Incipient stage fires or small spills shall be managed in accordance with the facility's Emergency Response Procedure and only by designated and properly trained personnel.

It is improbable that an incident would require evacuation of the entire property. Thus, area-specific evacuation instructions will be conveyed to personnel over the radio.

7.2 Area Specific Evacuation Plans

Area-specific evacuation plans and maps are maintained at individual locations throughout the site. These plans are:

- Reviewed/tested at least once per year by area representatives and Safety Personnel;
- Communicated to employees, contractors and visitors during orientation; and
- Posted throughout the area.

It is the responsibility of the area/department to ensure that contractors and visitors are aware of these plans and procedures

8.0 EMERGENCY RESPONSE EQUIPMENT AND CAPABILITIES

Emergency equipment is located throughout the Mine in close proximity to areas that have an increased risk for potentially harmful releases and incidents. A list of available emergency response equipment is provided in Appendix B. This list includes the location and physical description of the equipment, as well as a brief outline of the equipment's capabilities.

8.1 Emergency Response and Communication Equipment Maintenance and Testing

Emergency response and preparedness equipment is inspected by the area in which it is located, with the exception of annual fire extinguisher inspections, which are contracted to a private company. Preventive maintenance of other critical equipment is managed through Henderson's Preventive Maintenance System (SAP). Emergency response and preparedness equipment is also tested during evacuation drills and mock incident drills, which are discussed in Section 5.0 of this Contingency Plan. Emergency equipment located in the central accumulation area at the Henderson Mine is inspected and tested weekly.

Available emergency response and preparedness equipment is listed in Appendix B and includes telephones, radios, and voice communications.

8.2 Emergency Response Teams & Capabilities

In additional to equipment specific capabilities, which are identified in Appendix B, Henderson Mine has the following internal emergency response organizations and capabilities.

Mine Rescue Personnel are Henderson employees who are available during their regular work shift, but are not on call 24-hours per day. The team consists of individuals trained in emergency medical response, rope rescue, confined space rescue, basic hazardous materials response and vehicle extrication.

Waste Collection Personnel are trained to the hazardous materials technician level and are able to respond to, contain and cleanup small to medium sized environmental releases.

Appendix A
Emergency Contact Information

Appendix A

Emergency Contact Information

EMERGENCY RESPONSE COORDINATOR CONTACT INFORMATION					
Title	**Name**	**Work Phone**	**Cell Phone**	**Home Phone**	**Address**
Primary	Miguel Hamarat	303-569-3221 x1233	303-476-3632		On file with security
Secondary	Bryce Romig	303-569-3221 x1204	303-809-1503	970-762-4104	On file with security
Backup	Hoistman	303-569-3221 x1320			

EMERGENCY NOTIFICATION CONTACTS	
NAME	**EXTENSION**
Hoistman	1320
Mill Control	2310
Boiler Operator / Pond Operator (Mill)	2263 or 2911 and/or radio channel 5

NAME	**EXTENSION**	**HOME PHONE**	**CELL PHONE**
Tom Gleaton	1342	303-384-9511	303-809-0737
Lee Fronapfel	1478	303-233-0369	303-549-9100
Fred Menzer	1215		303-667-9173
Eric Nordine	1368	303-567-9189	303-358-8569
Chris Rizzardi	1359	303-569-9488	303-471-7715
Weekend Duty Manager if occurrence is on the weekend.			

MINE RESCUE PERSONNEL			
NAME	**TITLE**	**HOME PHONE**	**CELL PHONE**
Tom Gleaton	Coordinator/Instructor	303-384-9511	303-809-0737
Albert Archuleta	Instructor	303-940-2063	303-940-2063
Art Davis	Instructor	303-808-3049	

Appendix B

Emergency Response Equipment and Capabilities

Appendix B

Emergency Response Equipment and Capabilities

UNDERGROUND EQUIPMENT / CAPABILITY		
EQUIPMENT	**LOCATION**	**CAPABILITIES**
Fire Protection Equipment		
Fire Truck	32A Cutout 92 at 9A 2T at 9 Bay 7065 Shop	Extinguishing of medium/large incipient stage fires
Fire Extinguishers	Various locations throughout facility.	Extinguishing of small incipient stage fires.
450 lbs. of dry chemical	Fire truck/rail flats	Extinguishing of small incipient stage fires.
100 gallons of six% AFFF	Fire truck/rail flats	Extinguishing of small incipient stage fires.
100 feet of twin agent hose	Fire truck/rail flats	Extinguishing of small incipient stage fires.
Three Dragger PA 90's	7700 Fire Truck	Emergency gas protection
Four Dragger PA 90's	7065 and 7500 Fire Truck	Emergency gas protection
Two Dragger PA 90's	Each fire flat	Emergency gas protection
PA90 Refill System	Fire truck/rail flats	Emergency gas protection
First Aid		
First Aid Kits	Various locations throughout facility.	Management of injuries/illness prior to arrival of Emergency Response Team.
Automatic Defibrillators	Various	Resuscitation of cardiac arrest patients.
Medical Oxygen Bottles	Various	Emergency Oxygen supply
Eyewashes and Emergency Showers	Various locations throughout facility.	Decontamination of employees, contractors, and visitors.
Communications		
Bell Phone System	Various	Internal/external notification of incidents, coordination of emergency response activities and requests for assistance.
Radio System	Various	Internal notification of incidents, coordination of emergency response activities and requests for assistance.
Red Gaitronics Phones	Various	Internal notification of incidents, coordination of emergency response activities and requests for assistance.
Voice	Various	Notification of evacuations in the immediate vicinity of an incident and communication during an emergency response.
Spill Response/Containment Equipment		
Heavy Equipment	Various	Constructing containment around large environmental releases.
Spill Kit / Clean Up Materials	Various	Containment and clean up of minor leaks or spills.

Appendix B

Emergency Response Equipment and Capabilities

ABOVEGROUND EQUIPMENT / CAPABILITY		
EQUIPMENT	**LOCATION**	**CAPABILITIES**
Fire Protection Equipment		
Fire Extinguishers	Various locations throughout facility.	Extinguishing of small incipient stage fires.
First Aid		
First Aid Kits	Various locations throughout facility.	Management of injuries/illness prior to arrival of Emergency Response Team.
Automatic Defibrillators	Various	Resuscitation of cardiac arrest patients.
Medical Oxygen Bottles	Various	Emergency oxygen supply
Eyewashes and Emergency Showers	Various locations throughout facility.	Decontamination of employees, contractors, and visitors.
Communications		
Phone System	Various	Internal/external notification of incidents, coordination of emergency response activities and requests for assistance.
Radio System	Various	Internal notification of incidents, coordination of emergency response activities and requests for assistance.
Voice	Various	Notification of evacuations in the immediate vicinity of an incident and communication during an emergency response.
Spill Response/Containment Equipment		
Heavy Equipment	Various	Constructing containment around large environmental releases.
Spill Kit / Clean Up Materials	Various	Containment and clean up of minor leaks or spills.

Appendix C

Satellite and Central Accumulation Areas

Appendix C

Satellite and Central Accumulation Areas

Central Accumulation Area(s)							
Location	**Waste Type**	**Communications Phone/Radio**	**Fire Extinguishers**	**Source of Fire Water**	**Spill Control Materials**	**PPE**	**Alarms**
Hazardous Waste Storage Building	Hazardous Waste PCB Waste	Phone and Radio	Readily Available	Process Water	Readily Available	Readily Available	Through Gaitronic Phone System

Satellite Accumulation Area(s)							
Location	**Waste Type**	**Communications Phone/Radio**	**Fire Extinguishers**	**Source of Fire Water**	**Spill Control Materials**	**PPE**	**Alarms**

The Henderson Mine has the potential to become an episodic Large Quantity Generator (LQG) of hazardous waste. In such events, Henderson will implement this *Henderson Mine Hazardous Waste Contingency Plan*.

Appendix E
Water User Advisory Procedure

Water User Advisory Procedure

- Dial 303-679-2393
- Identify yourself and tell the dispatcher you need to launch a Code Red Downstream Water User Advisory
- Read this language to the dispatcher, filling in specific information:

"This is a code red downstream water user advisory, launched at the request of (*name and agency*). A possible contaminant (*specify if known and approx. quantity*) may have been released into Clear Creek at (*location, date and time*). This notice is provided so you can take whatever precautionary measures you deem appropriate. There is no further information at this time. Please do not call Clear Creek dispatch for further information."

Approved by Clear Creek County Dispatch August 8, 2011

Approved and adopted by UCCWA membership August 11, 2011

Note: This procedure does not replace the need to notify the State Environmental Release and Incident Reporting Hotline.

Appendix F

Henderson Waste Management Plan

WASTE
MANAGEMENT PLAN

Climax Molybdenum Company
Henderson Operations
P.O. Box 68
Empire, CO 80438

November 2012

Doc Owner: Environmental Staff
Doc Class: EMS

Climax Molybdenum
A Freeport-McMoRan Company

TABLE OF CONTENTS

REVISION HISTORY

Revision Date	Completed By	Summary of Revisions or Record of Review
May 2010	M. Hamarat, M. Siron	Original issue of document.
May 2011	A. Moran	Review of document
Aug 2011	M. Siron	Added a new PCB collection area to 9a Substation , mine
Dec 2011	M. Siron	Henderson Mine Waste Accumulation Areas table updated for the mine.
Feb 2012	M. Siron	Henderson Mine Waste Accumulation Areas table updated for the mine.
May 2012	M. Siron	Henderson Mine Waste Accumulation Areas table updated for the mine.
Nov 2012	M. Siron	Henderson Mine Waste Accumulation Areas table updated for the mine.
Nov 2012	T. Haynes	Annual Document Review
Dec 2012	M. Siron	Henderson Mine Waste Accumulation Areas table updated for the mine.
Dec 2012	G Clothier	Per C011, added Used Oil Analysis requirements p.8.
Apr 2013	M. Siron	Henderson Mine Waste Accumulation Areas table updated for the mine.

1.0 INTRODUCTION

Climax Molybdenum Company's Henderson Mine and Mill (Henderson) generates various types of wastes in connection with its mining, milling and associated operations. This Waste Management Plan serves as a guide to ensure the proper management, including disposal, of wastes generated by Henderson. This Plan is not intended to be relied upon in place of applicable regulatory or other legal requirements.

This Plan serves the following primary objectives:

- **Proper Disposal of Regulated Wastes -** Various wastes generated by Henderson meet regulatory definitions that trigger prescribed waste management requirements. Under these rules, Henderson is obligated to manage affected wastes in accordance with the applicable rules. One such example includes the hazardous waste rules. Applicability of the hazardous waste rules, and others, are discussed in more detail below.

- **Minimize Exposure to Environmental Liability -** The intent behind waste management procedures at Henderson extends beyond complying with applicable requirements. For instance, Henderson is focused on minimizing its exposure to potential environmental liabilities. Avoiding liabilities related to environmental contamination and associated clean up obligations is an important consideration at Henderson, and reflected in how it manages waste. Many of the waste management efforts at Henderson are aimed at minimizing exposure to such liabilities, rather than adhering to specific legal requirements.

Waste Minimization - Henderson is committed to reducing the quantity of hazardous and other waste it generates where practicable. Waste recycling is a key component of Henderson's commitment to pollution prevention and waste minimization. To the extent practicable Henderson strives to recycle as many materials/wastes as possible. All recycling is managed through the Environmental Department to ensure that the recycling is effective and complies with all applicable requirements and restrictions. These goals are reflected in the Waste Minimization Goal Statement below.

Waste Minimization Goal Statement

This statement serves as a waste minimization goal statement for Climax Molybdenum Company.

It is the goal of Climax Molybdenum Company to reduce hazardous and non-hazardous waste generation at all Colorado Operations facilities. This goal will be met through continuous training, routine inspection, operational interface, implementation of programs attendant to new or changing regulation, planning of new activities, and persistent evaluation of waste management practices. Several waste minimization methods have been initiated and are outlined below. Additional goals are outlined in the Climax Molybdenum Company Management and Procedures Manual, which serves as both company policy and objective for the management of wastes and materials on site.

- Lead-acid batteries are traded in at the warehouse for recycling. Fluorescent tubes and vapor light bulbs are also collected for recycle.
- Operators are asked to confer with the environmental department prior to purchase of a new product that may result in the addition of a new or increased volume of waste.
- Every effort is made to completely use products purchased, the ordering of materials in quantities above normal use is discouraged to avoid expiration or putrefaction of product.

- Used oil is delivered to the used oil tank; suspect oils are tested prior to delivery to the used oil tank using kit type chlorine detectors; and used oil is recycled where possible.
- Training has been provided to facilitate the identification of hazardous wastes to prevent mixing of hazardous waste with other wastes, thereby increasing decreasing hazardous waste generation.
- Scrap metal is accumulated for recycle.
- Goals have been established to route non-hazardous waste streams such as tires, empty and drained barrels, oil filters, and aerosols to consolidation areas for recycle.
- A consolidated recycling program takes advantage of recyclable good, including paper, flat cardboard, aluminum and plastics. Additional recycling outlets for corrugated cardboard and wood is also made possible through this program.
- Employees are encouraged to target specific work areas for housekeeping and cleaning opportunities that result in reducing the overall volume of product on site.
- SPCC Plan provides for the comprehensive management of materials on site and is in part intended to minimize the amount of product that would otherwise ultimately be classified as a waste material.

The starting point for the proper management of waste generated at Henderson is to properly categorize the waste. Different wastes are subject to varying levels of regulation, pose a variety of environmental contamination risk, and are managed accordingly.

Wastes generated at Henderson fall within the following five categories, as described in Sections 3.0-8.0 of this Plan:

- Solid (non-hazardous) Waste/Trash
- Universal Waste
- Special Waste
- Hazardous Waste
- Petroleum Contaminated Soil (PCS)

Training requirements - Henderson personnel are trained on a broad range of environmental topics, including the topics outlined in the waste management system. **Environmental training** is conducted for all new employees during the required 40-hour MSHA initial training, and annually either during the 8-hour refresher training or during separate environmental training conducted for all Henderson employees.

2.0 CHEMICAL PURCHASING & DISPOSAL

2.1 Chemical Purchasing

Henderson utilizes various methods to characterize the waste it generates, including sampling/analysis and reliance on generator knowledge. Henderson's New Product Approval Procedure and the ESS Waste Module (Characterizations) are important components of this waste characterization process. This procedure applies to all chemical purchases, including those made through the warehouse, direct orders and by purchase cards. The Environmental and Safety Departments will review the chemical and its use and advise the receiving departments of applicable management and disposal requirements. If it is discovered that the proper procedure is not followed, chemicals brought on site will be "quarantined" in the warehouse pending the required review.

The product approval procedure requires that new products brought on site be evaluated by the Environmental Department to, among other things, properly characterize waste that may be generated from the use and disposal of the product. Information generated from this characterization process is entered into the Henderson Waste Determination Database, which includes details about the waste such as Resources Conservation Recovery Act (RCRA) waste code designations. It is important that new chemicals go through this review to ensure that all wastes generated at Henderson are properly characterized.

Henderson utilizes 3E Company's 1-800 MSDS Compliance System. All employees have been trained on how to use the system during initial MSHA training, as well as during annual MSHA refresher training. Refer to the Safety or Environmental Departments for more information.

To the maximum extent practicable, Henderson will limit the purchase of chemicals that, when disposed of, may generate hazardous waste. Particular attention will be given to chemicals that generate listed hazardous wastes. These chemicals will be purchased only when no reasonably available alternatives exist.

To the maximum extent practicable, chemicals will be purchased in totes, drums or containers that can be returned to the vendor. Additionally, preference will be given to larger-sized containers in an effort to reduce the number of chemical items handled and related risks of spillage.

2.2 Disposal of Unused Chemicals

The preferred approach to managing unused chemicals is to find a use for them. So long as a chemical is used for its intended, or a legitimate alternative purpose, it is not subject to waste regulation. Unused chemicals, both solids and liquids that cannot be used must be properly characterized prior to disposal. Regardless of their composition, free liquids may not be disposed of in the onsite landfill. Debris, including environmental media contaminated with these materials must be managed in accordance with the PCS procedures specified in Section 8.0 of this Plan.

3.0 SOLID (NON-HAZARDOUS) WASTE

Solid waste (trash) is comprised of waste that is subject to relatively little regulation and poses minimal environmental contamination risk. Trash includes such items as office waste and other materials that are appropriate for disposal in dumpsters that are disposed of in non-hazardous solid waste landfills.

Routinely generated non-hazardous solid waste, including lunchroom wastes, paper, non-recyclable scrap metal (including non-returnable drums that have been crushed), demolition debris (e.g., scrap wood, non-recyclable scrap metal, concrete), and maintenance shop wastes (e.g., drained and crushed oil filters and floor clean-up) will be placed in the trash as non-hazardous municipal waste.

The Henderson Mill operates an onsite landfill, which is governed by the Colorado Division of Reclamation, Mining and Safety, under Henderson's Mined Land Reclamation Permit. The landfill is solely used for the disposal of non-hazardous debris generated at the site, including concrete, mill spill (crushed material from the mill circuit), and uncontaminated excavation spoils. General non-hazardous waste material is disposed of in the appropriate roll-off dumpsters. Hazardous wastes and free liquids are not allowed to be disposed of in the landfill or in roll-off dumpsters. Refer to Section 11.0 or consult with the Environmental Department for additional details requiring disposal restrictions for the landfill.

Sludge generated at the Urad industrial water treatment plant are managed in surface impoundments at the Urad site and disposed of as necessary at an appropriate landfill. As required under the Solid Waste Rules and the landfill's permit and associated waste management procedures, the sludge is subject to analytical and profiling requirements prior to disposal.

Mixed Household and Office Recyclables

Mixed household and office recyclables include paper, miscellaneous cardboard, glass, plastic containers, aluminum, steel, and tin. These materials must be segregated from other trash according to the Recycling Procedures found on the Environmental SharePoint Site.

Used printer and copier toner cartridges are also collected in separate containers and returned to the vendor or otherwise recycled.

Corrugated Cardboard

Corrugated cardboard is segregated from mixed recyclables for compaction and bailing, prior to disposal in the appropriate containers.

Wood

Various types of wood waste are generated at Henderson, including pallets, packaging materials, mine structural workings, landscaping and haulage system railroad ties and other demolition materials. Pallets that have not sustained excessive damage are reused. Wood that is to be disposed of is placed in the appropriate roll-off container after proper characterization. It is the preference of the recycler that the wood does not contain large pieces of metal (i.e., spikes, rebar, etc.)

Scrap Metal

Henderson ships scrap metal waste offsite to be recycled for salvage value. Fluids including lubricants, fuels and refrigerants must be separated from scrap metal prior to placement in scrap metal accumulation areas. Scrap metal should not be disposed of in the landfill or in trash roll-off containers, particularly waste that may display hazardous characteristics such as welding rod.

The Environmental Department must be notified of pipeline or other metal equipment that may include the presence of technically enhanced naturally-occurring radioactive materials (TENORM). This is typical of equipment associated with process circuits and slurry conveyance lines (e.g. flotation cells, pipelines). Scale and buildup in this equipment is commonly suspect for TENORM. All efforts shall be made to remove this foreign matter from metal destined for offsite disposal.

Used Vehicle Tires

Used vehicle tires are generally returned to the vendor for recycle. To the extent possible, vehicle tires are to be purchased only from vendors who will accept exchanges of used tires for new tires purchased. Used vehicle tires that will be returned to the vendor must be stored in a well-organized manner until returned to the vendor or shipped off site for disposal. Tires that cannot be returned to the vendor will be disposed of in an approved industrial landfill.

Empty Drums

Metal drums received on the property are generally returned to the vendor, sent to a drum recycler or otherwise recycled for scrap metal recovery. Empty metal drums are taken to the Oil Storage Building and placed in designated areas for return to the vendor or other recycling. Drums are considered to be empty only after they have been emptied as described in this Plan. Drums must be stored in a well-organized manner and either covered or otherwise arranged to prevent collection of rain water and snow.

4.0 UNIVERSAL WASTE (40 CFR 273)

One category of hazardous waste, known as "universal waste," is subject to reduced regulatory requirements under Title 40 of the Code of Federal Regulations (40 CFR), Section 273. The universal waste rules provide an alternative set of management standards that generators may choose to follow in place of the hazardous waste rules. Universal wastes are generated from a broad range of generators and processes. The Universal Waste Rule provides an alternative set of reduced management standards that the generator can follow instead of the full hazardous waste requirements. This rule was designed to reduce the regulatory burden on non-residential entities that generate these wastes and to encourage recycling, while at the same time reducing the amount of hazardous waste items illegally sent to municipal solid waste landfills, thus reducing a potential threat to public health and the environment. The universal waste rules only apply to these wastes if they would otherwise be regulated as a hazardous waste, either characteristic or listed. The Colorado hazardous waste rules include the following universal wastes generated at Henderson:

- Batteries
- Aerosol cans
- Mercury-containing devices
- Lighting wastes (lamps)
- Electronic wastes

An assessment of universal waste management practices is conducted quarterly to ensure universal waste is being managed properly and in accordance with applicable regulations. The Henderson Mine and Mill Universal Waste Inspection Forms summarize applicable criteria and are used to document the inspection.

Small quantity handlers of universal waste are required to inform all employees who manage universal waste about the proper handling and emergency procedures appropriate to the types of universal waste at the facility.

Universal waste can be accumulated for up to one year from the date it became a waste. The item, closed container, or sufficiently contained area is to be marked as universal waste with the earliest date that waste began accumulating in that container or area.

4.1 Mobile Equipment Lead-Acid Batteries

Lead-acid batteries from mobile equipment are managed under the universal waste regulations, and as such must be handled, stored and recycled appropriately. The following procedures must be followed:

- Used batteries are managed under the universal waste regulations.

- To the extent practicable, mobile equipment lead-acid batteries are to be purchased only from vendors who will accept exchanges of used batteries for new batteries purchased.

- Used lead-acid batteries are to be returned to the battery vendor on a one-for-one trade for new batteries. These batteries will be sent back to a manufacturer for regeneration or reclamation.

- Prior to return to the vendor, used lead-acid batteries will be stored in the Warehouse (mine) or hazardous waste building (mill) in a well-organized manner that prevents the release of any hazardous constituents to the environment.

- Warehouse personnel will maintain a log of vehicle and forklift lead-acid battery requisitions and record shipment of BO batteries to document that all batteries are returned to the vendor for regeneration or reclamation.

- Lead-acid batteries that are not returned to the vendor for regeneration or reclamation must be managed as hazardous or universal waste.

4.2 Aerosol Cans

Aerosol cans are managed under the universal waste regulations. Aerosol cans are left intact and the can and contents are disposed of in designated waste aerosol can containers. All aerosol cans are managed per the Aerosol Can Management Procedure.

4.3 Lamps

Spent lamps are managed under the universal waste regulations. Many commonly used lamps contain small amounts of mercury and other metals. Such lamps include fluorescent, compact fluorescent, high-pressure sodium, mercury vapor and metal halide lamps. All lamps (including green tipped) are collected and sent off site for recycling per the Lamp Management Procedure.

4.4 Mercury Containing Devices

Mercury containing devices are managed under the universal waste regulations. Waste mercury-containing devices are commonly generated by industrial operations. Such devices include mercury thermostats, thermometers, manometers, barometers, blood pressure cuffs, electrical switches and relays, gauges and flow regulators, pyrometers, thermocouples and vacuum pumps. As such, all mercury containing devices are collected and sent off-site for recycling.

4.5 Electronic Waste

Electronic waste is managed under the universal waste regulations. Many electronic devices contain individual components made with hazardous constituents, primarily heavy metals. Cathode ray tubes (CRTs) found in color televisions and color computer monitors contain significant amounts of lead. Printed circuit boards and complex circuitry found in computers and other electronic devices may contain lead, chromium, and silver and may exhibit the characteristic of toxicity. As such, electronic waste is collected and shipped off for recycle.

5.0 USED OIL AND FILTERS

Used Oil is a common waste stream associated with many industrial operations. If disposed of using traditional means, used oil would normally be regulated as a hazardous waste. However regulators have developed management standards for used oil that, when RECYCLED, preclude used oil from being regulated as a hazardous waste. This provides Henderson with a set of reduced management standards to follow instead of the full hazardous waste requirements. This rule was designed to reduce regulatory burden and to encourage recycling, while at the same time reducing the amount of hazardous waste illegally disposed of, thus reducing a potential threat to public health and the environment. Additional instruction for the collection, storage, labeling, analysis and proper recycling of used oil is included in the Used Oil Management Procedure.

5.1 Used Oil (40 CFR 279)

Used oil, greases, fuels and other petroleum products are sent off site for recycle, typically to be burned for energy recovery. Such materials that meet the definition of used oil must be managed in accordance with the used oil rules, which also prescribe procedures associated with used oil filters. Unknown materials must be properly characterized prior to disposal. Debris, including environmental media, contaminated with these materials must be managed in accordance with the PCS procedures specified in Section 8.0 of this Plan.

- Used oil that cannot be recycled will be characterized and, depending on the results, managed in accordance with the procedures for non-hazardous or hazardous waste specified in this Plan.

- To the extent possible, used oil will be recycled either by off-site processing to generate a useable product or burning for legitimate energy recovery. The Environmental Department will work with approved vendors to determine the appropriate disposition of used oil.

- Used oil, including oil that is recycled as well as oil that must be disposed of, will be placed acceptable containers and stored in the Hazardous Waste 180-day accumulation area or used oil storage area, as appropriate.

All containers used to capture, contain, store, transport or handle used oil generated by Henderson must be labeled with the words “USED OIL”.

All used oil shall be transferred to the used oil storage tank where it is hauled away by an approved used oil handler. The used oil storage tank must be labeled “USED OIL” and the fill pipe must be locked to prevent unauthorized disposal.

The used oil handler must perform an instant clearance analysis (HydroChlor or Q-4000) to check for any contamination such as chlorinated solvents for each pick up. They then must document the results on their documentation such as a Bill of Lading or Manifest. The Mine and Mill should do a waste characterization analysis on an annual basis.

Refer to Table 1 - Henderson Mine Waste Accumulation Areas and Table 2 - Henderson Mill Waste Accumulation Areas, for the specific locations where used oil is managed at the Mine and Mill.

5.2 Used Oil Filters (40 CFR 261.4(b)(13))

Used oil filters must be managed using one of the following methods:

- Puncturing the filter anti-drain back valve or the filter dome end and hot draining;
- Hot-draining and crushing;
- Dismantling and hot-draining; or
- Any other equivalent hot-draining method which will remove used oil.
- Drained oil filters will then be recycled (metal filters) or disposed of properly.

*"Hot Draining" means that the oil filter is drained at or near engine operating temperature and above room temperature (60°F). EPA recommends a minimum 12-hour hot-drain time for punctured or pierced used oil filters. Drained oil filters will then be recycled (metal filters) or disposed of properly.

Refer to Table 1 - Henderson Mine Waste Accumulation Areas and Table 2 - Henderson Mill Waste Accumulation Areas, for the specific locations where used oil filters are managed at the Mine and Mill.

Table 1
Henderson Mine Waste Accumulation Areas

Location	Haz Waste (SAA 90/180/270 -day storage)	Universal Waste	Recycled Waste	PCB Waste	Used Oil & Oil Filters
Hazardous Waste Storage Building	90/180/270 -day storage area	All	batteries	1-year storage area	Used Oil
Surface Maintenance Shop		1-Aerosol	2-TF Units		Used Oil and Filters
Main Dry			1-Batteries (all kinds)		
Main Office		Electronic Waste			
8100 Pump Station			1-TF Unit		
LA Surveyor Shop		1-Aerosol			
PC1/PC2		1-Aerosol			
7625 Station		1-Aerosol			
7700 Lube Bay		1-Aerosol	2- TF Units		Used Oil & Filters

Location	Haz Waste (SAA / 90/180-day storage)	Universal Waste	Recycled Waste	PCB Waste	Used Oil & Oil Filters
7700 Shop		1-Aerosol	4- TF Units		
7700 Warehouse			1-Pb Acid Batteries		
7500 Shop		2-Aerosol	3- TF Units		Used Oil and Filters
9A Substation (2-bay)		All			
93 AC (7500 for ventilation)		1-Aerosol			
7065 Truck Shop		1-Aerosol	1- TF Unit		Used Oil & Filters
7065 Lube Bay			1- TF Unit		
Crusher Lube Room		1-Aerosol			
Reclaim		1-Aerosol			
7065 C&C shop		1-Aerosol			
7175 refuge		1-Aerosol			
7175 Shop		1-Aerosol	4- TF Units (1 aqueous), 1 TF unit in lube bay		

Table 2
Henderson Mill Waste Accumulation Areas

Location	Haz Waste (SAA 90/180/270 -day storage)	Universal Waste	Recycled Waste	PCB Waste	Use Oil & Oil Filters
Car Barn (Loci Shop)	1-Solvent Rags	1-Aerosol	1- TF Unit		1-Used Oil
Hazardous Waste Bldg	90/180/270 -day storage area	1-Hg Lamps 1-Computers	1-Batteries (Pb Acid)	1-Small PCB Capacitors	
Mobile Equipment Shop	1-Solvent Rags	1-Aerosol	1- TF Unit 1-Tires		1-Used Oil and Filter
Pond Shop		1-Aerosol	1- TF Unit		
PC2/PC3		1-Aerosol			
Mill Maintenance Shop	1-Solvent Rags	1-Aerosol 1-Hg Lamps	1- TF Unit		
Mill Building – Mill & Float Area		2-Aerosol			
Lab	1-Acetone 1-AA Machine Effluent				
Shop Warehouse			1-Batteries (dry cell)		
Mill Office Parking Lot			1-Scrap Iron 1-Mixed Recyclables 1-Cardboard 1-Pallets		

6.0 SPECIAL WASTE

Special waste includes materials that do not meet the regulatory definition of a hazardous waste, which is described in detail in Section 7.0. What distinguishes special waste from trash is that it is not suitable for disposal in the dumpster. The reasons to follow special handling procedures for special waste follow.

6.1 Poses Potential Risk of Environmental Contamination

As referenced above, Henderson waste management procedures are based on more than complying with applicable legal requirements. Henderson takes seriously its commitment to protect the environment and minimize the risk of environmental contamination. Certain wastes, although not subject to prescriptive waste management requirements, pose such risks, and warrant adherence to special waste handling efforts.

Various industrial chemicals would be examples of such special wastes. Although these chemicals may not meet regulatory definitions that would trigger hazardous waste or other regulation, they may contain ingredients that pose environmental risks if not properly managed. Additionally, liquids pose the increased risk of environmental contamination because of their mobility in the environment. It should be noted that the solid waste rules prohibit the disposal of free liquids in landfills.

6.2 Regulated by Specific Rules

Although the hazardous waste rules are an important set of requirements applicable to waste management at Henderson, numerous other regulatory programs also potentially apply to wastes generated. Following are examples of wastes historically generated at the sites that trigger regulatory requirements outside of the hazardous waste rules.

PCBs

Polychlorinated biphenyls or "PCBs" have been used extensively in electrical and other industrial equipment because of their heat resistant and fire-retardant characteristics. In recent years EPA and other entities have concluded that PCBs exhibit characteristics that are toxic to the environment. In an effort to minimize related risks associated with these toxic characteristics, Henderson has removed/replaced the bulk of its PCB-containing equipment. Henderson still uses certain equipment that contains PCBs, primarily capacitors at the Mill and small ballasts in various lighting fixtures. Any waste generated at Henderson that has the potential of containing PCBs is managed in strict accordance with EPA's PCB rules, under the Toxic Substances Control Act (TSCA). All PCB waste generated at Henderson is shipped for disposal to permitted PCB disposal facilities. In no case are untreated PCB-containing wastes disposed of in non-hazardous waste landfills.

Infectious (Medical)

Another type of waste that could potentially be generated at Henderson that is not disposed of in non-hazardous waste landfills is infectious waste.

Such waste is subject to special regulation under the Colorado Solid Waste Rules. Examples of infections waste include:

- Human blood
- Human tissue

- Human body parts
- Human blood products and body fluids

The handling and disposal of infectious waste at Henderson is managed in accordance with the Henderson Infectious Waste Management Procedure.

Asbestos (40 CFR 61.140-40, 61.157)

Asbestos is also subject to special waste handling procedures prescribed in the Colorado Solid Waste Rules. Asbestos containing materials (ACMs) shall be handled and managed in accordance with the Henderson Mill – Asbestos Operations and Maintenance Plan and the Henderson Mine – Asbestos Operations and Maintenance Plan. Typically, asbestos waste is generated during structural abatement projects. Since Henderson personnel lack the necessary licensing/training requirements applicable to such abatement activities, the sites rely on external contractors to perform such work and manage associated wastes. Asbestos wastes are generally disposed of offsite at specially-permitted facilities. Asbestos is only disposed of in the Mill landfill in strict accordance with applicable solid waste regulatory requirements.

Refrigerant

Henderson utilizes various types of equipment that contain refrigerants used for cooling purposes. Examples include refrigerators, drinking fountains, beverage machines and mobile equipment/stationary air conditioning units. These refrigerants are potentially subject to ozone-depleting substance (ODS) regulations, which impose strict requirements pertaining to required recycling of ODS and prohibitions on venting/disposal to the atmosphere. Prior to disposal/recycle, this equipment must be evacuated of any refrigerant by an approved and licensed refrigerant recycler. The equipment must be tagged as having been evacuated of refrigerant prior to accumulation for disposal or recycling. Additionally, appropriate records must be maintained to document that the refrigerant has been properly recycled.

Radioactive

Henderson generates very little waste that displays radioactive characteristics. Most radioactive materials at the sites are components of measuring devises that are completely sealed. Certain members of the Henderson Safety Department are trained radiation Safety Officers (RSO) and are responsible for managing radioactive materials. Radioactive sources are never disposed of in non-hazardous waste landfills, and are managed in strict accordance with applicable Nuclear Regulatory Commission (NRC) and Department of Energy (DOE) requirements.

7.0 HAZARDOUS WASTE

Hazardous waste meets specific regulatory definitions and as a result is subject to extensive regulation related to generation, characterization, accumulation, storage, treatment, shipment and ultimate disposal. Due to the strict nature of hazardous waste regulation, it is critical that proper hazardous waste determinations be made, and that the applicable rules are followed. Additionally, hazardous wastes can pose significant environmental contamination risk if disposed of improperly. Untreated hazardous waste generated at Henderson is never disposed of in non-hazardous waste landfills. The definitions of and proper management of hazardous waste is described below.

7.1 IDENTIFICATION OF HAZARDOUS WASTE

7.1.1 Characteristic

Characteristic hazardous waste displays specified characteristics that are considered to pose risk to the environment or persons handling the waste. Regulated hazardous waste characteristics include the following:

Ignitability

Ignitable hazardous waste poses the risk of catching on fire or otherwise detonating. Ignitable characteristic wastes are typically characterized by a low flashpoint. The regulatory definition of ignitable hazardous waste is specified in 40 CFR 261.21.

Corrosivity

Ignitable characteristic waste is typically characterized by a low or high pH, which poses health risks to humans in case of unprotected contact with the material. Corrosive waste also poses the risk of deteriorating certain materials, including storage containers or tanks. The regulatory definition of corrosive hazardous waste is specified in 40 CFR 261.22.

Reactivity

Reactive characteristic wastes are typically characterized by their instability; certain reactive hazardous wastes may react violently when combined with other materials, including something that is usually harmless like water. Under certain conditions, reactive hazardous wastes sometimes also pose the risk of generating toxic gases. The regulatory definition of reactive hazardous waste is specified in 40 CFR 261.23.

Toxicity

Toxic characteristic wastes are typically defined by two characteristics:

- Their tendency to dissolve in relatively weak acidic solutions, and
- As a result, liberate solutions with relatively high concentrations of specified contaminants.

Typically, the starting point for identifying a toxic characteristic hazardous waste is to identify the concentration of specified hazardous ingredients in the waste. The regulatory definition of toxic hazardous waste is specified in 40 CFR 261.24.

7.1.2 Listed

A waste is regulated as a listed hazardous waste based on the:

- Product from which the waste was generated, focusing on the hazardous ingredients contained in the product, and
- The process or use of the material involved.

Listed hazardous wastes are generally regulated more strictly than characteristic wastes. One example of this stricter regulation is that often times listed hazardous wastes are regulated as hazardous regardless of whether or not they display any hazardous characteristic or the concentration of hazardous constituents. Following are the four types of listed hazardous waste.

F-List

F-list wastes include various types of materials. The category of F-list wastes most likely to be generated at Henderson is solvent wastes. F-list solvents are chemicals that have been used for solvents characteristics and contain threshold concentrations of specified chemicals. Henderson pollution prevention and waste minimization efforts have effectively minimized the amount of F-list wastes generated at the site. The regulatory definition of F-list hazardous waste is specified in 40 CFR 261.31.

K-List

K-list wastes are wastes derived from specific manufacturing activities. Henderson does not generate any K-list wastes. The regulatory definition of K-list hazardous waste is specified in 40 CFR 261.32.

P-List and U-list

This category of wastes covers commercially pure, unused listed chemicals or formulations in which the particular chemical is the sole active ingredient. Also covered are residues from these products as well as soil, water or other debris that have been contaminated by one of the listed commercial chemical products. The regulatory definition of P and U-list hazardous waste is specified in 261.33.[1]

7.1.3 Waste Characterization

Henderson will determine if solid waste generated by its operations and activities are hazardous or non-hazardous (40 CFR 262.11).

A solid waste is a hazardous waste if it is not excluded from hazardous waste regulation, and it:

- Is listed as a hazardous waste in subpart D of 40 CFR part 261;
- Is mixed with a waste listed in subpart D of 40 CFR part 261; or
- Exhibits a characteristic of hazardous waste (ignitability, corrosivity, reactivity or toxicity) as described in subpart C of 40 CFR part 261.

In order to determine if a solid waste is a hazardous waste, Henderson will:

- Evaluate the exemptions found at 40 CFR 261.2 through 261.6;
- Review the listed hazardous wastes in subpart D of 40 CFR part 261;

- Either have the waste analyzed according to the methods set forth in subpart C of 40 CFR part 261, or apply knowledge of the hazard characteristic of the waste in light of the materials or the processes used.

Generator knowledge may be used when appropriate to characterize whether a waste is non-hazardous or hazardous. In particular, generator knowledge may be applied to characterize such materials as paper, untreated wood, concrete and food scraps as non-hazardous. In any case where generator knowledge is used as the basis for characterizing waste, appropriate documentation must be maintained.

For routinely generated wastes (e.g. waste solvent and used shop floor dry), representative sampling can be used in place of separate analyses of each individual batch of waste generated. Additional analyses must be performed if there is reason to believe that the hazardous characteristics of a particular waste differ from like waste previously analyzed.

Solvent generated from Henderson's Safety Kleen parts washers is managed under Safety Kleen's approved "Continued Use Program," and, as such, the solvent is excluded from solid waste regulation. Safety Kleen's "Continued Use Program" has received written approval from EPA, Region VIII and the Colorado Department of Public health and Environment. Documentation of this approval is maintained in the Environmental Files. Refer to Table 1 - Henderson Mine Waste Accumulation Areas and Table 2 - Henderson Mill Waste Accumulation Areas, for the specific locations of these solvent units at the Mine and Mill.

Hazardous waste determinations, including the evaluation of exemptions and the application of waste listings, can be extremely complex, and may require consultation with corporate or outside environmental and/or legal personnel.

Results of waste characterizations are summarized in the Henderson Waste Determination Database. Supporting documentation is included as appropriate. Henderson waste management procedures included in this manual assume that waste materials have been properly categorized as hazardous or non-hazardous solid waste.

7.2 USE OF CHEMICALS THAT MAY GENERATE HAZARDOUS WASTE

Use of solvents that becomes hazardous waste when disposed will be minimized to the extent practicable:

- Industrial soaps will be used wherever acceptable results can be achieved.
- Where use of an organic solvent is necessary, non-chlorinated solvents with a flash point of 140°F or greater will be used.
- Non-chlorinated solvents with a flash point of below 140°F may be used if necessary to achieve acceptable results where no acceptable alternative exists.
- Chlorinated solvent may be used only when alternative cleaners and solvents do not achieve acceptable results.

Hazardous waste cannot be deliberately mixed with non-hazardous material in order to avoid hazardous waste regulation. When waste solvents that are listed hazardous wastes (40 CFR 261.30-33) are mixed with other materials, the entire mixture must be managed as hazardous waste (40 CFR 261.3(a)(2)(iv)).

With the exception of the use of Safety Kleen solvent, CRC Natural Degreaser and CRC 226 discussed above, the mixture of any solvent used (including Carburetor Cleaner and CRC Contact Cleaner), and <u>any other</u>

materials (e.g., rags used to wipe off the solvent and grease or dirt, absorbent used to clean up a spill of solvent) will be considered to be hazardous waste and will be managed in accordance with the procedures found in this Plan, unless determined by Environmental Department personnel to be non-hazardous.

The use of chlorinated and/or fluorinated solvents for "spray-on and evaporate" uses such as electrical contact cleaning does not involve the generation of a waste and is not subject to regulation. However, when the same solvent is used in a "spray-on and wipe off" application, the rag used to wipe off the solvent/dirt and grease mixture must be managed as hazardous waste.

Rags or clean-up debris generated without use of chemicals that are known to generate hazardous waste, may be disposed of as solid, non-hazardous waste, so long as there are no free-flowing liquids (i.e. the waste passes the RCRA paint filter test). Consult with the Environmental Department if any questions exist regarding a chemical's potential regulation as a hazardous waste. In some cases, the waste may need to be analyzed to make a hazard determination.

7.3 EMPTYING OF CONTAINERS THAT CONTAIN HAZARDOUS WASTE (40 CFR 261.7)

The following procedure applies to all containers that hold chemicals that are regulated as hazardous waste once they become a waste. Contact Environmental Department personnel if there is any uncertainty regarding the applicability of this section.

7.3.1 Non-aerosol Containers (except acute hazardous waste)

During use, empty the container of all material by its normal means (e.g., pouring, pumping). Inspect the container to ensure that less than 1 inch or 3% by weight of the total capacity of the container remains in the container (0.3% if the container is greater than 119 gallons). If more than this amount of material remains in the container, it must be used or emptied into a satellite accumulation drum.

If the container has an inner liner, the container is empty when the inner liner has been removed, but the liner must be emptied to the same specification as described above for it to be empty.

Once emptied by this procedure, the container should be placed in the scrap metal container for recycling or disposed of as solid, non-hazardous waste.

7.3.3 Hazardous Wastes that are Compressed Gases

Henderson uses gases such as acetylene and propane products that are returned to the vendor for refilling. They may be considered to display hazardous waste characteristics of ignitability or reactivity if they are determined to be a waste. Unless containers of these waste materials are emptied through use or subsequent emptying and capture of the remaining gas, the containers must be managed as hazardous waste. Once empty, the containers can be disposed of as scrap metal. Containers of these gases are considered to be empty when the tank pressure approaches atmospheric pressure.

7.4 ACCUMULATION AND PACKAGING OF HAZARDOUS WASTE PRIOR TO SHIPMENT

7.4.1 Satellite Accumulation (6 CCR 1007-3, Section 262.34(g))

Satellite accumulation areas (SAAs) are located in various maintenance shops and other locations as needed. (Refer to Table 1 - Henderson Mine Waste Accumulation Areas and Table 2 - Henderson Mill Waste Accumulation Areas for the specific locations of satellite accumulation and 180-day storage areas at the Mine and Mill.) The following procedures must be carried out for SAAs:

- The drums must be marked “HAZARDOUS WASTE SATELLITE ACCUMULATION” or with other words that indicate its contents.

- Only one drum per waste stream at each satellite accumulation are may be used. Separate drums at each location will be used to collect spent solvents or paint and related wastes, as appropriate.

- Drums must be Department of Transportation 1A1 or 1A2 type drums with a bung hole opening for liquid wastes. A cover for the bung hole must be utilized to close the drum at all times that waste is not being added or removed.

- Additional SAAs or drums at existing areas may be instituted only with approval from Environmental Department personnel. In this event, the area supervisor and Environmental Department must assure that proper documentation kept and an inspection work order initiated.

Before the total quantity of hazardous waste accumulated in any one SAA reaches 55 gallons, the drum(s) must be moved to the storage area. Henderson maintenance personnel must notify the Environmental Engineer immediately if the total amount of hazardous waste in the accumulation drums at any one location reaches 55 gallons. If the total reaches 55 gallons, the waste container must be labeled as Hazardous Waste and dated as being generated at that time, regardless of whether the waste has been transferred to the storage area or not.

When waste from a SAA is moved to the hazardous waste storage area building:

- Environmental Department personnel will document in the waste accumulation inspection records the placement of the waste in the storage area; and

- The satellite drums when full will be transferred to the 180/270 day storage area .

If possible, the Environmental Engineer (or his designee) will arrange for the contents of the drums to be consolidated and taken to the hazardous waste storage area on a schedule such that the total generation of hazardous waste (i.e., the amount logged into the storage area) will remain under 1,000 kilograms in any given month.

7.4.2 Management of Non-Routinely Generated Hazardous Waste

The Environmental Engineer should be immediately contacted if hazardous wastes are generated from non-routine sources (e.g., rupture of a mercury electrical switch or spilling of hazardous waste during transport to the storage area).

Any hazardous waste generated in an area without a satellite accumulation station will be immediately taken to the hazardous waste storage area. Environmental Department personnel will determine the weight of such waste, place it in the appropriate storage drum and enter it into the log book as part of the monthly generation.

7.4.3 Labeling (40 CFR 262.34(a))

Environmental Department personnel (or designee) will ensure that all hazardous waste satellite accumulation and storage containers are properly labeled.

Satellite accumulation containers will be labeled "Hazardous Waste Satellite Accumulation" or a similar descriptive name.

Hazardous waste containers in the storage area will be labeled as "Hazardous Waste" along with the accumulation date. If possible they will be marked with the contents of the container and its EPA hazardous waste number.

7.4.4 Tracking Generation Rates

Environmental Department personnel will track the amount, accumulation date and nature of all hazardous waste placed in the storage area, including any used Stoddard solvent or antifreeze waste generated at Henderson which is determined to be hazardous. Note that antifreeze is normally recycled.

If an estimate of the total monthly generation of hazardous waste in the satellite accumulation and storage drums indicates that Henderson may have generated over the 1,000 kilogram threshold for a Large Quantity Hazardous Waste Generator, the actual amounts of waste may be weighed to ensure that the estimate represents the proper waste generator status.

If more than 1,000 kilograms of hazardous waste will be generated in a single month, Environmental Department personnel must ensure that all management procedures comply with the requirements of 40 CFR 262.34 for Large Quantity Generators.

Environmental Department personnel will schedule periodic shipments of hazardous waste for disposal so that no waste remains on site for more than the following:

- 90 days from the start of accumulation for wastes generated in a month when 1,000 kilograms or more of hazardous waste are generated;
- 180 days (270 days if shipped more than 200 miles for disposal) from the start of accumulation for wastes generated in a month when between 100 or 1,000 kilograms of hazardous waste are generated, as long as the total amount in storage is less than 6,000 kilograms;
- Indefinitely as long as less than 100 kilograms per month of hazardous waste is generated each month, but within 180 days (270 days if shipped more than 200 miles for disposal) from the time that 1,000 kilograms are accumulated.

7.4.5 Preparedness and Prevention (6 CCR 1007-3, Section 262.34(d) and 6 CCR 1007-3, Sections 265.31 and 265.37)

The Hoistman/Mill Control and Environmental Department personnel are designated as Emergency Coordinators with responsibility for coordinating emergency response measures in accordance with applicable site emergency plans and procedures.

The following information must be posted next to the hoistman's/mill control's telephone and central accumulation area:

- The Emergency Coordinators' names and telephone numbers.
- The location of fire extinguishers, spill control equipment and fire alarms.
- The name and telephone number of the fire department.

Henderson will attempt to make arrangements with local police, fire, hospitals, emergency response teams, emergency response contractors, and with the local county health department, which are appropriate for the types of hazardous wastes handled at Henderson and the potential need for the services of these agencies.

7.4.6 Inspections (40 CFR 265.174, 6 CCR 1007-3, Section 262.34(d) and 6 CCR 1007-3, Section 265.32-36)

The hazardous waste storage area must be inspected on a weekly basis to confirm the following:

- No hazardous waste/materials have been released from any storage containers;
- All storage containers are in good condition, without leaks, and are compatible with their contents;
- All storage containers are closed (unless waste is being added);
- All storage containers are labeled as hazardous waste, and the contents and date of the start of waste accumulation are noted on each container;
- The emergency alarm and/or communication systems are in good working order;
- Fire protection equipment is on hand and has been tested during the preceding month;
- Spill control and decontamination kits are fully stocked with respirators, gloves, coveralls, shovel, dust pan, absorbent, plastic trash bags, duct tape and barricade tape; and
- Aisle space between containers is adequate to allow unobstructed movement of personnel, fire protection equipment and spill control and decontamination equipment.

The hazardous waste satellite accumulation stations must be inspected on a weekly basis to confirm the following:

- No hazardous waste/materials have been released from any storage containers;

- All storage containers are in good condition; without leaks, and are compatible with their contents;
- All storage containers are closed (unless waste is being added); and
- All storage containers are labeled as required, and the date of the start of waste accumulation is noted on each container.

A record of the of the storage and satellite accumulation area inspections must be retained for at least three years.

7.5 Packaging of Hazardous Waste for Off-Site Shipment (40 CFR 262.40-40, CFR 262.33)

On a frequency determined by Environmental Department personnel, hazardous waste of the same types (e.g., mercury vapor and fluorescent lamps and liquid ignitable wastes may be consolidated from the various satellite accumulation stations and placed in the hazardous waste storage area.

Liquid hazardous waste must be shipped for recycling in compliance with DOT regulations.

Solid or sludge hazardous waste (i.e., solvent contaminated rags or debris) must be shipped for recycling or disposal in compliance with DOT regulations.

The Environmental Engineer (or his designee) will be contacted to determine required packaging requirements for hazardous wastes other than those above.

Prior to shipment, drums of hazardous waste must be labeled and marked in accordance with Department of Transportation requirements found at 49 CFR 172, Subparts D and E. Appropriate placards, as required under 49 CFR 172, Subpart F for transport of hazardous materials must be offered to the transporter and must be properly affixed to the transporting vehicle before departing Henderson property.

8.0 CONTAMINATED SOIL/DEBRIS

Petroleum contaminated soil/debris (PCS) is defined broadly by Henderson to include any type of solid material that becomes contaminated with petroleum or other industrial chemicals. The procedures and considerations specified above in these Procedures apply to Henderson's management of PCS. The general approach is to characterize the PCS, make a waste determination and manage the waste in accordance with applicable regulatory requirements and related risk management procedures.

8.1 Potential Sources of PCS

PCS can potentially be generated from numerous sources at Henderson. Spills and releases of materials used on site and debris generated from their clean up are common potential sources of PCS.

Releases from Storage Tanks and Other Bulk Storage

Numerous petroleum and other chemical products are stored in bulk quantities at Henderson. The types, quantities and locations of these materials are identified in the Henderson Mine and Mill respective Spill Prevention Control and Countermeasures/Materials Containment Plans (SPCC/MCP). Additionally, various waste materials are accumulated at Henderson that could contribute to the generation of PCS. These waste accumulation areas and descriptions of the specific materials are identified in Table 1 - Henderson Mine Waste Accumulation Areas of Section 5.0 of this EMS Manual.

Failures of Industrial Operations and Equipment

In addition to stored materials, significant quantities of materials are contained in various pieces of equipment within Henderson operating processes. Examples of these materials include water treatment operations, process pipelines and the mill circuit. Failures of his equipment are another potential source of PCS.

Mobile Equipment Parking and Services Areas

Mobile equipment used at Henderson contains various types and quantities of petroleum and other chemicals. Examples of effected mobile equipment includes underground man-trips, loaders, drilling machines, roof bolters, loaders, pickup trucks, road graders, water trucks, as well and contract tanker trucks and cargo carriers. Releases from mobile equipment can potentially occur from a number of sources including leaking equipment, blown hoses and vehicle maintenance.

Historic Contamination Areas

Another source of PCS is areas of past spills and releases. Henderson personnel routinely inspect industrial areas to ensure that proper housekeeping is maintained and to identify potential environmental-related issues such as the presence of historic spills. Areas that show evidence of the presence of past spills are promptly addressed. Debris generated from such clean up is managed as PCS.

8.2 Characterization of PCS

As with any waste, the initial step in properly managing PCS is to make a waste determination. Based on this characterization, the PCS is managed in accordance with applicable regulatory requirements and related risk management procedures at Henderson.

Generator Knowledge

As discussed above in these Procedures, if the source of the PCS is known, typically generator knowledge can be applied to determine how the waste must be managed and available disposal options. Use of generator knowledge requires sufficient documentation of the basis for the waste characterization. Adherence to Henderson's New Product Approval Procedure, which is described in section 2.0, is an important element in the effective use of generator knowledge to characterize PCS. Another important tool for the use of generator knowledge, which is described in sections 2.0 and 6.0, is the Henderson Waste Determination Database.

Sampling

In some situations, such as with historic spills or wastes generated from unknown chemicals, generator knowledge may not be sufficient to make a waste determination. In such cases, sampling and an analytical determination will likely be required to characterize the waste. If sampling is required, the contract laboratory and/or contract sampler should be consulted to ensure that proper sampling techniques are used and that analysis for appropriate parameters is completed.

8.3 Reporting requirements

Spills or releases of certain types and quantities of materials potentially trigger reporting requirements. There are two basic types of reports related to spills and releases.

8.3.1 Internal Reports

Internal reports include those made to Freeport-McMoRan (FMI) employees or contract legal counsel. The initial point of contact is with the Henderson Environmental Department. If appropriate, additional site or FMI contacts may be notified. The Henderson Mine and Mill respective Incident Response Manuals (IRM) contain reporting diagrams with the appropriate contacts and their phone/pager numbers.

8.3.2 External Reports

Certain spills or releases trigger regulatory-based requirements to notify government agency contacts. External reporting will be managed by the Henderson Environmental Department in consultation with the corporate Environmental Land and Water Department (ELWD) and/or legal counsel. The Environmental Department will work with and keep Henderson management apprised of any incident that might trigger an external report.

8.4 Initial Response to Releases of Industrial Materials

With any response, the most important requirement is to protect the safety of site personnel. Henderson has sufficient resources and systems in place to safely and effectively respond to releases that may occur at the site. In certain situations, contracted external resources will be utilized. If personnel are unsure whether they can safely respond to a spill, or are not sure how to respond, their response must be limited to notifying their supervisor or the Environmental Department of the incident. The Mine and Mill IRMs describe the appropriate response procedures and include a checklist containing information that should be obtained and reported for the spill. The appropriate initial response to a release of industrial materials depends on different factors.

Type and Quantity of Material

Spills of relatively small quantities of nonhazardous materials may be responded to by site personnel as routine housekeeping matters. Spills of materials displaying hazardous characteristics need to involve the Environmental Department. Large spills that exceed quantities that can be cleaned up with normal spill kits also trigger the need for involvement from the Environmental Department.

Location of Release

Spills that are limited to shop areas or the underground are within Henderson's process area and are not considered releases to the environment. Spills that have the potential to reach surface water or other areas of the environment are to be reported to the Environmental Department to ensure that a proper response is made; this would include spills underground at the Mine that reach process water and pose the risk of being pumped to the surface.

Available Response Resources

Any spills that cannot be safely responded to with available spill kits are to be reported to the Environmental Department. Such spills may warrant the use of external emergency response resources. Additionally, personnel who lack appropriate training, or are otherwise unsure whether they can effectively and safely respond to an incident are to report the spill to the Environmental Department for response follow up.

8.5 PCS Clean Up

The cleanup of PCS is a different process than the initial response. The initial response step is limited to controlling and containing the released material. As with the initial response procedures, clean up procedures for spills of industrial materials depends on the nature of the spill.

8.5.1 Type and Quantity of Material

As a part of Henderson's commitment to pollution prevention and waste minimization, Henderson utilizes the least hazardous materials practicable in its operations and supporting activities. As such, many of the materials that may generate PCS are considered nonhazardous and can be disposed of in the landfill. The landfill must have an approved PCS plan and that they will likely require additional testing (BTEX, TPH, etc). As further described below, some PCS generated by Henderson triggers specific waste regulation that are not allowed to be disposed of in the landfill. Other PCS, although not subject to specific waste disposal restrictions, is not disposed of in the landfill, due to risk management considerations.

Non-Hazardous Chemicals

PCS generated from the cleanup of nonhazardous lubricants and other non hazardous chemicals can typically be disposed of in the landfill (trash), so long as the waste contains no free liquids. Floor dry or other absorbent materials are used to eliminate free liquids. In most cases generator knowledge can be used to determine whether or not these wastes are nonhazardous. In other situations laboratory analysis is necessary to make this determination.

In situations where it is not readily apparent what debris is contaminated with, laboratory analysis is necessary. Such an example includes floor dry cleanup from shop floors. Potential contaminants of the floor dry extend beyond chemicals stored in the area, and include such wastes as metal shavings and other materials from surrounding equipment. To ensure that an accurate waste determination/characterization is made, Henderson samples and analyzes floor dry PCS annually.

Hazardous Chemicals

PCS that is contaminated with hazardous chemicals must be evaluated by the Environmental Department to determine whether the waste is subject to hazardous or other waste regulation. PCS that triggers such regulation must be managed in accordance with the applicable regulatory program(s). PCS that is not subject to hazardous waste or other regulation still may display hazardous characteristics that pose potential environmental concern, and must be managed accordingly to manage these risks.

Quantity of PCS

In addition to hazardous characteristics displayed by PCS, the quantity of PCS to be disposed of is another important consideration in determining how best to dispose of the waste. Small, routine quantities of PCS that are nonhazardous may be disposed of in the landfill (trash). However, larger quantities of PCS, typically 55 gallons or more, are managed as special waste and sent offsite for disposal as industrial waste. Personnel who generate these relatively large quantities of PCS are instructed to notify the Environmental Department to arrange for their off-site disposal.

8.5.2 Location of PCS

The physical location of the PCS is another important consideration in cleaning up and disposing of the PCS. PCS generated in contained industrial areas such as maintenance shops is typically comprised of relatively small quantities and confined to impervious surfaces. These sources of PCS can usually be cleaned up and disposed of in the trash following ordinary housekeeping procedures.

The proper disposal of PCS from historic releases and other incidents that contaminate environmental media can be more complicated for various reasons including:

- Accurately delineating the extent of the contamination (Both aerial and depth)
- Issues surrounding the clean up processes, such as soil excavation and staging the PCS during cleanup prior to disposal
- Identifying and complying with applicable clean-up standards, which are sometimes on a site-specific basis
- Determining disposal requirements and applicable exclusions for PCS

Given the technical nature of these issues, Henderson typically works with contracted emergency response resources to ensure the proper disposal of PCS in these situations. The Environmental Department will coordinate these efforts.

9.0 MANIFESTS (40 CFR 262.20-40, CFR 262.23)

9.1 Manifests

The Environmental Engineer or off-site waste disposal facility will fill out all required information on a hazardous manifest for off-site shipment of waste.

The manifest form must be signed by one of the following RCRA and DOT trained individuals:

- Environmental Department personnel
- Warehouse or Maintenance Supervisor

For wastes subject to land disposal restrictions, a land disposal notification must accompany the waste shipment to the treatment and disposal facility (40 CFR 268.7(a)(1))

The transporter must sign and date the manifest upon accepting the waste for shipment.

A copy of the signed manifest will be retained for at least three years.

The returned copy of the manifest with the handwritten signature of the owner or operator of the recycling or disposal facility must be received within 60 days of shipment (SQG), and retained in the Environmental files for at least three years.

Please refer to the Manifest and LDR Requirements Procedure for detailed information on manifest and LDR requirements.

9.2 Exception Reports (40 CFR 262.42)

No exception reporting is required for shipments containing hazardous waste generated in quantities of 100 kilograms per month or less.

For shipments of wastes generated in months when Henderson has generated more than 100 but less than 1,000 kilograms per month of hazardous waste, the Environmental Engineer will notify the Colorado Department of Public Health and Environment, Hazardous Materials and Waste Management Division, of an exception and file a legible copy of the manifest with the Region if the signed returned copy of the manifest from the recycling or disposal facility is not received within 60 days of the shipment.

For shipments of wastes generated in months when Henderson has generated 1,000 kilograms or more per month of hazardous waste, Environmental Department personnel will:

- Contact the transporter and the facility to determine the status of the shipment. If the signed return copy of the manifest from the recycling or disposal facility is not received within 35 days of the shipment.

- File an Exception Report with the Colorado Department of Public Health and Environment, Hazardous Materials and Waste Management Division, if it does not receive the signed return copy within 45 days of the shipment. The Exception Report must include a copy of the original manifest and a cover letter signed by the Environmental Engineer describing the efforts taken to locate the shipment and the results of those efforts.

10.0 RECORD KEEPING AND REPORTING (40 CFR 262.40, CFR 262.44)

Copies of each manifest form, Exception Report, and Biennial Report (for years in which 1,000 kilograms or more of hazardous waste was generated in any single month) will be retained in the Environmental files for at least three years.

Records of any test results, waste analysis or other determinations made in evaluating whether wastes generated at Henderson are hazardous wastes must be retained for at least three years after the waste(s) were last sent off-site for treatment or disposal.

Records containing data used to determine treatment requirements for land disposal will be retained for at least five years after the waste(s) were last sent off-site for treatment or disposal.

The three year and five year periods for records retention are extended during any state or federal enforcement action regarding hazardous waste requirements.

The Environmental Engineer will place a one-time notice in the files for all materials that are excluded from the definitions of solid or hazardous waste pursuant to 40 CFR 261.2 - 261.6, but would otherwise be subject to land disposal restrictions (e.g., used batteries). The notice must state the material, the basis for the exclusion from the regulations, and the disposition of the material. (40 CFR 268.7(a)(6))

By March 1 of each even-numbered year during which Henderson has generated 1,000 kilograms or more of hazardous waste in any single calendar month, Environmental Department personnel must prepare and submit to the Colorado Department of Public Health and Environment, Hazardous Materials and Waste Management Division, a Biennial Report, on EPA Form 8700-13A, containing the following information for the previous year:

- Henderson's name, address and EPA identification number;
- The year covered by the report;
- The name, address and EPA identification number of each off-site facility to which Henderson sent hazardous waste for treatment, storage or disposal;
- The name, address and EPA identification number of each transporter used during the year for transport of hazardous waste to a treatment, storage or disposal facility;
- A description of all hazardous waste shipped off-site for treatment, storage or disposal during the previous year, including quantities of each waste type separated by EPA waste number and Department of Transportation hazard class;
- A narrative description of the efforts undertaken to reduce the volume and toxicity of hazardous wastes generated by Henderson;
- A description of the actual reduction achieved in the volume and toxicity of wastes generated by Henderson as compared to previous years for which data are available; and
- A signed certification.

Henderson must retain records of any arrangements made with local police, fire, hospitals or emergency response teams, emergency response contractors, and with the local county health department, which are appropriate for the types of hazardous wastes handled at Henderson and the potential need for the services of these agencies. (6 CCR 1007-3, Section 262.34(d) and 6 CCR 1007-3, Section 265.37)

11.0 HENDERSON MILL LANDFILL

Henderson maintains and operates a non-hazardous municipal waste landfill at the Henderson Mill tailings impoundment. Until recently, all non-hazardous waste generated at the Mill was disposed of in this landfill. With the implementation of the Henderson Waste Recycling Program, Henderson was able to contract a transport company to haul both recyclable material and municipal waste from the Mill for disposal and recycling. Therefore, primarily construction and demolition debris is currently disposed of in the Mill landfill at this time.

Under the Colorado Division of Reclamation, Mining and Safety (DRMS), Henderson is excluded from the Colorado Department of Public Health and Environment's (CDPHE) landfill requirements. However, under a related memorandum of understanding (MOU) between DRMS and CDPHE, Henderson is obligated to comply with the substantive requirements of these rules. As such, the Mill operates its landfill in accordance with the following provisions.

11.1 General Requirements

The following general requirements apply to the operation of the Mill landfill.

- **Prevention of PCB and Hazardous Waste Disposal:** Henderson has implemented a program at the facility for the detection and prevention of the disposal of polychlorinated biphenyl (PCB) and hazardous wastes. This program includes:
  - Prohibition of acceptance of waste generated offsite
  - Adherence to waste procedures specified in the Henderson Environmental Management Plan and Procedures Manual (EMPM)
  - Posting of signage in appropriate locations, including the landfill and dumpsters that identifies prohibited wastes
  - Inspections of dumpsters and the landfill to ensure that prohibited wastes are not disposed of at the site
  - Training of facility personnel to recognize prohibited wastes and prevent their disposal in the landfill
  - Notification of the Henderson Environmental Department if prohibited wastes are discovered in the landfill
  - Notification of the Colorado Department of Public Health and Environment (CDPHE) in appropriate situations
- **Nuisance Conditions:** Henderson ensures that nuisance conditions do not exist at or beyond the site boundary. All reasonable measures are employed to collect, properly contain, and dispose of scattered litter including frequent policing of the area. The facility is managed in such a manner to ensure that the following do not constitute a health hazard:
  - Noise, dust and odors
  - Attraction, breeding and emergence of birds, insects, rodents and other vectors
- **Water Pollution Prevention:** Henderson Mill operates under the following permits and controls to prevent pollution of water at the site:
  - Colorado Pollutant Discharge Elimination System (CPDES) permit

  - Stormwater permit and associated stormwater management plan (SWMP)

- **Aquifer Recharge Protection:** No significant aquifer recharge areas, as may be designated by the Colorado State Engineer's office or the Department's Water Quality Control Commission, are adversely impacted by solid waste disposal.

- **Storm Events:** The site utilizes: (a) A run-on control system to prevent flow onto the active facility during the peak discharge from a 25-year, 24-hour storm, and (b) A run-off control system to: (1) collect the water volume resulting from a 25-year, 24-hour storm event and (2) control the water volume resulting from a 100-year, 24-hour storm event.

- **Prevention of Waste from Leaving the Site:** The site is adequately secured to prevent waste material and debris from leaving the site. Waste material and debris is collected regularly and placed into the fill.

- **Control of Public Access:** The site controls public access, prevents unauthorized vehicular traffic, provides for site security both during and after hours, and prevents illegal dumping of wastes.

- **Burn Restrictions:** Solid wastes deposited at the site are not burned, except as allowed under required open-burn permits administered by the applicable authority.

- **Landfill Cover:** Henderson Mill provides adequate cover for waste deposited in the landfill to prevent ponding of water, wind erosion and water pollution.

- **Distribution of Waste on Landfill:** Wastes are distributed in the smallest area consistent with handling traffic to be unloaded.

- **Waste Compaction:** Wastes are placed in the most dense volume practicable using compaction or other approved methods

- **Minimizing Wind-Blown Debris:** To avoid wind-blown debris, Henderson Mill does not deposit waste in the landfill during periods of high wind velocities.

- **Prohibition on Sewage Disposal:** Henderson Mill does not dispose of raw sludges from wastewater treatment plants, septic tank pumping, or chemical toilet wastes in the landfill.

- **Prohibition on Disposal of Free Liquids:** Henderson Mill does not allow the disposal of liquid wastes or wastes containing free liquids in its landfill.

- **Site Restoration:** Henderson Mill is subject to reclamation requirements governed by the Colorado Division of Reclamation, Mining and Safety (DRMS) which ensures that, upon being filled, the landfill will be left in a condition of orderliness and good aesthetic appearance that blends in with the surrounding area.

- **Protection of Surface and Ground Water:** Henderson Mill operates its landfill consistent with these procedures to prevent the contamination of surface and groundwater from wastes disposed of in the landfill.

11.2 Water Monitoring

The Mill landfill is located within the Henderson 1-Dam tailing containment system, which is designed to capture and recycle seepage from the tailing impoundment. Various monitoring wells have been constructed and are used to monitor the effectiveness of this tailing seep collection system, and ultimate protection of surrounding groundwater. This monitoring system will be used to verify that the landfill is not adversely impacting water managed within the containment system. Based on hydrology analyses completed at the site, any contamination of subsurface water caused by the landfill would be expected to be detected in these wells. Refer to Henderson Mill Tailings Pond Hydrology Report (February 2004) and Henderson Mill Water Barge Project Hydrology Report (February 2005). The landfill groundwater monitoring program consists of three phases:

- Detection Monitoring
- Assessment Monitoring
- Corrective Action

Monitoring for potential impacts from the landfill is conducted according to the Water Monitoring Plan.

12.0 CONTRACTORS & OFF SITE FACILITIES

Prior to the use of any outside services for the transportation, disposal or recycling of hazardous waste, used oil, or other materials that may otherwise be regulated as hazardous waste, Environmental Department personnel shall evaluate the provider of that service for potential environmental liabilities.

The evaluation may include consultation with state or federal environmental regulatory agencies, other Freeport-McMoRan companies with knowledge of the facility, or may require a site visit or audit by Henderson personnel or third-party consultants.

Prior to contracting with any facility for such services, Henderson shall obtain copies of required permits and authorizations necessary for the operation of the off-site facility, or otherwise ensure that the facility has such documentation.

Appendix G

Release Report Form

Freeport McMoRan
Appendix G - Release Report Form

Note: Supervisor to Complete Sections 1 & 2 then Submit to Environmental Department ASAP

1.

Name of Reporting Individual____

Facility:____ **Phone No.**_____________________________

Date of Release:____________ **Time of Release:** _________________**Duration:**____________________

Material Released:___________________________

Properties of Released Material: ____

Is the material a product or a waste? ____

Estimated Volume of Release:_________________

Location of Release:____

Did the Release leave our property?____________

Cause of Release:____

____

2. **Material Released Onto: (Circle all that are appropriate.)**

Soil Cement Metal Water Air Other (Specify)

Clean Up Procedures:____

Estimated Amount of Material Recovered:____

Disposition of Recovered Material: ____

What are the hazardous constituents in the released material?____

Estimated quantities of Potentially Reportable Constituents:____

3. **Are there permits covering or affecting the area of release?**____

Steps Taken to Prevent Recurrence:____

4.

FMI Corporate Office Notified: **Date:**_______________________________ **Time:**_________________ **AM / PM**

Person Contacted:____

Release Reported to Federal Government: Yes No State Government: Yes No Voluntary Report: Yes No

Signature:____ **Date:**_____________________________

Reportability Analysis

NOTE: THIS PAGE TO BE COMPLETED BY LEGAL COUNSEL AND RETURNED TO FACILITY

Name of Facility: ____ **Release No.**__________________

Date of Release: ____

Concern	Yes	No	Comments
Air Release reporting required?			
Reportable to State?			
CERCLA Reportable to NRC?			
Permit Violation?			
RCRA Reportable? 40 CRF 264.56			
UST Release?			
SARA Title III Reportable?			
CWA Hazardous Sub. 40 CFR 117			
CWA Oil Discharge 40 CFR 110			
SPCC 40 CFR 112.4			
Pretreatment (to POTW) 40 CFR 403.12(f)			
PCB's (TSCA)			
Section 404 Dredging			
HTMA 49 CFR 171.15			
Reportable to Local Government?			

Additional Comments:

____
____
____
____
____
____

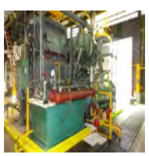
Signed: ____ **Date:** ________________________________

Appendix H

Inspection Checklists

Due Date: 6/13/2013

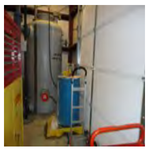
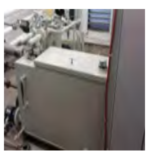
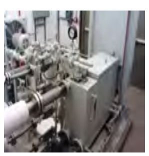
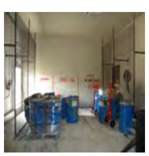
Item		Date & Inspector	Tanks	Ancillary Equipment	Foundation condition	Containments	Site Drainage	Liquid level sensing	Loading/Unloading Areas	Spill Equipment	Action Item
A1 - Storage Area South of 2 Shaft- Lube and Gear Oils *Hoist House*											
BP1A - Concrete Silo - Batch Plant at No. 2 Shaft *Stacking House & Batch Plant*											
BP1B - Concrete Silo - Batch Plant at No. 2 Shaft *Batch Plant*											
BP2 - Glenium 7500 Tanks (2) - Batch Plant at No. 2 Shaft *Batch Plant*											
BU1 - Bulk Oil Storage - Red Rykon Tank *Henderson Mine*											
BU2 - Bulk Oil Storage Building - Yellow Rykon 100 Tank *Henderson Mine*											

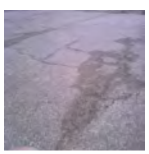
Item	Date & Inspector	Tanks	Ancillary Equipment	Foundation condition	Containments	Site Drainage	Liquid level sensing	Loading/Unloading Areas	Spill Equipment	Action Item
BU3 - Bulk Oil Storage Building - Used Oil Storage Area *Henderson Mine* 										
BU5 - Bulk Oil Building - 50 wt. Green Gear Oil Tank (1500 gal) *Henderson Mine* 										
BU6 - Bulk Oil Building - 15-40 wt. Blue Motor Oil Tank (1500 gal) - *Henderson Mine* 										
BU7 - Bulk Oil Building - ISO 100 yellow tank *Henderson Mine* 										
BU8 - Rykon 100 Mobile Tank(s) (750 gal) - Bulk Oil Building *Henderson Mine*										
C1 - Compressor Building - Compressor #1 - Machine Oil *Compressor Building* 										

Item		Date & Inspector	Tanks	Ancillary Equipment	Foundation condition	Containments	Site Drainage	Liquid level sensing	Loading/Unloading Areas	Spill Equipment	Action Item
C2 - Compressor Building - Compressor #2 - Machine Oil *Compressor Building*											
C3 - Compressor Building - Compressor #3 - Machine Oil *Compressor Building*											
C4 - Compressor Building - Compressor #4 - Machine Oil *Compressor Building*											
C6 - South Side of Compressor Bldg - Used Oil and Rykon 46 *Compressor Building*											
C7 - Compressor Building - Machine Oil and Used Oil *Compressor Building*											
C8A - East Side of Compressor Building - Antifreeze Tanks *Compressor Building*											

Item		Date & Inspector	Tanks	Ancillary Equipment	Foundation condition	Containments	Site Drainage	Liquid level sensing	Loading/Unloading Areas	Spill Equipment	Action Item
C8B - East Side of Compressor Building - Antifreeze Tanks *Compressor Building*											
C8C - East Side of Compressor Building - Antifreeze Tanks *Compressor Building*											
C9 - Compressor Building - Antifreeze Staging Area *Compressor Building*											
CO1 - Storage area inside, West side of Warehouse - New Product Storage *Henderson Mine*											
CO4 - Emulsion Storage Area- Surface Mag *Henderson Mine*											
F1 - Fuel Island - West of No. 1 Pond - Gasoline Tank (8000 gal) *Fuel Island*											

Item	Date & Inspector	Tanks	Ancillary Equipment	Foundation condition	Containments	Site Drainage	Liquid level sensing	Loading/Unloading Areas	Spill Equipment	Action Item
F2 - Fuel Island - West of No. 1 Pond - Diesel Tank (10000 gal) *Fuel Island* 										
HH1 - Hoist House Basement - S. End - Hydraulic Oil (200 gal) *Hoist House* 										
HH2 - Hoist House Basement - N. End - Hydraulic Oil (200 gal) *Hoist House* 										
HH3 - Hoist House Basement - W. Wall - Used Oil Tote, Hydraulic Oil, Rykon *Hoist House* 										
HH4 - Hoist House Basement - W. Wall - Oil/Lube Storage Area - *Hoist House* 										
M2 - Maintenance Shop - Lube, Oil and Antifreeze Storage Area *Maintenance Shop* 										

Item	Date & Inspector	Tanks	Ancillary Equipment	Foundation condition	Containments	Site Drainage	Liquid level sensing	Loading/Unloading Areas	Spill Equipment	Action Item
M4 - Maint. Shop, Steam Bay - Gear and Motor Oil, Lube, Antifreeze, Soap *Maintenance Shop* 										
PB1 - PWB - Sodium Hypochlorite, Corrosion Inhibitor, Caustic Soda *Potable Water Building* 										
PS1 - Used Oil Storage Building, Outside N. Side - Used Oil/Gear Oil Totes (250-350 gal) *Mine Bulk Oil Building* 										
PS10 - North Fan House at 5 Shaft - Oil Reservoir *Henderson Mine* 										
PS11 - South Fan House at 5 Shaft - Oil Reservoir *Henderson Mine* 										
PS3 - Used Oil Storage Building - Used Grease/Oil, Antifreeze Storage - *Mine Used Oil Building* 										

Item	Date & Inspector	Tanks	Ancillary Equipment	Foundation condition	Containments	Site Drainage	Liquid level sensing	Loading/Unloading Areas	Spill Equipment	Action Item
PS5 - Tanker Loadout Area, Next to No. 5 Shaft - Diesel Tanker *Henderson Mine* 										
PS6 - Hazardous Waste Storage Building - Haz. Waste Storage Area *Mine Hazardous Waste Storage Building* 										
PS7 - Used Oil Tank (47000 gal) *Plant Services* 										
PS8 - Used Oil Tank Underground Piping - Between Used Oil Tank and Haz. Waste Building *Plant Services* 										
PS9 - Solvent Storage Area - Used and New Parts Washer Solvent *Mine Bulk Oil Building* 										
PW1 - Potable Water Tank - 25,000 gal *Potable Water Building* 										

Item	Date & Inspector	Tanks	Ancillary Equipment	Foundation condition	Containments	Site Drainage	Liquid level sensing	Loading/Unloading Areas	Spill Equipment	Action Item
PW2 - Potable Water Tank - 25,000 gal *Potable Water Building* 										
PW3 - Potable Water Tank - 25,000 gal *Potable Water Building* 										
PWR1 - Process Water Tank - 25,000 gal *Process Water Tank*										
T1A - Transformer - West of Hoist House - North Unit *Hoist House* 										
T1B - Transformer - West of Hoist House - South Unit *Hoist House* 										
T2 - Transformer - North of 3 MAV- spare unit *Plant Services* 										
T3 - Transformer #2 - W. of MAV (N. Unit) *Plant Services* 										

Item		Date & Inspector	Tanks	Ancillary Equipment	Foundation condition	Containments	Site Drainage	Liquid level sensing	Loading/Unloading Areas	Spill Equipment	Action Item
T4 - Transformer #1 - W. of MAV (S. Unit) *Plant Services*											
T5 - Transformer - Spare north of T2 spare by 3MAV *Plant Services*											
U1 - Sulfuric Acid Tank - Between Urad WWTP and Clarifier *Urad Treatment Plant*											
U2 - Process Solution - WWTP - Two Mix Tanks *Urad Treatment Plant*											
U3 - Mix Tank *Urad Treatment Plant*											
U4A - Quicklime Storage - Lime Silo 1 north unit *Urad Treatment Plant*											

Item	Date & Inspector	Tanks	Ancillary Equipment	Foundation condition	Containments	Site Drainage	Liquid level sensing	Loading/Unloading Areas	Spill Equipment	Action Item
U4B - Quicklime Storage - Lime Silo 2, south unit *Urad Treatment Plant* 										
U5 - Urad WWTP - Flocculant *Urad Treatment Plant* 										
U6 - Clarifier *Urad Treatment Plant* 										
U7 - Transformer at Urad *Urad Treatment Plant* 										
U8 - Lower Urad Genset *Urad Treatment Plant* 										
U9 - Lower Urad Pumphouse *Urad Treatment Plant* 										

Item	Date & Inspector	Tanks	Ancillary Equipment	Foundation condition	Containments	Site Drainage	Liquid level sensing	Loading/Unloading Areas	Spill Equipment	Action Item
WW1 - Domestic WWTP, S. Room Near Discharge Point - Sodium Hypochlorite, Flocculent *Domestic WWTP* 										
WW3 - Domestic WWTP, N. Room Near Bay Door - Oils, Corrosion Inhibitor Storage *Domestic WWTP* 										

Freeport-McMoRan
SPCC Container Inspection Form

Deficiencies and Action Items				
Item (Car #)	**Comment / Deficiency**	**Inspection Report - Follow-up Action Needed?**	**Date Closed**	**Verification (Date/Initials)**

Notes/Comments

I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for known violations.

Authorized Signature	Date

Appendix I

Loading/Unloading Procedures

Appendix I
Loading / Unloading Procedures

PRIOR TO UNLOADING

- If a spill containment apron is present the truck must be inside the containment.
- Visually check all hoses for leaks and wet spots.
- Verify that there is sufficient volume in the storage tank.
- Lock in the closed position any drainage valves for the secondary containment structure.
- Secure the tank vehicle with chocks and interlocks.
- Ensure the vehicle's parking break is set.
- Verify proper alignment of valves and proper functioning of the pumping system.
- Establish adequate bonding/grounding prior to connecting to the fuel transfer point.
- Turn off cell phone.

DURING UNLOADING

- Driver must stay with the vehicle at all times during unloading activities.
- Periodically inspect all systems, hoses and connections.
- Ensure that no leaks are detected by sight, sound or smell during fuel unloading.
- When loading, keep internal and external valves on the receiving tank open along with the pressure relief valves.
- When making a connection, shut off the engine. When transferring Class 3 materials, shut off the vehicle engine unless it is used to operate a pump.
- Monitor the liquid level in the receiving tank to prevent overflow.
- Monitor flow meters to determine rate of flow.
- When topping off the tank, reduce flow rate to prevent overflow.
- Call 303-569-3221 x1233, x1287, x2284 or x1204 to report spills. Spills shall be reported and cleaned up in accordance with the Henderson Incident Response Manual.

AFTER UNLOADING

- Make sure the transfer is complete.
- Close all tank and loading valves before disconnecting.
- Securely close all vehicle internal, external and dome cover valves before disconnecting.
- Secure all hatches.
- Disconnect grounding/bonding wires.
- Make sure the hoses are drained to remove the remaining fuel before moving them away from the connection. Use a drip pan.
- Cap the end of the hose and other connecting devices before moving them to prevent uncontrolled leakage.
- Remove wheel chocks and interlocks.
- Inspect the lowermost drain and all outlets on the tank truck prior to departure. If necessary tighten, adjust, or replace caps, valves, or other equipment to prevent fuel leakage while in transit.

Appendix J

Stormwater / Groundwater Discharge Log

Appendix J
Stormwater / Groundwater Discharge Log

Date	Containment	Individual Name	Means of Discharge	Approx. Quantity *(gallons)*	Signs of Contamination *(Yes/No)*

Appendix K

Federal SPCC Rules

engine on a public vessel) and any discharges of such oil accumulated in the bilges of a vessel discharged in compliance with MARPOL 73/78, Annex I, as provided in 33 CFR part 151, subpart A;

(b) Other discharges of oil permitted under MARPOL 73/78, Annex I, as provided in 33 CFR part 151, subpart A; and

(c) Any discharge of oil explicitly permitted by the Administrator in connection with research, demonstration projects, or studies relating to the prevention, control, or abatement of oil pollution.

[61 FR 7421, Feb. 28, 1996]

§ 110.6 Notice.

Any person in charge of a vessel or of an onshore or offshore facility shall, as soon as he or she has knowledge of any discharge of oil from such vessel or facility in violation of section 311(b)(3) of the Act, immediately notify the National Response Center (NRC) (800–424–8802; in the Washington, DC metropolitan area, 202–426–2675). If direct reporting to the NRC is not practicable, reports may be made to the Coast Guard or EPA predesignated On-Scene Coordinator (OSC) for the geographic area where the discharge occurs. All such reports shall be promptly relayed to the NRC. If it is not possible to notify the NRC or the predesignated OCS immediately, reports may be made immediately to the nearest Coast Guard unit, provided that the person in charge of the vessel or onshore or offshore facility notifies the NRC as soon as possible. The reports shall be made in accordance with such procedures as the Secretary of Transportation may prescribe. The procedures for such notice are set forth in U.S. Coast Guard regulations, 33 CFR part 153, subpart B and in the National Oil and Hazardous Substances Pollution Contingency Plan, 40 CFR part 300, subpart E.

(Approved by the Office of Management and Budget under control number 2050–0046)

[52 FR 10719, Apr. 2, 1987. Redesignated and amended at 61 FR 7421, Feb. 28, 1996; 61 FR 14032, Mar. 29, 1996]

PART 112—OIL POLLUTION PREVENTION

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

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)

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

Subpart D—Response Requirements

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 of the United States means "navigable waters" as defined in section 502(7) of the FWPCA, and includes:

(1) All navigable waters of the United States, as defined in judicial decisions prior to passage of the 1972 Amendments to the FWPCA (Pub. L. 92–500), and tributaries of such waters;

(2) Interstate waters;

(3) Intrastate lakes, rivers, and streams which are utilized by interstate travelers for recreational or other purposes; and

(4) Intrastate lakes, rivers, and streams from which fish or shellfish are taken and sold in interstate commerce.

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.

(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]

§ 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 onsite 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]

APPENDIX A TO PART 112—MEMORANDUM OF UNDERSTANDING BETWEEN THE SECRETARY OF TRANSPORTATION AND THE ADMINISTRATOR OF THE ENVIRONMENTAL PROTECTION AGENCY

SECTION II—DEFINITIONS

The Environmental Protection Agency and the Department of Transportation agree that for the purposes of Executive Order 11548, the term:

(1) *Non-transportation-related onshore and offshore facilities* means:

(A) Fixed onshore and offshore oil well drilling facilities including all equipment and appurtenances related thereto used in drilling operations for exploratory or development wells, but excluding any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(B) Mobile onshore and offshore oil well drilling platforms, barges, trucks, or other mobile facilities including all equipment and appurtenances related thereto when such mobile facilities are fixed in position for the purpose of drilling operations for exploratory or development wells, but excluding any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(C) Fixed onshore and offshore oil production structures, platforms, derricks, and rigs including all equipment and appurtenances related thereto, as well as completed wells and the wellhead separators, oil separators, and storage facilities used in the production of oil, but excluding any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(D) Mobile onshore and offshore oil production facilities including all equipment and appurtenances related thereto as well as completed wells and wellhead equipment, piping from wellheads to oil separators, oil separators, and storage facilities used in the production of oil when such mobile facilities are fixed in position for the purpose of oil production operations, but excluding any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(E) Oil refining facilities including all equipment and appurtenances related thereto as well as in-plant processing units, storage units, piping, drainage systems and waste treatment units used in the refining of oil, but excluding any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(F) Oil storage facilities including all equipment and appurtenances related thereto as well as fixed bulk plant storage, terminal oil storage facilities, consumer storage, pumps and drainage systems used in the storage of oil, but excluding inline or breakout storage tanks needed for the continuous operation of a pipeline system and any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(G) Industrial, commercial, agricultural or public facilities which use and store oil, but excluding any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(H) Waste treatment facilities including in-plant pipelines, effluent discharge lines, and storage tanks, but excluding waste treatment facilities located on vessels and terminal storage tanks and appurtenances for the reception of oily ballast water or tank washings from vessels and associated systems used for off-loading vessels.

(I) Loading racks, transfer hoses, loading arms and other equipment which are appurtenant to a nontransportation-related facility or terminal facility and which are used to transfer oil in bulk to or from highway vehicles or railroad cars.

(J) Highway vehicles and railroad cars which are used for the transport of oil exclusively within the confines of a nontransportation-related facility and which are not intended to transport oil in interstate or intrastate commerce.

(K) Pipeline systems which are used for the transport of oil exclusively within the confines of a nontransportation-related facility or terminal facility and which are not intended to transport oil in interstate or intrastate commerce, but excluding pipeline systems used to transfer oil in bulk to or from a vessel.

(2) *Transportation-related onshore and offshore facilities* means:

(A) Onshore and offshore terminal facilities including transfer hoses, loading arms and other equipment and appurtenances used for the purpose of handling or transferring oil in bulk to or from a vessel as well as storage tanks and appurtenances for the reception of oily ballast water or tank washings from vessels, but excluding terminal waste treatment facilities and terminal oil storage facilities.

(B) Transfer hoses, loading arms and other equipment appurtenant to a non-transportation-related facility which is used to transfer oil in bulk to or from a vessel.

(C) Interstate and intrastate onshore and offshore pipeline systems including pumps and appurtenances related thereto as well as in-line or breakout storage tanks needed for the continuous operation of a pipeline system, and pipelines from onshore and offshore oil production facilities, but excluding onshore and offshore piping from wellheads to oil separators and pipelines which are used for the transport of oil exclusively within the confines of a nontransportation-related facility or terminal facility and which are not intended to transport oil in interstate or intrastate commerce or to transfer oil in bulk to or from a vessel.

(D) Highway vehicles and railroad cars which are used for the transport of oil in interstate or intrastate commerce and the equipment and appurtenances related thereto, and equipment used for the fueling of locomotive units, as well as the rights-of-way on which they operate. Excluded are highway vehicles and railroad cars and motive power used exclusively within the confines of a nontransportation-related facility or terminal facility and which are not intended for use in interstate or intrastate commerce.

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

Purpose

This Memorandum of Understanding (MOU) establishes the jurisdictional responsibilities for offshore facilities, including pipelines, pursuant to section 311 (j)(1)(c), (j)(5), and (j)(6)(A) of the Clean Water Act (CWA), as amended by the Oil Pollution Act of 1990 (Public Law 101–380). The Secretary of the Department of the Interior (DOI), Secretary of the Department of Transportation (DOT), and Administrator of the Environmental Protection Agency (EPA) agree to the division of responsibilities set forth below for spill prevention and control, response planning, and equipment inspection activities pursuant to those provisions.

Background

Executive Order (E.O.) 12777 (56 FR 54757) delegates to DOI, DOT, and EPA various responsibilities identified in section 311(j) of the CWA. Sections 2(b)(3), 2(d)(3), and 2(e)(3) of E.O. 12777 assigned to DOI spill prevention and control, contingency planning, and equipment inspection activities associated with offshore facilities. Section 311(a)(11) defines the term ''offshore facility'' to include facilities of any kind located in, on, or under navigable waters of the United States. By using this definition, the traditional DOI role of regulating facilities on the Outer Continental Shelf is expanded by E.O. 12777 to include inland lakes, rivers, streams, and any other inland waters.

Responsibilities

Pursuant to section 2(i) of E.O. 12777, DOI redelegates, and EPA and DOT agree to assume, the functions vested in DOI by sections 2(b)(3), 2(d)(3), and 2(e)(3) of E.O. 12777 as set forth below. For purposes of this MOU, the term ''coast line'' shall be defined as in the Submerged Lands Act (43 U.S.C. 1301(c)) to mean ''the line of ordinary low water along that portion of the coast which is in direct contact with the open sea and the line marking the seaward limit of inland waters.''

1. To EPA, DOI redelegates responsibility for non-transportation-related offshore facilities located landward of the coast line.

2. To DOT, DOI redelegates responsibility for transportation-related facilities, including pipelines, located landward of the coast line. The DOT retains jurisdiction for deepwater ports and their associated seaward pipelines, as delegated by E.O. 12777.

3. The DOI retains jurisdiction over facilities, including pipelines, located seaward of the coast line, except for deepwater ports and associated seaward pipelines delegated by E.O. 12777 to DOT.

Effective Date

This MOU is effective on the date of the final execution by the indicated signatories.

Limitations

1. The DOI, DOT, and EPA may agree in writing to exceptions to this MOU on a facility-specific basis. Affected parties will receive notification of the exceptions.

2. Nothing in this MOU is intended to replace, supersede, or modify any existing agreements between or among DOI, DOT, or EPA.

Modification and Termination

Any party to this agreement may propose modifications by submitting them in writing to the heads of the other agency/department. No modification may be adopted except with the consent of all parties. All parties shall indicate their consent to or disagreement with any proposed modification within 60 days of receipt. Upon the request of any party, representatives of all parties shall meet for the purpose of considering exceptions or modifications to this agreement. This MOU may be terminated only with the mutual consent of all parties.

Dated: November 8, 1993.

Bruce Babbitt,

Secretary of the Interior.

Dated: December 14, 1993.

Federico Peña,

Secretary of Transportation.

Dated: February 3, 1994.

Carol M. Browner,

Administrator, Environmental Protection Agency.

[59 FR 34102, July 1, 1994]

APPENDIX C TO PART 112—SUBSTANTIAL HARM CRITERIA

1.0 INTRODUCTION

The flowchart provided in Attachment C–I to this appendix shows the decision tree with the criteria to identify whether a facility ''could reasonably be expected to cause substantial harm to the environment by discharging into or on the navigable waters or adjoining shorelines.'' In addition, the Regional Administrator has the discretion to identify facilities that must prepare and submit facility-specific response plans to EPA.

1.1 Definitions

1.1.1 *Great Lakes* means Lakes Superior, Michigan, Huron, Erie, and Ontario, their connecting and tributary waters, the Saint Lawrence River as far as Saint Regis, and adjacent port areas.

1.1.2 Higher Volume Port Areas include

(1) Boston, MA;

(2) New York, NY;

(3) Delaware Bay and River to Philadelphia, PA;

(4) St. Croix, VI;

(5) Pascagoula, MS;

(6) Mississippi River from Southwest Pass, LA to Baton Rouge, LA;

(7) Louisiana Offshore Oil Port (LOOP), LA;

(8) Lake Charles, LA;

(9) Sabine-Neches River, TX;

(10) Galveston Bay and Houston Ship Channel, TX;

(11) Corpus Christi, TX;

(12) Los Angeles/Long Beach Harbor, CA;

(13) San Francisco Bay, San Pablo Bay, Carquinez Strait, and Suisun Bay to Antioch, CA;

(14) Straits of Juan de Fuca from Port Angeles, WA to and including Puget Sound, WA;

(15) Prince William Sound, AK; and

(16) Others as specified by the Regional Administrator for any EPA Region.

1.1.3 *Inland Area* means the area shoreward of the boundary lines defined in 46 CFR part 7, except in the Gulf of Mexico. In the Gulf of Mexico, it means the area shoreward of the lines of demarcation (COLREG lines as defined in 33 CFR 80.740–80.850). The inland area does not include the Great Lakes.

1.1.4 *Rivers and Canals* means a body of water confined within the inland area, including the Intracoastal Waterways and other waterways artificially created for navigating that have project depths of 12 feet or less.

2.0 DESCRIPTION OF SCREENING CRITERIA FOR THE SUBSTANTIAL HARM FLOWCHART

A facility that has the potential to cause substantial harm to the environment in the event of a discharge must prepare and submit a facility-specific response plan to EPA in accordance with Appendix F to this part. A description of the screening criteria for the substantial harm flowchart is provided below:

2.1 *Non-Transportation-Related Facilities With a Total Oil Storage Capacity Greater Than or Equal to 42,000 Gallons Where Operations Include Over-Water Transfers of Oil.* A non-transportation-related facility with a total oil storage capacity greater than or equal to 42,000 gallons that transfers oil over water to or from vessels must submit a response plan to EPA. Daily oil transfer operations at these types of facilities occur between barges and vessels and onshore bulk storage tanks over open water. These facilities are located adjacent to navigable water.

2.2 *Lack of Adequate Secondary Containment at Facilities With a Total Oil Storage Capacity Greater Than or Equal to 1 Million Gallons.* Any facility with a total oil storage capacity greater than or equal to 1 million gallons without secondary containment sufficiently large to contain the capacity of the largest aboveground oil storage tank within each area plus sufficient freeboard to allow for precipitation must submit a response plan to EPA. Secondary containment structures that meet the standard of good engineering practice for the purposes of this part include berms, dikes, retaining walls, curbing, culverts, gutters, or other drainage systems.

2.3 *Proximity to Fish and Wildlife and Sensitive Environments at Facilities With a Total Oil Storage Capacity Greater Than or Equal to 1 Million Gallons.* A facility with a total oil storage capacity greater than or equal to 1 million gallons must submit its response plan if it is located at a distance such that a discharge from the facility could cause injury (as defined at 40 CFR 112.2) to fish and wildlife and sensitive environments. For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's ''Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments'' (see Appendix E to this part, section 13, for availability) and the applicable Area Contingency Plan. Facility owners or operators must determine the distance at which an oil discharge could cause injury to fish and wildlife and sensitive environments using the appropriate formula presented in Attachment C–III to this appendix or a comparable formula.

2.4 *Proximity to Public Drinking Water Intakes at Facilities with a Total Oil Storage Capacity Greater than or Equal to 1 Million Gallons* A facility with a total oil storage capacity greater than or equal to 1 million gallons must submit its response plan if it is located at a distance such that a discharge from the facility would shut down a public drinking water intake, which is analogous to a public water system as described at 40 CFR 143.2(c).

The distance at which an oil discharge from an SPCC-regulated facility would shut down a public drinking water intake shall be calculated using the appropriate formula presented in Attachment C–III to this appendix or a comparable formula.

2.5 *Facilities That Have Experienced Reportable Oil Discharges in an Amount Greater Than or Equal to 10,000 Gallons Within the Past 5 Years and That Have a Total Oil Storage Capacity Greater Than or Equal to 1 Million Gallons.* A facility's oil spill history within the past 5 years shall be considered in the evaluation for substantial harm. Any facility with a total oil storage capacity greater than or equal to 1 million gallons that has experienced a reportable oil discharge in an amount greater than or equal to 10,000 gallons within the past 5 years must submit a response plan to EPA.

3.0 Certification for Facilities That Do Not Pose Substantial Harm

If the facility does not meet the substantial harm criteria listed in Attachment C–I to this appendix, the owner or operator shall complete and maintain at the facility the certification form contained in Attachment C–II to this appendix. In the event an alternative formula that is comparable to the one in this appendix is used to evaluate the substantial harm criteria, 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.

4.0 References

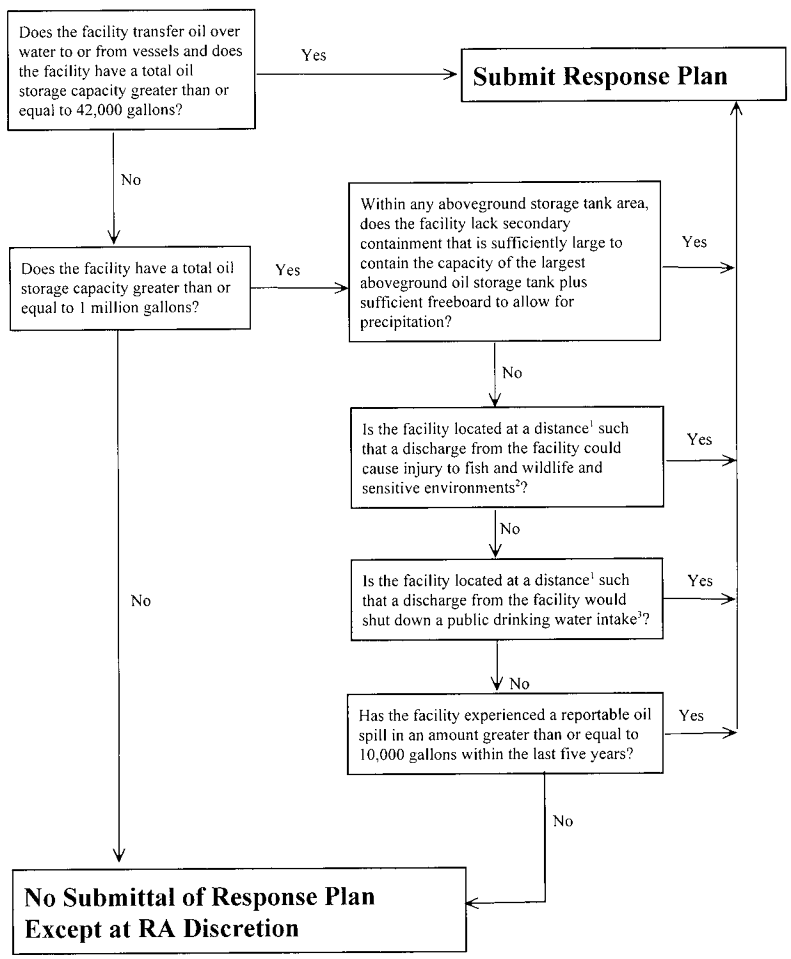
Chow, V.T. 1959. Open Channel Hydraulics. McGraw Hill.

USCG IFR (58 FR 7353, February 5, 1993). This document is available through EPA's rulemaking docket as noted in Appendix E to this part, section 13.

ATTACHMENTS TO APPENDIX C

Attachment C-I

Flowchart of Criteria for Substantial Harm



[1] Calculated using the appropriate formula in Attachment C-III to this appendix or a comparable formula.

[2] For further description of fish and wildlife and sensitive environments, see Appendices I,II, and III to DOC/NOAA's "Guidance for Facility and vessel response Plans: Fish and Wildlife and Sensitive Environments" (59 FR 14713, March 29, 1994) and the applicable Area Contingency Plan.

[3] Public drinking water intakes are analogous to public water systems as described at CFR 143.2(c).

ATTACHMENT C-II—CERTIFICATION OF THE APPLICABILITY OF THE SUBSTANTIAL HARM CRITERIA

Facility Name: ________________________

Facility Address: ________________________

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

Yes _____ No _____

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

Yes _____ No _____

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

Yes _____ No _____

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

Yes _____ No _____

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

Yes _____ No _____

Certification

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

____

Signature

____

Name (please type or print)

____

Title

____

Date

ATTACHMENT C-III—CALCULATION OF THE PLANNING DISTANCE

1.0 Introduction

1.1 The facility owner or operator must evaluate whether the facility is located at a distance such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments or disrupt operations at a public drinking water intake. To quantify that distance, EPA considered oil transport mechanisms over land and on still, tidal influence, and moving navigable waters. EPA has determined that the primary concern for calculation of a planning distance is the transport of oil in navigable waters during adverse weather conditions. Therefore, two formulas have been developed to determine distances for planning purposes from the point of discharge at the facility to the potential site of impact on moving and still waters, respectively. The formula for oil transport on moving navigable water is based on the velocity of the water body and the time interval for arrival of response resources. The still water formula accounts for the spread of discharged oil over the surface of the water. The method to determine oil transport on tidal influence areas is based on the type of oil discharged and the distance down current during ebb tide and up current during flood tide to the point of maximum tidal influence.

1.2 EPA's formulas were designed to be simple to use. However, facility owners or operators may calculate planning distances using more sophisticated formulas, which take into account broader scientific or engineering principles, or local conditions. Such comparable formulas may result in different planning distances than EPA's formulas. In the event that an alternative formula that is comparable to one contained in this appendix is used to evaluate the criterion in 40 CFR 112.20(f)(1)(ii)(B) or (f)(1)(ii)(C), 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 and shall notify the Regional Administrator in

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

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

writing that an alternative formula was used.[1]

1.3 A regulated facility may meet the criteria for the potential to cause substantial harm to the environment without having to perform a planning distance calculation. For facilities that meet the substantial harm criteria because of inadequate secondary containment or oil spill history, as listed in the flowchart in Attachment C–I to this appendix, calculation of the planning distance is unnecessary. For facilities that do not meet the substantial harm criteria for secondary containment or oil spill history as listed in the flowchart, calculation of a planning distance for proximity to fish and wildlife and sensitive environments and public drinking water intakes is required, unless it is clear without performing the calculation (e.g., the facility is located in a wetland) that these areas would be impacted.

1.4 A facility owner or operator who must perform a planning distance calculation on navigable water is only required to do so for the type of navigable water conditions (i.e., moving water, still water, or tidal- influenced water) applicable to the facility. If a facility owner or operator determines that more than one type of navigable water condition applies, then the facility owner or operator is required to perform a planning distance calculation for each navigable water type to determine the greatest single distance that oil may be transported. As a result, the final planning distance for oil transport on water shall be the greatest individual distance rather than a summation of each calculated planning distance.

1.5 The planning distance formula for transport on moving waterways contains three variables: the velocity of the navigable water (v), the response time interval (t), and a conversion factor (c). The velocity, v, is determined by using the Chezy-Manning equation, which, in this case, models the flood flow rate of water in open channels. The Chezy-Manning equation contains three variables which must be determined by facility owners or operators. Manning's Roughness Coefficient (for flood flow rates), n, can be determined from Table 1 of this attachment. The hydraulic radius, r, can be estimated using the average mid-channel depth from charts provided by the sources listed in Table 2 of this attachment. The average slope of the river, s, can be determined using topographic maps that can be ordered from the U.S. Geological Survey, as listed in Table 2 of this attachment.

1.6 Table 3 of this attachment contains specified time intervals for estimating the arrival of response resources at the scene of a discharge. Assuming no prior planning, response resources should be able to arrive at the discharge site within 12 hours of the discovery of any oil discharge in Higher Volume Port Areas and within 24 hours in Great Lakes and all other river, canal, inland, and nearshore areas. The specified time intervals in Table 3 of Appendix C are to be used only to aid in the identification of whether a facility could cause substantial harm to the environment. Once it is determined that a plan must be developed for the facility, the owner or operator shall reference Appendix E to this part to determine appropriate resource levels and response times. The specified time intervals of this appendix include a 3-hour time period for deployment of boom and other response equipment. The Regional Administrator may identify additional areas as appropriate.

2.0 Oil Transport on Moving Navigable Waters

2.1 The facility owner or operator must use the following formula or a comparable formula as described in §112.20(a)(3) to calculate the planning distance for oil transport on moving navigable water:

$d=v\times t\times c$; where

d: the distance downstream from a facility within which fish and wildlife and sensitive environments could be injured or a public drinking water intake would be shut down in the event of an oil discharge (in miles);

v: the velocity of the river/navigable water of concern (in ft/sec) as determined by Chezy-Manning's equation (see below and Tables 1 and 2 of this attachment);

t: the time interval specified in Table 3 based upon the type of water body and location (in hours); and

c: constant conversion factor 0.68 secω mile/hrω ft (3600 sec/hr ÷ 5280 ft/mile).

2.2 Chezy-Manning's equation is used to determine velocity:

$v=1.5/n\times r^{2/3}\times s^{1/2}$; where

v=the velocity of the river of concern (in ft/sec);

n=Manning's Roughness Coefficient from Table 1 of this attachment;

r=the hydraulic radius; the hydraulic radius can be approximated for parabolic channels by multiplying the average mid-channel depth of the river (in feet) by 0.667

[1] For persistent oils or non-persistent oils, a worst case trajectory model (i.e., an alternative formula) may be substituted for the distance formulas described in still, moving, and tidal waters, subject to Regional Administrator's review of the model. An example of an alternative formula that is comparable to the one contained in this appendix would be a worst case trajectory calculation based on credible adverse winds, currents, and/or river stages, over a range of seasons, weather conditions, and river stages. Based on historical information or a spill trajectory model, the Agency may require that additional fish and wildlife and sensitive environments or public drinking water intakes also be protected.

(sources for obtaining the mid-channel depth are listed in Table 2 of this attachment); and

s=the average slope of the river (unitless) obtained from U.S. Geological Survey topographic maps at the address listed in Table 2 of this attachment.

TABLE 1—MANNING'S ROUGHNESS COEFFICIENT FOR NATURAL STREAMS

[NOTE: Coefficients are presented for high flow rates at or near flood stage.]

Stream description	Roughness coefficient (n)
Minor Streams (Top Width <100 ft.)	
Clean:	
Straight	0.03
Winding	0.04
Sluggish (Weedy, deep pools):	
No trees or brush	0.06
Trees and/or brush	0.10
Major Streams (Top Width >100 ft.)	
Regular section:	
(No boulders/brush)	0.035
Irregular section:	
(Brush)	0.05

TABLE 2—SOURCES OF R AND S FOR THE CHEZY-MANNING EQUATION

All of the charts and related publications for navigational waters may be ordered from:

Distribution Branch
(N/CG33)
National Ocean Service
Riverdale, Maryland 20737–1199
Phone: (301) 436–6990

There will be a charge for materials ordered and a VISA or Mastercard will be accepted.

The mid-channel depth to be used in the calculation of the hydraulic radius (r) can be obtained directly from the following sources:

Charts of Canadian Coastal and Great Lakes Waters:
Canadian Hydrographic Service
Department of Fisheries and Oceans Institute
P.O. Box 8080
1675 Russell Road
Ottawa, Ontario KIG 3H6
Canada
Phone: (613) 998–4931

Charts and Maps of Lower Mississippi River (Gulf of Mexico to Ohio River and St. Francis, White, Big Sunflower, Atchafalaya, and other rivers):
U.S. Army Corps of Engineers
Vicksburg District
P.O. Box 60
Vicksburg, Mississippi 39180
Phone: (601) 634–5000

Charts of Upper Mississippi River and Illinois Waterway to Lake Michigan:
U.S. Army Corps of Engineers
Rock Island District
P.O. Box 2004
Rock Island, Illinois 61204
Phone: (309) 794–5552

Charts of Missouri River:
U.S. Army Corps of Engineers
Omaha District
6014 U.S. Post Office and Courthouse
Omaha, Nebraska 68102
Phone: (402) 221–3900

Charts of Ohio River:
U.S. Army Corps of Engineers
Ohio River Division
P.O. Box 1159
Cincinnati, Ohio 45201
Phone: (513) 684–3002

Charts of Tennessee Valley Authority Reservoirs, Tennessee River and Tributaries:
Tennessee Valley Authority
Maps and Engineering Section
416 Union Avenue
Knoxville, Tennessee 37902
Phone: (615) 632–2921

Charts of Black Warrior River, Alabama River, Tombigbee River, Apalachicola River and Pearl River:
U.S. Army Corps of Engineers
Mobile District
P.O. Box 2288
Mobile, Alabama 36628–0001
Phone: (205) 690–2511

The average slope of the river (s) may be obtained from topographic maps:
U.S. Geological Survey
Map Distribution
Federal Center
Bldg. 41
Box 25286
Denver, Colorado 80225

Additional information can be obtained from the following sources:

1. The State's Department of Natural Resources (DNR) or the State's Aids to Navigation office;
2. A knowledgeable local marina operator; or
3. A knowledgeable local water authority (e.g., State water commission)

2.3 The average slope of the river (s) can be determined from the topographic maps using the following steps:

(1) Locate the facility on the map.

(2) Find the Normal Pool Elevation at the point of discharge from the facility into the water (A).

(3) Find the Normal Pool Elevation of the public drinking water intake or fish and wildlife and sensitive environment located downstream (B) (Note: The owner or operator should use a minimum of 20 miles downstream as a cutoff to obtain the average slope if the location of a specific public drinking water intake or fish and wildlife and sensitive environment is unknown).

(4) If the Normal Pool Elevation is not available, the elevation contours can be used to find the slope. Determine elevation of the water at the point of discharge from the facility (A). Determine the elevation of the

water at the appropriate distance downstream (B). The formula presented below can be used to calculate the slope.

(5) Determine the distance (in miles) between the facility and the public drinking water intake or fish and wildlife and sensitive environments (C).

(6) Use the following formula to find the slope, which will be a unitless value: Average Slope=[(A−B) (ft)/C (miles)] × [1 mile/5280 feet]

2.4 If it is not feasible to determine the slope and mid-channel depth by the Chezy-Manning equation, then the river velocity can be approximated on- site. A specific length, such as 100 feet, can be marked off along the shoreline. A float can be dropped into the stream above the mark, and the time required for the float to travel the distance can be used to determine the velocity in feet per second. However, this method will not yield an average velocity for the length of the stream, but a velocity only for the specific location of measurement. In addition, the flow rate will vary depending on weather conditions such as wind and rainfall. It is recommended that facility owners or operators repeat the measurement under a variety of conditions to obtain the most accurate estimate of the surface water velocity under adverse weather conditions.

2.5 The planning distance calculations for moving and still navigable waters are based on worst case discharges of persistent oils. Persistent oils are of concern because they can remain in the water for significant periods of time and can potentially exist in large quantities downstream. Owners or operators of facilities that store persistent as well as non-persistent oils may use a comparable formula. The volume of oil discharged is not included as part of the planning distance calculation for moving navigable waters. Facilities that will meet this substantial harm criterion are those with facility capacities greater than or equal to 1 million gallons. It is assumed that these facilities are capable of having an oil discharge of sufficient quantity to cause injury to fish and wildlife and sensitive environments or shut down a public drinking water intake. While owners or operators of transfer facilities that store greater than or equal to 42,000 gallons are not required to use a planning distance formula for purposes of the substantial harm criteria, they should use a planning distance calculation in the development of facility-specific response plans.

TABLE 3—SPECIFIED TIME INTERVALS

Operating areas	Substantial harm planning time (hrs)
Higher volume port area.	12 hour arrival+3 hour deployment=15 hours.
Great Lakes ...	24 hour arrival+3 hour deployment=27 hours.
All other rivers and canals, inland, and nearshore areas.	24 hour arrival+3 hour deployment=27 hours.

2.6 *Example of the Planning Distance Calculation for Oil Transport on Moving Navigable Waters*. The following example provides a sample calculation using the planning distance formula for a facility discharging oil into the Monongahela River:

(1) Solve for v by evaluating n, r, and s for the Chezy-Manning equation:

Find the roughness coefficient, n, on Table 1 of this attachment for a regular section of a major stream with a top width greater than 100 feet. The top width of the river can be found from the topographic map.

n=0.035.

Find slope, s, where A=727 feet, B=710 feet, and C=25 miles.

Solving:

$s=[(727\ \text{ft}-1710\ \text{ft})/25\ \text{miles}]\times[1\ \text{mile}/5280\ \text{feet}]=1.3\times10^{-4}$

The average mid-channel depth is found by averaging the mid-channel depth for each mile along the length of the river between the facility and the public drinking water intake or the fish or wildlife or sensitive environment (or 20 miles downstream if applicable). This value is multiplied by 0.667 to obtain the hydraulic radius. The mid-channel depth is found by obtaining values for r and s from the sources shown in Table 2 for the Monongahela River.

Solving:

$r=0.667\times20\ \text{feet}=13.33\ \text{feet}$

Solve for v using:

$v=1.5/n\times r^{2/3}\times s^{1/2}$:

$v=[1.5/0.035]\times(13.33)^{2/3}\times(1.3\times10^{-4})^{1/2}$

v=2.73 feet/second

(2) Find t from Table 3 of this attachment. The Monongahela River's resource response time is 27 hours.

(3) Solve for planning distance, d:

$d=v\times t\times c$

d=(2.73 ft/sec)×(27 hours)×(0.68 secω mile/hrω ft)

d=50 miles

Therefore, 50 miles downstream is the appropriate planning distance for this facility.

3.0 Oil Transport on Still Water

3.1 For bodies of water including lakes or ponds that do not have a measurable velocity, the spreading of the oil over the surface must be considered. Owners or operators of facilities located next to still water bodies may use a comparable means of calculating the planning distance. If a comparable formula is used, documentation of the reliability and analytical soundness of the comparable calculation must be attached to the response plan cover sheet.

3.2 *Example of the Planning Distance Calculation for Oil Transport on Still Water*. To assist those facilities which could potentially discharge into a still body of water, the following analysis was performed to provide an example of the type of formula that may be used to calculate the planning distance. For this example, a worst case discharge of 2,000,000 gallons is used.

(1) The surface area in square feet covered by an oil discharge on still water, A1, can be determined by the following formula,[2] where V is the volume of the discharge in gallons and C is a constant conversion factor:

$A_1=10^5\times V^{3/4}\times C$

$C=0.1643$

$A_1=10^5\times(2{,}000{,}000\text{ gallons})^{3/4}\times(0.1643)$

$A_1=8.74\times10^8\text{ ft}^2$

(2) The spreading formula is based on the theoretical condition that the oil will spread uniformly in all directions forming a circle. In reality, the outfall of the discharge will direct the oil to the surface of the water where it intersects the shoreline. Although the oil will not spread uniformly in all directions, it is assumed that the discharge will spread from the shoreline into a semi-circle (this assumption does not account for winds or wave action).

(3) The area of a circle=$\dagger\ r^2$

(4) To account for the assumption that oil will spread in a semi-circular shape, the area of a circle is divided by 2 and is designated as A_2.

$A_2=(\dagger\ r^2)/2$

Solving for the radius, r, using the relationship $A_1=A_2$: $8.74\times10^8\text{ ft}^2=(\dagger^2)/2$

Therefore, r=23,586 ft

r=23,586 ft÷5,280 ft/mile=4.5 miles

Assuming a 20 knot wind under storm conditions:

1 knot=1.15 miles/hour

20 knots×1.15 miles/hour/knot=23 miles/hr

Assuming that the oil slick moves at 3 percent of the wind's speed:[3]

23 miles/hour×0.03=0.69 miles/hour

(5) To estimate the distance that the oil will travel, use the times required for response resources to arrive at different geographic locations as shown in Table 3 of this attachment.

For example:

For Higher Volume Port Areas: 15 hrs×0.69 miles/hr=10.4 miles

For Great Lakes and all other areas: 27 hrs×0.69 miles/hr=18.6 miles

(6) The total distance that the oil will travel from the point of discharge, including the distance due to spreading, is calculated as follows:

Higher Volume Port Areas: d=10.4+4.5 miles or approximately 15 miles

Great Lakes and all other areas: d=18.6+4.5 miles or approximately 23 miles

4.0 Oil Transport on Tidal-Influence Areas

4.1 The planning distance method for tidal influence navigable water is based on worst case discharges of persistent and non-persistent oils. Persistent oils are of primary concern because they can potentially cause harm over a greater distance. For persistent oils discharged into tidal waters, the planning distance is 15 miles from the facility down current during ebb tide and to the point of maximum tidal influence or 15 miles, whichever is less, during flood tide.

4.2 For non-persistent oils discharged into tidal waters, the planning distance is 5 miles from the facility down current during ebb tide and to the point of maximum tidal influence or 5 miles, whichever is less, during flood tide.

4.3 *Example of Determining the Planning Distance for Two Types of Navigable Water Conditions*. Below is an example of how to determine the proper planning distance when a facility could impact two types of navigable water conditions: moving water and tidal water.

(1) Facility X stores persistent oil and is located downstream from locks along a slow moving river which is affected by tides. The river velocity, v, is determined to be 0.5 feet/second from the Chezy-Manning equation used to calculate oil transport on moving navigable waters. The specified time interval, t, obtained from Table 3 of this attachment for river areas is 27 hours. Therefore, solving for the planning distance, d:

d=v×t×c

d=(0.5 ft/sec)×(27 hours)×(0.68 secmile/hrft)

d=9.18 miles.

(2) However, the planning distance for maximum tidal influence down current during ebb tide is 15 miles, which is greater than the calculated 9.18 miles. Therefore, 15 miles downstream is the appropriate planning distance for this facility.

5.0 Oil Transport Over Land

5.1 Facility owners or operators must evaluate the potential for oil to be transported over land to navigable waters of the United States. The owner or operator must evaluate the likelihood that portions of a worst case discharge would reach navigable

[2] Huang, J.C. and Monastero, F.C., 1982. *Review of the State-of-the-Art of Oil Pollution Models*. Final report submitted to the American Petroleum Institute by Raytheon Ocean Systems, Co., East Providence, Rhode Island.

[3] *Oil Spill Prevention & Control*. National Spill Control School, Corpus Christi State University, Thirteenth Edition, May 1990.

waters via open channel flow or from sheet flow across the land, or be prevented from reaching navigable waters when trapped in natural or man-made depressions excluding secondary containment structures.

5.2 As discharged oil travels over land, it may enter a storm drain or open concrete channel intended for drainage. It is assumed that once oil reaches such an inlet, it will flow into the receiving navigable water. During a storm event, it is highly probable that the oil will either flow into the drainage structures or follow the natural contours of the land and flow into the navigable water. Expected minimum and maximum velocities are provided as examples of open concrete channel and pipe flow. The ranges listed below reflect minimum and maximum velocities used as design criteria.[4] The calculation below demonstrates that the time required for oil to travel through a storm drain or open concrete channel to navigable water is negligible and can be considered instantaneous. The velocities are:

For open concrete channels:
maximum velocity=25 feet per second
minimum velocity=3 feet per second
For storm drains:
maximum velocity=25 feet per second
minimum velocity=2 feet per second

5.3 Assuming a length of 0.5 mile from the point of discharge through an open concrete channel or concrete storm drain to a navigable water, the travel times (distance/velocity) are:

1.8 minutes at a velocity of 25 feet per second
14.7 minutes at a velocity of 3 feet per second
22.0 minutes for at a velocity of 2 feet per second

5.4 The distances that shall be considered to determine the planning distance are illustrated in Figure C-I of this attachment. The relevant distances can be described as follows:

D1=Distance from the nearest opportunity for discharge, X_1, to a storm drain or an open concrete channel leading to navigable water.
D2=Distance through the storm drain or open concrete channel to navigable water.
D3=Distance downstream from the outfall within which fish and wildlife and sensitive environments could be injured or a public drinking water intake would be shut down as determined by the planning distance formula.
D4=Distance from the nearest opportunity for discharge, X_2, to fish and wildlife and sensitive environments not bordering navigable water.

5.5 A facility owner or operator whose nearest opportunity for discharge is located within 0.5 mile of a navigable water must complete the planning distance calculation (D3) for the type of navigable water near the facility or use a comparable formula.

5.6 A facility that is located at a distance greater than 0.5 mile from a navigable water must also calculate a planning distance (D3) if it is in close proximity (i.e., D1 is less than 0.5 mile and other factors are conducive to oil travel over land) to storm drains that flow to navigable waters. Factors to be considered in assessing oil transport over land to storm drains shall include the topography of the surrounding area, drainage patterns, man-made barriers (excluding secondary containment structures), and soil distribution and porosity. Storm drains or concrete drainage channels that are located in close proximity to the facility can provide a direct pathway to navigable waters, regardless of the length of the drainage pipe. If D1 is less than or equal to 0.5 mile, a discharge from the facility could pose substantial harm because the time to travel the distance from the storm drain to the navigable water (D2) is virtually instantaneous.

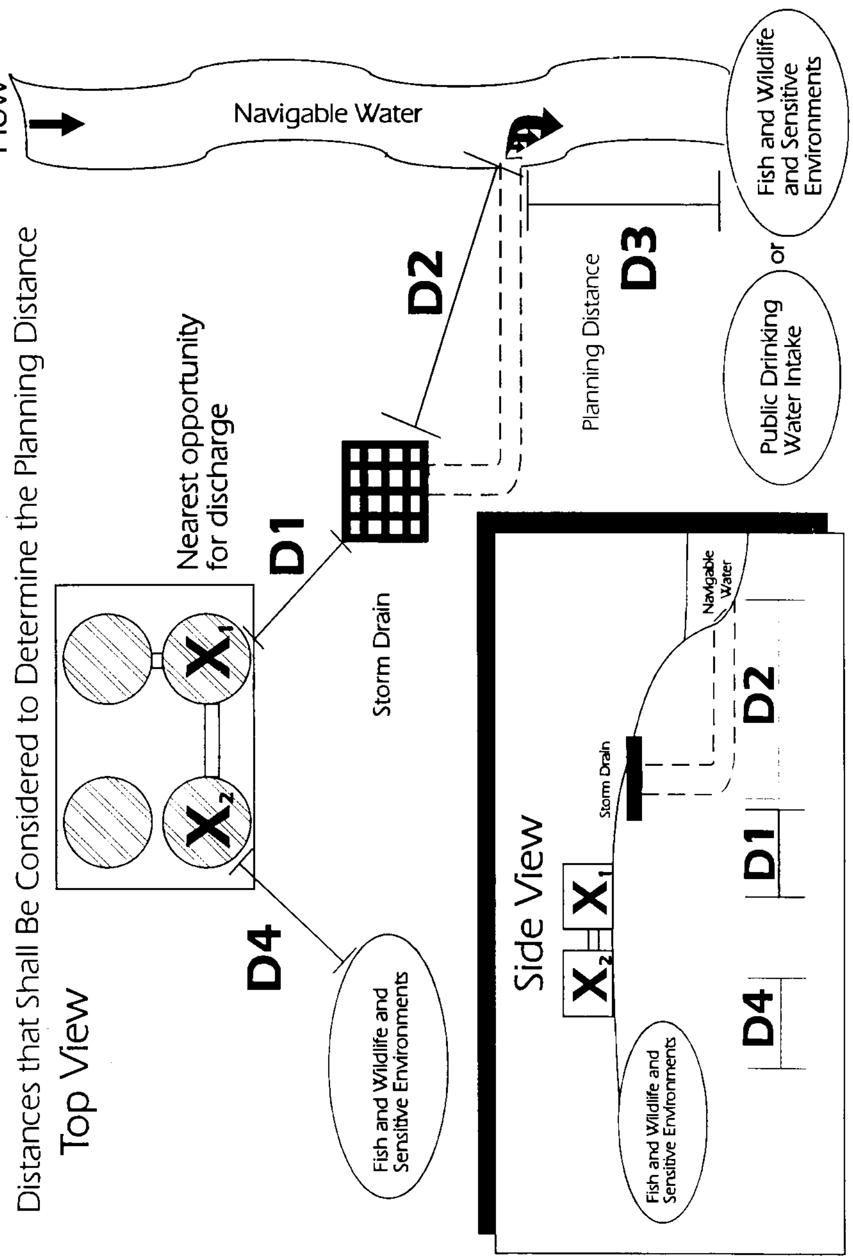
5.7 A facility's proximity to fish and wildlife and sensitive environments not bordering a navigable water, as depicted as D4 in Figure C–I of this attachment, must also be considered, regardless of the distance from the facility to navigable waters. Factors to be considered in assessing oil transport over land to fish and wildlife and sensitive environments should include the topography of the surrounding area, drainage patterns, man-made barriers (excluding secondary containment structures), and soil distribution and porosity.

5.8 If a facility is not found to pose substantial harm to fish and wildlife and sensitive environments not bordering navigable waters via oil transport on land, then supporting documentation should be maintained at the facility. However, such documentation should be submitted with the response plan if a facility is found to pose substantial harm.

[4] The design velocities were obtained from Howard County, Maryland Department of Public Works' Storm Drainage Design Manual.

Figure C - I

Distances that Shall Be Considered to Determine the Planning Distance



[59 FR 34102, July 1, 1994, as amended at 65 FR 40798, June 30, 2000; 67 FR 47152, July 17, 2002]

APPENDIX D TO PART 112—DETERMINATION OF A WORST CASE DISCHARGE PLANNING VOLUME

1.0 Instructions

1.1 An owner or operator is required to complete this worksheet if the facility meets the criteria, as presented in Appendix C to this part, or it is determined by the RA that the facility could cause substantial harm to the environment. The calculation of a worst case discharge planning volume is used for emergency planning purposes, and is required in 40 CFR 112.20 for facility owners or operators who must prepare a response plan. When planning for the amount of resources and equipment necessary to respond to the worst case discharge planning volume, adverse weather conditions must be taken into consideration. An owner or operator is required to determine the facility's worst case discharge planning volume from either part A of this appendix for an onshore storage facility, or part B of this appendix for an onshore production facility. The worksheet considers the provision of adequate secondary containment at a facility.

1.2 For onshore storage facilities and production facilities, permanently manifolded oil storage tanks are defined as tanks that are designed, installed, and/or operated in such a manner that the multiple tanks function as one storage unit (i.e., multiple tank volumes are equalized). In a worst case discharge scenario, a single failure could cause the discharge of the contents of more than one tank. The owner or operator must provide evidence in the response plan that tanks with common piping or piping systems are not operated as one unit. If such evidence is provided and is acceptable to the RA, the worst case discharge planning volume would be based on the capacity of the largest oil storage tank within a common secondary containment area or the largest oil storage tank within a single secondary containment area, whichever is greater. For permanently manifolded tanks that function as one oil storage unit, the worst case discharge planning volume would be based on the combined oil storage capacity of all manifolded tanks or the capacity of the largest single oil storage tank within a secondary containment area, whichever is greater. For purposes of this rule, permanently manifolded tanks that are separated by internal divisions for each tank are considered to be single tanks and individual manifolded tank volumes are not combined.

1.3 For production facilities, the presence of exploratory wells, production wells, and oil storage tanks must be considered in the calculation. Part B of this appendix takes these additional factors into consideration and provides steps for their inclusion in the total worst case discharge planning volume. Onshore oil production facilities may include all wells, flowlines, separation equipment, storage facilities, gathering lines, and auxiliary non-transportation-related equipment and facilities in a single geographical oil or gas field operated by a single operator. Although a potential worst case discharge planning volume is calculated within each section of the worksheet, the final worst case amount depends on the risk parameter that results in the greatest volume.

1.4 Marine transportation-related transfer facilities that contain fixed aboveground onshore structures used for bulk oil storage are jointly regulated by EPA and the U.S. Coast Guard (USCG), and are termed "complexes." Because the USCG also requires response plans from transportation-related facilities to address a worst case discharge of oil, a separate calculation for the worst case discharge planning volume for USCG-related facilities is included in the USCG IFR (see Appendix E to this part, section 13, for availability). All complexes that are jointly regulated by EPA and the USCG must compare both calculations for worst case discharge planning volume derived by using the EPA and USCG methodologies and plan for whichever volume is greater.

PART A: WORST CASE DISCHARGE PLANNING VOLUME CALCULATION FOR ONSHORE STORAGE FACILITIES [1]

Part A of this worksheet is to be completed by the owner or operator of an SPCC-regulated facility (excluding oil production facilities) if the facility meets the criteria as presented in Appendix C to this part, or if it is determined by the RA that the facility could cause substantial harm to the environment. If you are the owner or operator of a production facility, please proceed to part B of this worksheet.

A.1 SINGLE-TANK FACILITIES

For facilities containing only one aboveground oil storage tank, the worst case discharge planning volume equals the capacity of the oil storage tank. If adequate secondary containment (sufficiently large to contain the capacity of the aboveground oil storage tank plus sufficient freeboard to allow for precipitation) exists for the oil storage tank, multiply the capacity of the tank by 0.8.

(1) FINAL WORST CASE VOLUME: ______ GAL

(2) Do not proceed further.

[1] "Storage facilities" represent all facilities subject to this part, excluding oil production facilities.

A.2 SECONDARY CONTAINMENT—MULTIPLE-TANK FACILITIES

Are *all* aboveground oil storage tanks or groups of aboveground oil storage tanks at the facility *without* adequate secondary containment?[2]

_______ (Y/N)

A.2.1 If the answer is yes, the final worst case discharge planning volume equals the *total aboveground oil storage capacity at the facility*.

(1) FINAL WORST CASE VOLUME: _______ GAL

(2) Do not proceed further.

A.2.2 If the answer is no, calculate the total aboveground oil storage capacity of tanks without adequate secondary containment. If *all* aboveground oil storage tanks or groups of aboveground oil storage tanks at the facility have adequate secondary containment, ENTER ''0'' (zero).

_______ GAL

A.2.3 Calculate the capacity of the largest single aboveground oil storage tank within an adequate secondary containment area or the combined capacity of a group of aboveground oil storage tanks permanently manifolded together, whichever is greater, PLUS THE VOLUME FROM QUESTION A.2.2.

FINAL WORST CASE VOLUME:[3] _______ GAL

PART B: WORST CASE DISCHARGE PLANNING VOLUME CALCULATION FOR ONSHORE PRODUCTION FACILITIES

Part B of this worksheet is to be completed by the owner or operator of an SPCC-regulated oil production facility if the facility meets the criteria presented in Appendix C to this part, or if it is determined by the RA that the facility could cause substantial harm. A production facility consists of all wells (producing and exploratory) and related equipment in a single geographical oil or gas field operated by a single operator.

B.1 SINGLE-TANK FACILITIES

B.1.1 For facilities containing only one aboveground oil storage tank, the worst case discharge planning volume equals the capacity of the aboveground oil storage tank plus the production volume of the well with the highest output at the facility. If adequate secondary containment (sufficiently large to contain the capacity of the aboveground oil storage tank plus sufficient freeboard to allow for precipitation) exists for the storage tank, multiply the capacity of the tank by 0.8.

B.1.2 For facilities with production wells producing by pumping, if the rate of the well with the highest output is known and the number of days the facility is unattended can be predicted, then the production volume is equal to the pumping rate of the well multiplied by the greatest number of days the facility is unattended.

B.1.3 If the pumping rate of the well with the highest output is estimated or the maximum number of days the facility is unattended is estimated, then the production volume is determined from the pumping rate of the well multiplied by 1.5 times the greatest number of days that the facility has been or is expected to be unattended.

B.1.4 Attachment D–1 to this appendix provides methods for calculating the production volume for exploratory wells and production wells producing under pressure.

(1) FINAL WORST CASE VOLUME: _______ GAL

(2) Do not proceed further.

B.2 SECONDARY CONTAINMENT—MULTIPLE-TANK FACILITIES

Are *all* aboveground oil storage tanks or groups of aboveground oil storage tanks at the facility *without* adequate secondary containment?

_____ (Y/N)

B.2.1 If the answer is yes, the final worst case volume equals the total aboveground oil storage capacity without adequate secondary containment plus the production volume of the well with the highest output at the facility.

(1) For facilities with production wells producing by pumping, if the rate of the well with the highest output is known and the number of days the facility is unattended can be predicted, then the production volume is equal to the pumping rate of the well multiplied by the greatest number of days the facility is unattended.

(2) If the pumping rate of the well with the highest output is estimated or the maximum number of days the facility is unattended is estimated, then the production volume is determined from the pumping rate of the well multiplied by 1.5 times the greatest number of days that the facility has been or is expected to be unattended.

(3) Attachment D–1 to this appendix provides methods for calculating the production volumes for exploratory wells and production wells producing under pressure.

(A) FINAL WORST CASE VOLUME: _______ GAL

(B) Do not proceed further.

[2] Secondary containment is described in 40 CFR part 112, subparts A through C. Acceptable methods and structures for containment are also given in 40 CFR 112.7(c)(1).

[3] All complexes that are jointly regulated by EPA and the USCG must also calculate the worst case discharge planning volume for the transportation-related portions of the facility and plan for whichever volume is greater.

B.2.2 If the answer is no, calculate the total aboveground oil storage capacity of tanks without adequate secondary containment. If *all* aboveground oil storage tanks or groups of aboveground oil storage tanks at the facility have adequate secondary containment, ENTER ''0'' (zero).

________ GAL

B.2.3 Calculate the capacity of the largest single aboveground oil storage tank within an adequate secondary containment area or the combined capacity of a group of aboveground oil storage tanks permanently manifolded together, whichever is greater, plus the production volume of the well with the highest output, PLUS THE VOLUME FROM QUESTION B.2.2. Attachment D–1 provides methods for calculating the production volumes for exploratory wells and production wells producing under pressure.

(1) FINAL WORST CASE VOLUME:[4] ________ GAL

(2) Do not proceed further.

ATTACHMENTS TO APPENDIX D

ATTACHMENT D–I—METHODS TO CALCULATE PRODUCTION VOLUMES FOR PRODUCTION FACILITIES WITH EXPLORATORY WELLS OR PRODUCTION WELLS PRODUCING UNDER PRESSURE

1.0 Introduction

The owner or operator of a production facility with exploratory wells or production wells producing under pressure shall compare the well rate of the highest output well (rate of well), in barrels per day, to the ability of response equipment and personnel to recover the volume of oil that could be discharged (rate of recovery), in barrels per day. The result of this comparison will determine the method used to calculate the production volume for the production facility. This production volume is to be used to calculate the worst case discharge planning volume in part B of this appendix.

2.0 Description of Methods

2.1 Method A

If the well rate would overwhelm the response efforts (i.e., rate of well/rate of recovery ≥1), then the production volume would be the 30-day forecasted well rate for a well 10,000 feet deep or less, or the 45-day forecasted well rate for a well deeper than 10,000 feet.

(1) For wells 10,000 feet deep or less:

Production volume=30 days × rate of well.

(2) For wells deeper than 10,000 feet:

Production volume=45 days × rate of well.

2.2 Method B

2.2.1 If the rate of recovery would be greater than the well rate (i.e., rate of well/rate of recovery <1), then the production volume would equal the sum of two terms:

Production volume=discharge volume$_1$ + discharge volume$_2$

2.2.2 The first term represents the volume of the oil discharged from the well between the time of the blowout and the time the response resources are on scene and recovering oil (discharge volume$_1$).

Discharge volume$_1$=(days unattended+days to respond) × (rate of well)

2.2.3 The second term represents the volume of oil discharged from the well after the response resources begin operating until the discharge is stopped, adjusted for the recovery rate of the response resources (discharge volume$_2$).

(1) For wells 10,000 feet deep or less:

Discharge volume$_2$=[30 days − (days unattended + days to respond)] × (rate of well) × (rate of well/rate of recovery)

(2) For wells deeper than 10,000 feet:

Discharge volume$_2$=[45 days − (days unattended + days to respond)] × (rate of well) × (rate of well/rate of recovery)

3.0 Example

3.1 A facility consists of two production wells producing under pressure, which are both less than 10,000 feet deep. The well rate of well A is 5 barrels per day, and the well rate of well B is 10 barrels per day. The facility is unattended for a maximum of 7 days. The facility operator estimates that it will take 2 days to have response equipment and personnel on scene and responding to a blowout, and that the projected rate of recovery will be 20 barrels per day.

(1) First, the facility operator determines that the highest output well is well B. The facility operator calculates the ratio of the rate of well to the rate of recovery:

10 barrels per day/20 barrels per day=0.5 Because the ratio is less than one, the facility operator will use Method B to calculate the production volume.

(2) The first term of the equation is:

Discharge volume$_1$=(7 days + 2 days) × (10 barrels per day)=90 barrels

(3) The second term of the equation is:

Discharge volume$_2$=[30 days—(7 days + 2 days)] × (10 barrels per day) × (0.5)=105 barrels

(4) Therefore, the production volume is:

Production volume=90 barrels + 105 barrels=195 barrels

[4] All complexes that are jointly regulated by EPA and the USCG must also calculate the worst case discharge planning volume for the transportation-related portions of the facility and plan for whichever volume is greater.

3.2 If the recovery rate was 5 barrels per day, the ratio of rate of well to rate of recovery would be 2, so the facility operator would use Method A. The production volume would have been:

30 days × 10 barrels per day=300 barrels

[59 FR 34110, July 1, 1994; 59 FR 49006, Sept. 26, 1994, as amended at 65 FR 40800, June 30, 2000; 67 FR 47152, July 17, 2002]

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

1.0 Purpose and Definitions

1.1 The purpose of this appendix is to describe the procedures to identify response resources to meet the requirements of §112.20. To identify response resources to meet the facility response plan requirements of 40 CFR 112.20(h), owners or operators shall follow this appendix or, where not appropriate, shall clearly demonstrate in the response plan why use of this appendix is not appropriate at the facility and make comparable arrangements for response resources.

1.2 Definitions.

1.2.1 *Animal fat* means a non-petroleum oil, fat, or grease of animal, fish, or marine mammal origin. Animal fats are further classified based on specific gravity as follows:

(1) Group A—specific gravity less than 0.8.

(2) Group B—specific gravity equal to or greater than 0.8 and less than 1.0.

(3) Group C—specific gravity equal to or greater than 1.0.

1.2.2 *Nearshore* is an operating area defined as extending seaward 12 miles from the boundary lines defined in 46 CFR part 7, except in the Gulf of Mexico. In the Gulf of Mexico, it means the area extending 12 miles from the line of demarcation (COLREG lines) defined in 49 CFR 80.740 and 80.850.

1.2.3 *Non-persistent oils* or *Group 1 oils* include:

(1) A petroleum-based oil that, at the time of shipment, consists of hydrocarbon fractions:

(A) At least 50 percent of which by volume, distill at a temperature of 340 degrees C (645 degrees F); and

(B) At least 95 percent of which by volume, distill at a temperature of 370 degrees C (700 degrees F); and

(2) A non-petroleum oil, other than an animal fat or vegetable oil, with a specific gravity less than 0.8.

1.2.4 *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.

1.2.5 *Ocean* means the nearshore area.

1.2.6 *Operating area* means Rivers and Canals, Inland, Nearshore, and Great Lakes geographic location(s) in which a facility is handling, storing, or transporting oil.

1.2.7 *Operating environment* means Rivers and Canals, Inland, Great Lakes, or Ocean. These terms are used to define the conditions in which response equipment is designed to function.

1.2.8 *Persistent oils* include:

(1) A petroleum-based oil that does not meet the distillation criteria for a non-persistent oil. Persistent oils are further classified based on specific gravity as follows:

(A) Group 2—specific gravity less than 0.85;

(B) Group 3—specific gravity equal to or greater than 0.85 and less than 0.95;

(C) Group 4—specific gravity equal to or greater than 0.95 and less than 1.0; or

(D) Group 5—specific gravity equal to or greater than 1.0.

(2) A non-petroleum oil, other than an animal fat or vegetable oil, with a specific gravity of 0.8 or greater. These oils are further classified based on specific gravity as follows:

(A) Group 2—specific gravity equal to or greater than 0.8 and less than 0.85;

(B) Group 3—specific gravity equal to or greater than 0.85 and less than 0.95;

(C) Group 4—specific gravity equal to or greater than 0.95 and less than 1.0; or

(D) Group 5—specific gravity equal to or greater than 1.0.

1.2.9 *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. Vegetable oils are further classified based on specific gravity as follows:

(1) Group A—specific gravity less than 0.8.

(2) Group B—specific gravity equal to or greater than 0.8 and less than 1.0.

(3) Group C—specific gravity equal to or greater than 1.0.

1.2.10 Other definitions are included in §112.2, section 1.1 of Appendix C, and section 3.0 of Appendix F.

2.0 Equipment Operability and Readiness

2.1 All equipment identified in a response plan must be designed to operate in the conditions expected in the facility's geographic area (i.e., operating environment). These conditions vary widely based on location and season. Therefore, it is difficult to identify a single stockpile of response equipment that will function effectively in each geographic location (i.e., operating area).

2.2 Facilities handling, storing, or transporting oil in more than one operating environment as indicated in Table 1 of this appendix must identify equipment capable of successfully functioning in each operating environment.

2.3 When identifying equipment for the response plan (based on the use of this appendix), a facility owner or operator must consider the inherent limitations of the operability of equipment components and response systems. The criteria in Table 1 of this appendix shall be used to evaluate the operability in a given environment. These criteria reflect the general conditions in certain operating environments.

2.3.1 The Regional Administrator may require documentation that the boom identified in a facility response plan meets the criteria in Table 1 of this appendix. Absent acceptable documentation, the Regional Administrator may require that the boom be tested to demonstrate that it meets the criteria in Table 1 of this appendix. Testing must be in accordance with ASTM F 715, ASTM F 989, or other tests approved by EPA as deemed appropriate (see Appendix E to this part, section 13, for general availability of documents).

2.4 Table 1 of this appendix lists criteria for oil recovery devices and boom. All other equipment necessary to sustain or support response operations in an operating environment must be designed to function in the same conditions. For example, boats that deploy or support skimmers or boom must be capable of being safely operated in the significant wave heights listed for the applicable operating environment.

2.5 A facility owner or operator shall refer to the applicable Area Contingency Plan (ACP), where available, to determine if ice, debris, and weather-related visibility are significant factors to evaluate the operability of equipment. The ACP may also identify the average temperature ranges expected in the facility's operating area. All equipment identified in a response plan must be designed to operate within those conditions or ranges.

2.6 This appendix provides information on response resource mobilization and response times. The distance of the facility from the storage location of the response resources must be used to determine whether the resources can arrive on-scene within the stated time. A facility owner or operator shall include the time for notification, mobilization, and travel of resources identified to meet the medium and Tier 1 worst case discharge requirements identified in sections 4.3 and 9.3 of this appendix (for medium discharges) and section 5.3 of this appendix (for worst case discharges). The facility owner or operator must plan for notification and mobilization of Tier 2 and 3 response resources as necessary to meet the requirements for arrival on-scene in accordance with section 5.3 of this appendix. An on-water speed of 5 knots and a land speed of 35 miles per hour is assumed, unless the facility owner or operator can demonstrate otherwise.

2.7 In identifying equipment, the facility owner or operator shall list the storage location, quantity, and manufacturer's make and model. For oil recovery devices, the effective daily recovery capacity, as determined using section 6 of this appendix, must be included. For boom, the overall boom height (draft and freeboard) shall be included. A facility owner or operator is responsible for ensuring that the identified boom has compatible connectors.

3.0 Determining Response Resources Required for Small Discharges—Petroleum Oils and Non-Petroleum Oils Other Than Animal Fats and Vegetable Oils

3.1 A facility owner or operator shall identify sufficient response resources available, by contract or other approved means as described in §112.2, to respond to a small discharge. A small discharge is defined as any discharge volume less than or equal to 2,100 gallons, but not to exceed the calculated worst case discharge. The equipment must be designed to function in the operating environment at the point of expected use.

3.2 Complexes that are regulated by EPA and the United States Coast Guard (USCG) must also consider planning quantities for the transportation-related transfer portion of the facility.

3.2.1 *Petroleum oils.* The USCG planning level that corresponds to EPA's "small discharge" is termed "the average most probable discharge." A USCG rule found at 33 CFR 154.1020 defines "the average most probable discharge" as the lesser of 50 barrels (2,100 gallons) or 1 percent of the volume of the worst case discharge. Owners or operators of complexes that handle, store, or transport petroleum oils must compare oil discharge volumes for a small discharge and an average most probable discharge, and plan for whichever quantity is greater.

3.2.2 *Non-petroleum oils other than animal fats and vegetable oils.* Owners or operators of complexes that handle, store, or transport non-petroleum oils other than animal fats and vegetable oils must plan for oil discharge volumes for a small discharge. There is no USCG planning level that directly corresponds to EPA's "small discharge." However, the USCG (at 33 CFR 154.545) has requirements to identify equipment to contain oil resulting from an operational discharge.

3.3 The response resources shall, as appropriate, include:

3.3.1 One thousand feet of containment boom (or, for complexes with marine transfer components, 1,000 feet of containment boom or two times the length of the largest vessel that regularly conducts oil transfers to or from the facility, whichever is greater), and a means of deploying it within 1 hour of the discovery of a discharge;

3.3.2 Oil recovery devices with an effective daily recovery capacity equal to the amount of oil discharged in a small discharge or greater which is available at the facility within 2 hours of the detection of an oil discharge; and

3.3.3 Oil storage capacity for recovered oily material indicated in section 12.2 of this appendix.

4.0 Determining Response Resources Required for Medium Discharges—Petroleum Oils and Non-Petroleum Oils Other Than Animal Fats and Vegetable Oils

4.1 A facility owner or operator shall identify sufficient response resources available, by contract or other approved means as described in §112.2, to respond to a medium discharge of oil for that facility. This will require response resources capable of containing and collecting up to 36,000 gallons of oil or 10 percent of the worst case discharge, whichever is less. All equipment identified must be designed to operate in the applicable operating environment specified in Table 1 of this appendix.

4.2 Complexes that are regulated by EPA and the USCG must also consider planning quantities for the transportation-related transfer portion of the facility.

4.2.1 *Petroleum oils.* The USCG planning level that corresponds to EPA's ''medium discharge'' is termed ''the maximum most probable discharge.'' The USCG rule found at 33 CFR part 154 defines ''the maximum most probable discharge'' as a discharge of 1,200 barrels (50,400 gallons) or 10 percent of the worst case discharge, whichever is less. Owners or operators of complexes that handle, store, or transport petroleum oils must compare calculated discharge volumes for a medium discharge and a maximum most probable discharge, and plan for whichever quantity is greater.

4.2.2 *Non-petroleum oils other than animal fats and vegetable oils.* Owners or operators of complexes that handle, store, or transport non-petroleum oils other than animal fats and vegetable oils must plan for oil discharge volumes for a medium discharge. For non-petroleum oils, there is no USCG planning level that directly corresponds to EPA's ''medium discharge.''

4.3 Oil recovery devices identified to meet the applicable medium discharge volume planning criteria must be located such that they are capable of arriving on-scene within 6 hours in higher volume port areas and the Great Lakes and within 12 hours in all other areas. Higher volume port areas and Great Lakes areas are defined in section 1.1 of Appendix C to this part.

4.4 Because rapid control, containment, and removal of oil are critical to reduce discharge impact, the owner or operator must determine response resources using an effective daily recovery capacity for oil recovery devices equal to 50 percent of the planning volume applicable for the facility as determined in section 4.1 of this appendix. The effective daily recovery capacity for oil recovery devices identified in the plan must be determined using the criteria in section 6 of this appendix.

4.5 In addition to oil recovery capacity, the plan shall, as appropriate, identify sufficient quantity of containment boom available, by contract or other approved means as described in §112.2, to arrive within the required response times for oil collection and containment and for protection of fish and wildlife and sensitive environments. For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's ''Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments'' (see Appendix E to this part, section 13, for availability) and the applicable ACP. Although 40 CFR part 112 does not set required quantities of boom for oil collection and containment, the response plan shall identify and ensure, by contract or other approved means as described in §112.2, the availability of the quantity of boom identified in the plan for this purpose.

4.6 The plan must indicate the availability of temporary storage capacity to meet section 12.2 of this appendix. If available storage capacity is insufficient to meet this level, then the effective daily recovery capacity must be derated (downgraded) to the limits of the available storage capacity.

4.7 The following is an example of a medium discharge volume planning calculation for equipment identification in a higher volume port area: The facility's largest aboveground storage tank volume is 840,000 gallons. Ten percent of this capacity is 84,000 gallons. Because 10 percent of the facility's largest tank, or 84,000 gallons, is greater than 36,000 gallons, 36,000 gallons is used as the planning volume. The effective daily recovery capacity is 50 percent of the planning volume, or 18,000 gallons per day. The ability of oil recovery devices to meet this capacity must be calculated using the procedures in section 6 of this appendix. Temporary storage capacity available on-scene must equal twice the daily recovery capacity as indicated in section 12.2 of this appendix, or 36,000 gallons per day. This is the information the facility owner or operator must use to identify and ensure the availability of the required response resources, by contract or other approved means as described in §112.2. The facility owner shall also identify how much boom is available for use.

5.0 Determining Response Resources Required for the Worst Case Discharge to the Maximum Extent Practicable

5.1 A facility owner or operator shall identify and ensure the availability of, by contract or other approved means as described in §112.2, sufficient response resources to respond to the worst case discharge of oil to the maximum extent practicable. Sections 7 and 10 of this appendix describe the method to determine the necessary response resources. Worksheets are provided as Attachments E–1 and E–2 at the end of this appendix to simplify the procedures involved in calculating the planning volume for response resources for the worst case discharge.

5.2 Complexes that are regulated by EPA and the USCG must also consider planning for the worst case discharge at the transportation-related portion of the facility. The USCG requires that transportation-related facility owners or operators use a different calculation for the worst case discharge in the revisions to 33 CFR part 154. Owners or operators of complex facilities that are regulated by EPA and the USCG must compare both calculations of worst case discharge derived by EPA and the USCG and plan for whichever volume is greater.

5.3 Oil discharge response resources identified in the response plan and available, by contract or other approved means as described in §112.2, to meet the applicable worst case discharge planning volume must be located such that they are capable of arriving at the scene of a discharge within the times specified for the applicable response tier listed as follows

	Tier 1 (in hours)	Tier 2 (in hours)	Tier 3 (in hours)
Higher volume port areas	6	30	54
Great Lakes	12	36	60
All other river and canal, inland, and nearshore areas	12	36	60

The three levels of response tiers apply to the amount of time in which facility owners or operators must plan for response resources to arrive at the scene of a discharge to respond to the worst case discharge planning volume. For example, at a worst case discharge in an inland area, the first tier of response resources (*i.e.*, that amount of on-water and shoreline cleanup capacity necessary to respond to the fraction of the worst case discharge as indicated through the series of steps described in sections 7.2 and 7.3 or sections 10.2 and 10.3 of this appendix) would arrive at the scene of the discharge within 12 hours; the second tier of response resources would arrive within 36 hours; and the third tier of response resources would arrive within 60 hours.

5.4 The effective daily recovery capacity for oil recovery devices identified in the response plan must be determined using the criteria in section 6 of this appendix. A facility owner or operator shall identify the storage locations of all response resources used for each tier. The owner or operator of a facility whose required daily recovery capacity exceeds the applicable contracting caps in Table 5 of this appendix shall, as appropriate, identify sources of additional equipment, their location, and the arrangements made to obtain this equipment during a response. The owner or operator of a facility whose calculated planning volume exceeds the applicable contracting caps in Table 5 of this appendix shall, as appropriate, identify sources of additional equipment equal to twice the cap listed in Tier 3 or the amount necessary to reach the calculated planning volume, whichever is lower. The resources identified above the cap shall be capable of arriving on-scene not later than the Tier 3 response times in section 5.3 of this appendix. No contract is required. While general listings of available response equipment may be used to identify additional sources (i.e., ''public'' resources vs. ''private'' resources), the response plan shall identify the specific sources, locations, and quantities of equipment that a facility owner or operator has considered in his or her planning. When listing USCG-classified oil spill removal organization(s) that have sufficient removal capacity to recover the volume above the response capacity cap for the specific facility, as specified in Table 5 of this appendix, it is not necessary to list specific quantities of equipment.

5.5 A facility owner or operator shall identify the availability of temporary storage capacity to meet section 12.2 of this appendix. If available storage capacity is insufficient, then the effective daily recovery capacity must be derated (downgraded) to the limits of the available storage capacity.

5.6 When selecting response resources necessary to meet the response plan requirements, the facility owner or operator shall, as appropriate, ensure that a portion of those resources is capable of being used in close-to-shore response activities in shallow water. For any EPA-regulated facility that is required to plan for response in shallow water, at least 20 percent of the on-water response equipment identified for the applicable operating area shall, as appropriate, be capable of operating in water of 6 feet or less depth.

5.7 In addition to oil spill recovery devices, a facility owner or operator shall identify sufficient quantities of boom that are available, by contract or other approved means as described in §112.2, to arrive on-scene within the specified response times for oil containment and collection. The specific quantity of boom required for collection and containment will depend on the facility-specific information and response strategies employed. A facility owner or operator shall, as appropriate, also identify sufficient quantities of oil containment boom to protect fish and wildlife and sensitive environments. For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments" (see Appendix E to this part, section 13, for availability), and the applicable ACP. Refer to this guidance document for the number of days and geographic areas (*i.e.*, operating environments) specified in Table 2 and Table 6 of this appendix.

5.8 A facility owner or operator shall also identify, by contract or other approved means as described in §112.2, the availability of an oil spill removal organization(s) (as described in §112.2) capable of responding to a shoreline cleanup operation involving the calculated volume of oil and emulsified oil that might impact the affected shoreline. The volume of oil that shall, as appropriate, be planned for is calculated through the application of factors contained in Tables 2, 3, 6, and 7 of this appendix. The volume calculated from these tables is intended to assist the facility owner or operator to identify an oil spill removal organization with sufficient resources and expertise.

6.0 Determining Effective Daily Recovery Capacity for Oil Recovery Devices

6.1 Oil recovery devices identified by a facility owner or operator must be identified by the manufacturer, model, and effective daily recovery capacity. These capacities must be used to determine whether there is sufficient capacity to meet the applicable planning criteria for a small discharge, a medium discharge, and a worst case discharge to the maximum extent practicable.

6.2 To determine the effective daily recovery capacity of oil recovery devices, the formula listed in section 6.2.1 of this appendix shall be used. This formula considers potential limitations due to available daylight, weather, sea state, and percentage of emulsified oil in the recovered material. The RA may assign a lower efficiency factor to equipment listed in a response plan if it is determined that such a reduction is warranted.

6.2.1 The following formula shall be used to calculate the effective daily recovery capacity:

$R = T \times 24 \text{ hours} \times E$

where:

R—Effective daily recovery capacity;

T—Throughput rate in barrels per hour (nameplate capacity); and

E—20 percent efficiency factor (or lower factor as determined by the Regional Administrator).

6.2.2 For those devices in which the pump limits the throughput of liquid, throughput rate shall be calculated using the pump capacity.

6.2.3 For belt or moptype devices, the throughput rate shall be calculated using the speed of the belt or mop through the device, assumed thickness of oil adhering to or collected by the device, and surface area of the belt or mop. For purposes of this calculation, the assumed thickness of oil will be ¼ inch.

6.2.4 Facility owners or operators that include oil recovery devices whose throughput is not measurable using a pump capacity or belt/mop speed may provide information to support an alternative method of calculation. This information must be submitted following the procedures in section 6.3.2 of this appendix.

6.3 As an alternative to section 6.2 of this appendix, a facility owner or operator may submit adequate evidence that a different effective daily recovery capacity should be applied for a specific oil recovery device. Adequate evidence is actual verified performance data in discharge conditions or tests using American Society of Testing and Materials (ASTM) Standard F 631–99, F 808–83 (1999), or an equivalent test approved by EPA as deemed appropriate (see Appendix E to this part, section 13, for general availability of documents).

6.3.1 The following formula must be used to calculate the effective daily recovery capacity under this alternative:

$R = D \times U$

where:

R—Effective daily recovery capacity;

D—Average Oil Recovery Rate in barrels per hour (Item 26 in F 808–83; Item 13.2.16 in F 631–99; or actual performance data); and

U—Hours per day that equipment can operate under discharge conditions. Ten hours per day must be used unless a facility owner or operator can demonstrate that the recovery operation can be sustained for longer periods.

6.3.2 A facility owner or operator submitting a response plan shall provide data that supports the effective daily recovery capacities for the oil recovery devices listed. The following is an example of these calculations:

(1) A weir skimmer identified in a response plan has a manufacturer's rated throughput at the pump of 267 gallons per minute (gpm).

267 gpm=381 barrels per hour (bph)

R=381 bph×24 hr/day×0.2=1,829 barrels per day

(2) After testing using ASTM procedures, the skimmer's oil recovery rate is determined to be 220 gpm. The facility owner or operator identifies sufficient resources available to support operations for 12 hours per day.

220 gpm=314 bph

R=314 bph×12 hr/day=3,768 barrels per day

(3) The facility owner or operator will be able to use the higher capacity if sufficient temporary oil storage capacity is available. Determination of alternative efficiency factors under section 6.2 of this appendix or the acceptability of an alternative effective daily recovery capacity under section 6.3 of this appendix will be made by the Regional Administrator as deemed appropriate.

7.0 Calculating Planning Volumes for a Worst Case Discharge—Petroleum Oils and Non-Petroleum Oils Other Than Animal Fats and Vegetable Oils

7.1 A facility owner or operator shall plan for a response to the facility's worst case discharge. The planning for on-water oil recovery must take into account a loss of some oil to the environment due to evaporative and natural dissipation, potential increases in volume due to emulsification, and the potential for deposition of oil on the shoreline. The procedures for non-petroleum oils other than animal fats and vegetable oils are discussed in section 7.7 of this appendix.

7.2 The following procedures must be used by a facility owner or operator in determining the required on-water oil recovery capacity:

7.2.1 The following must be determined: the worst case discharge volume of oil in the facility; the appropriate group(s) for the types of oil handled, stored, or transported at the facility [persistent (Groups 2, 3, 4, 5) or non-persistent (Group 1)]; and the facility's specific operating area. See sections 1.2.3 and 1.2.8 of this appendix for the definitions of non-persistent and persistent oils, respectively. Facilities that handle, store, or transport oil from different oil groups must calculate each group separately, unless the oil group constitutes 10 percent or less by volume of the facility's total oil storage capacity. This information is to be used with Table 2 of this appendix to determine the percentages of the total volume to be used for removal capacity planning. Table 2 of this appendix divides the volume into three categories: oil lost to the environment; oil deposited on the shoreline; and oil available for on-water recovery.

7.2.2 The on-water oil recovery volume shall, as appropriate, be adjusted using the appropriate emulsification factor found in Table 3 of this appendix. Facilities that handle, store, or transport oil from different petroleum groups must compare the on-water recovery volume for each oil group (unless the oil group constitutes 10 percent or less by volume of the facility's total storage capacity) and use the calculation that results in the largest on-water oil recovery volume to plan for the amount of response resources for a worst case discharge.

7.2.3 The adjusted volume is multiplied by the on-water oil recovery resource mobilization factor found in Table 4 of this appendix from the appropriate operating area and response tier to determine the total on-water oil recovery capacity in barrels per day that must be identified or contracted to arrive on-scene within the applicable time for each response tier. Three tiers are specified. For higher volume port areas, the contracted tiers of resources must be located such that they are capable of arriving on-scene within 6 hours for Tier 1, 30 hours for Tier 2, and 54 hours for Tier 3 of the discovery of an oil discharge. For all other rivers and canals, inland, nearshore areas, and the Great Lakes, these tiers are 12, 36, and 60 hours.

7.2.4 The resulting on-water oil recovery capacity in barrels per day for each tier is used to identify response resources necessary to sustain operations in the applicable operating area. The equipment shall be capable of sustaining operations for the time period specified in Table 2 of this appendix. The facility owner or operator shall identify and ensure the availability, by contract or other approved means as described in §112.2, of sufficient oil spill recovery devices to provide the effective daily oil recovery capacity required. If the required capacity exceeds the applicable cap specified in Table 5 of this appendix, then a facility owner or operator shall ensure, by contract or other approved means as described in §112.2, only for the quantity of resources required to meet the cap, but shall identify sources of additional resources as indicated in section 5.4 of this appendix. The owner or operator of a facility whose planning volume exceeded the cap in 1993 must make arrangements to identify and ensure the availability, by contract or other approved means as described in §112.2, for additional capacity to be under contract by 1998 or 2003, as appropriate. For a facility that handles multiple groups of oil, the required effective daily recovery capacity for each oil group is calculated before applying the cap. The oil group calculation resulting in the largest on-water recovery volume must be used to plan for the amount of response resources for a worst case discharge, unless the oil group comprises 10 percent or less by volume of the facility's total oil storage capacity.

7.3 The procedures discussed in sections 7.3.1–7.3.3 of this appendix must be used to calculate the planning volume for identifying shoreline cleanup capacity (for Group 1 through Group 4 oils).

7.3.1 The following must be determined: the worst case discharge volume of oil for the facility; the appropriate group(s) for the types of oil handled, stored, or transported at the facility [persistent (Groups 2, 3, or 4) or non-persistent (Group 1)]; and the geographic area(s) in which the facility operates (*i.e.*, operating areas). For a facility handling, storing, or transporting oil from different groups, each group must be calculated separately. Using this information, Table 2 of this appendix must be used to determine the percentages of the total volume to be used for shoreline cleanup resource planning.

7.3.2 The shoreline cleanup planning volume must be adjusted to reflect an emulsification factor using the same procedure as described in section 7.2.2 of this appendix.

7.3.3 The resulting volume shall be used to identify an oil spill removal organization with the appropriate shoreline cleanup capability.

7.4 A response plan must identify response resources with fire fighting capability. The owner or operator of a facility that handles, stores, or transports Group 1 through Group 4 oils that does not have adequate fire fighting resources located at the facility or that cannot rely on sufficient local fire fighting resources must identify adequate fire fighting resources. The facility owner or operator shall ensure, by contract or other approved means as described in §112.2, the availability of these resources. The response plan must also identify an individual located at the facility to work with the fire department for Group 1 through Group 4 oil fires. This individual shall also verify that sufficient well-trained fire fighting resources are available within a reasonable response time to a worst case scenario. The individual may be the qualified individual identified in the response plan or another appropriate individual located at the facility.

7.5 The following is an example of the procedure described above in sections 7.2 and 7.3 of this appendix: A facility with a 270,000 barrel (11.3 million gallons) capacity for #6 oil (specific gravity 0.96) is located in a higher volume port area. The facility is on a peninsula and has docks on both the ocean and bay sides. The facility has four aboveground oil storage tanks with a combined total capacity of 80,000 barrels (3.36 million gallons) and no secondary containment. The remaining facility tanks are inside secondary containment structures. The largest aboveground oil storage tank (90,000 barrels or 3.78 million gallons) has its own secondary containment. Two 50,000 barrel (2.1 million gallon) tanks (that are not connected by a manifold) are within a common secondary containment tank area, which is capable of holding 100,000 barrels (4.2 million gallons) plus sufficient freeboard.

7.5.1 The worst case discharge for the facility is calculated by adding the capacity of all aboveground oil storage tanks without secondary containment (80,000 barrels) plus the capacity of the largest aboveground oil storage tank inside secondary containment. The resulting worst case discharge volume is 170,000 barrels or 7.14 million gallons.

7.5.2 Because the requirements for Tiers 1, 2, and 3 for inland and nearshore exceed the caps identified in Table 5 of this appendix, the facility owner will contract for a response to 10,000 barrels per day (bpd) for Tier 1, 20,000 bpd for Tier 2, and 40,000 bpd for Tier 3. Resources for the remaining 7,850 bpd for Tier 1, 9,750 bpd for Tier 2, and 7,600 bpd for Tier 3 shall be identified but need not be contracted for in advance. The facility owner or operator shall, as appropriate, also identify or contract for quantities of boom identified in their response plan for the protection of fish and wildlife and sensitive environments within the area potentially impacted by a worst case discharge from the facility. For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments," (see Appendix E to this part, section 13, for availability) and the applicable ACP. Attachment C–III to Appendix C provides a method for calculating a planning distance to fish and wildlife and sensitive environments and public drinking water intakes that may be impacted in the event of a worst case discharge.

7.6 The procedures discussed in sections 7.6.1–7.6.3 of this appendix must be used to determine appropriate response resources for facilities with Group 5 oils.

7.6.1 The owner or operator of a facility that handles, stores, or transports Group 5 oils shall, as appropriate, identify the response resources available by contract or other approved means, as described in §112.2. The equipment identified in a response plan shall, as appropriate, include:

(1) Sonar, sampling equipment, or other methods for locating the oil on the bottom or suspended in the water column;

(2) Containment boom, sorbent boom, silt curtains, or other methods for containing the oil that may remain floating on the surface or to reduce spreading on the bottom;

(3) Dredges, pumps, or other equipment necessary to recover oil from the bottom and shoreline;

(4) Equipment necessary to assess the impact of such discharges; and

(5) Other appropriate equipment necessary to respond to a discharge involving the type of oil handled, stored,, or transported.

7.6.2 Response resources identified in a response plan for a facility that handles, stores, or transports Group 5 oils under section 7.6.1 of this appendix shall be capable of being deployed (on site) within 24 hours of discovery of a discharge to the area where the facility is operating.

7.6.3 A response plan must identify response resources with fire fighting capability. The owner or operator of a facility that handles, stores, or transports Group 5 oils that does not have adequate fire fighting resources located at the facility or that cannot rely on sufficient local fire fighting resources must identify adequate fire fighting resources. The facility owner or operator shall ensure, by contract or other approved means as described in §112.2, the availability of these resources. The response plan shall also identify an individual located at the facility to work with the fire department for Group 5 oil fires. This individual shall also verify that sufficient well-trained fire fighting resources are available within a reasonable response time to respond to a worst case discharge. The individual may be the qualified individual identified in the response plan or another appropriate individual located at the facility.

7.7 *Non-petroleum oils other than animal fats and vegetable oils.* The procedures described in sections 7.7.1 through 7.7.5 of this appendix must be used to determine appropriate response plan development and evaluation criteria for facilities that handle, store, or transport non-petroleum oils other than animal fats and vegetable oils. Refer to section 11 of this appendix for information on the limitations on the use of chemical agents for inland and nearshore areas.

7.7.1 An owner or operator of a facility that handles, stores, or transports non-petroleum oils other than animal fats and vegetable oils must provide information in his or her plan that identifies:

(1) Procedures and strategies for responding to a worst case discharge to the maximum extent practicable; and

(2) Sources of the equipment and supplies necessary to locate, recover, and mitigate such a discharge.

7.7.2 An owner or operator of a facility that handles, stores, or transports non-petroleum oils other than animal fats and vegetable oils must ensure that any equipment identified in a response plan is capable of operating in the conditions expected in the geographic area(s) (*i.e.*, operating environments) in which the facility operates using the criteria in Table 1 of this appendix. When evaluating the operability of equipment, the facility owner or operator must consider limitations that are identified in the appropriate ACPs, including:

(1) Ice conditions;

(2) Debris;

(3) Temperature ranges; and

(4) Weather-related visibility.

7.7.3 The owner or operator of a facility that handles, stores, or transports non-petroleum oils other than animal fats and vegetable oils must identify the response resources that are available by contract or other approved means, as described in §112.2. The equipment described in the response plan shall, as appropriate, include:

(1) Containment boom, sorbent boom, or other methods for containing oil floating on the surface or to protect shorelines from impact;

(2) Oil recovery devices appropriate for the type of non-petroleum oil carried; and

(3) Other appropriate equipment necessary to respond to a discharge involving the type of oil carried.

7.7.4 Response resources identified in a response plan according to section 7.7.3 of this appendix must be capable of commencing an effective on-scene response within the applicable tier response times in section 5.3 of this appendix.

7.7.5 A response plan must identify response resources with fire fighting capability. The owner or operator of a facility that handles, stores, or transports non-petroleum oils other than animal fats and vegetable oils that does not have adequate fire fighting resources located at the facility or that cannot rely on sufficient local fire fighting resources must identify adequate fire fighting resources. The owner or operator shall ensure, by contract or other approved means as described in §112.2, the availability of these resources. The response plan must also identify an individual located at the facility to work with the fire department for fires of these oils. This individual shall also verify that sufficient well-trained fire fighting resources are available within a reasonable response time to a worst case scenario. The individual may be the qualified individual identified in the response plan or another appropriate individual located at the facility.

8.0 Determining Response Resources Required for Small Discharges—Animal Fats and Vegetable Oils

8.1 A facility owner or operator shall identify sufficient response resources available, by contract or other approved means as described in §112.2, to respond to a small discharge of animal fats or vegetable oils. A small discharge is defined as any discharge volume less than or equal to 2,100 gallons, but not to exceed the calculated worst case discharge. The equipment must be designed to function in the operating environment at the point of expected use.

8.2 Complexes that are regulated by EPA and the USCG must also consider planning quantities for the marine transportation-related portion of the facility.

8.2.1 The USCG planning level that corresponds to EPA's "small discharge" is termed "the average most probable discharge." A USCG rule found at 33 CFR 154.1020 defines "the average most probable discharge" as the lesser of 50 barrels (2,100 gallons) or 1 percent of the volume of the worst case discharge. Owners or operators of complexes that handle, store, or transport animal fats and vegetable oils must compare oil discharge volumes for a small discharge and an average most probable discharge, and plan for whichever quantity is greater.

8.3 The response resources shall, as appropriate, include:

8.3.1 One thousand feet of containment boom (or, for complexes with marine transfer components, 1,000 feet of containment boom or two times the length of the largest vessel that regularly conducts oil transfers to or from the facility, whichever is greater), and a means of deploying it within 1 hour of the discovery of a discharge;

8.3.2 Oil recovery devices with an effective daily recovery capacity equal to the amount of oil discharged in a small discharge or greater which is available at the facility within 2 hours of the detection of a discharge; and

8.3.3 Oil storage capacity for recovered oily material indicated in section 12.2 of this appendix.

9.0 Determining Response Resources Required for Medium Discharges—Animal Fats and Vegetable Oils

9.1 A facility owner or operator shall identify sufficient response resources available, by contract or other approved means as described in §112.2, to respond to a medium discharge of animal fats or vegetable oils for that facility. This will require response resources capable of containing and collecting up to 36,000 gallons of oil or 10 percent of the worst case discharge, whichever is less. All equipment identified must be designed to operate in the applicable operating environment specified in Table 1 of this appendix.

9.2 Complexes that are regulated by EPA and the USCG must also consider planning quantities for the transportation-related transfer portion of the facility. Owners or operators of complexes that handle, store, or transport animal fats or vegetable oils must plan for oil discharge volumes for a medium discharge. For non-petroleum oils, there is no USCG planning level that directly corresponds to EPA's ''medium discharge.'' Although the USCG does not have planning requirements for medium discharges, they do have requirements (at 33 CFR 154.545) to identify equipment to contain oil resulting from an operational discharge.

9.3 Oil recovery devices identified to meet the applicable medium discharge volume planning criteria must be located such that they are capable of arriving on-scene within 6 hours in higher volume port areas and the Great Lakes and within 12 hours in all other areas. Higher volume port areas and Great Lakes areas are defined in section 1.1 of Appendix C to this part.

9.4 Because rapid control, containment, and removal of oil are critical to reduce discharge impact, the owner or operator must determine response resources using an effective daily recovery capacity for oil recovery devices equal to 50 percent of the planning volume applicable for the facility as determined in section 9.1 of this appendix. The effective daily recovery capacity for oil recovery devices identified in the plan must be determined using the criteria in section 6 of this appendix.

9.5 In addition to oil recovery capacity, the plan shall, as appropriate, identify sufficient quantity of containment boom available, by contract or other approved means as described in §112.2, to arrive within the required response times for oil collection and containment and for protection of fish and wildlife and sensitive environments. For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's ''Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments'' (59 FR 14713–22, March 29, 1994) and the applicable ACP. Although 40 CFR part 112 does not set required quantities of boom for oil collection and containment, the response plan shall identify and ensure, by contract or other approved means as described in §112.2, the availability of the quantity of boom identified in the plan for this purpose.

9.6 The plan must indicate the availability of temporary storage capacity to meet section 12.2 of this appendix. If available storage capacity is insufficient to meet this level, then the effective daily recovery capacity must be derated (downgraded) to the limits of the available storage capacity.

9.7 The following is an example of a medium discharge volume planning calculation for equipment identification in a higher volume port area:

The facility's largest aboveground storage tank volume is 840,000 gallons. Ten percent of this capacity is 84,000 gallons. Because 10 percent of the facility's largest tank, or 84,000 gallons, is greater than 36,000 gallons, 36,000 gallons is used as the planning volume. The effective daily recovery capacity is 50 percent of the planning volume, or 18,000 gallons per day. The ability of oil recovery devices to meet this capacity must be calculated using the procedures in section 6 of this appendix. Temporary storage capacity available on-scene must equal twice the daily recovery capacity as indicated in section 12.2 of this appendix, or 36,000 gallons per day. This is the information the facility owner or operator must use to identify and ensure the availability of the required response resources, by contract or other approved means as described in §112.2. The facility owner shall also identify how much boom is available for use.

10.0 Calculating Planning Volumes for a Worst Case Discharge—Animal Fats and Vegetable Oils.

10.1 A facility owner or operator shall plan for a response to the facility's worst case discharge. The planning for on-water oil recovery must take into account a loss of some oil to the environment due to physical, chemical, and biological processes, potential increases in volume due to emulsification, and the potential for deposition of oil on the shoreline or on sediments. The response planning procedures for animal fats and vegetable oils are discussed in section 10.7 of this appendix. You may use alternate response planning procedures for animal fats and vegetable oils if those procedures result in environmental protection equivalent to that provided by the procedures in section 10.7 of this appendix.

10.2 The following procedures must be used by a facility owner or operator in determining the required on-water oil recovery capacity:

10.2.1 The following must be determined: the worst case discharge volume of oil in the facility; the appropriate group(s) for the types of oil handled, stored, or transported at the facility (Groups A, B, C); and the facility's specific operating area. See sections 1.2.1 and 1.2.9 of this appendix for the definitions of animal fats and vegetable oils and groups thereof. Facilities that handle, store, or transport oil from different oil groups must calculate each group separately, unless the oil group constitutes 10 percent or less by volume of the facility's total oil storage capacity. This information is to be used with Table 6 of this appendix to determine the percentages of the total volume to be used for removal capacity planning. Table 6 of this appendix divides the volume into three categories: oil lost to the environment; oil deposited on the shoreline; and oil available for on-water recovery.

10.2.2 The on-water oil recovery volume shall, as appropriate, be adjusted using the appropriate emulsification factor found in Table 7 of this appendix. Facilities that handle, store, or transport oil from different groups must compare the on-water recovery volume for each oil group (unless the oil group constitutes 10 percent or less by volume of the facility's total storage capacity) and use the calculation that results in the largest on-water oil recovery volume to plan for the amount of response resources for a worst case discharge.

10.2.3 The adjusted volume is multiplied by the on-water oil recovery resource mobilization factor found in Table 4 of this appendix from the appropriate operating area and response tier to determine the total on-water oil recovery capacity in barrels per day that must be identified or contracted to arrive on-scene within the applicable time for each response tier. Three tiers are specified. For higher volume port areas, the contracted tiers of resources must be located such that they are capable of arriving on-scene within 6 hours for Tier 1, 30 hours for Tier 2, and 54 hours for Tier 3 of the discovery of a discharge. For all other rivers and canals, inland, nearshore areas, and the Great Lakes, these tiers are 12, 36, and 60 hours.

10.2.4 The resulting on-water oil recovery capacity in barrels per day for each tier is used to identify response resources necessary to sustain operations in the applicable operating area. The equipment shall be capable of sustaining operations for the time period specified in Table 6 of this appendix. The facility owner or operator shall identify and ensure, by contract or other approved means as described in §112.2, the availability of sufficient oil spill recovery devices to provide the effective daily oil recovery capacity required. If the required capacity exceeds the applicable cap specified in Table 5 of this appendix, then a facility owner or operator shall ensure, by contract or other approved means as described in §112.2, only for the quantity of resources required to meet the cap, but shall identify sources of additional resources as indicated in section 5.4 of this appendix. The owner or operator of a facility whose planning volume exceeded the cap in 1998 must make arrangements to identify and ensure, by contract or other approved means as described in §112.2, the availability of additional capacity to be under contract by 2003, as appropriate. For a facility that handles multiple groups of oil, the required effective daily recovery capacity for each oil group is calculated before applying the cap. The oil group calculation resulting in the largest on-water recovery volume must be used to plan for the amount of response resources for a worst case discharge, unless the oil group comprises 10 percent or less by volume of the facility's oil storage capacity.

10.3 The procedures discussed in sections 10.3.1 through 10.3.3 of this appendix must be used to calculate the planning volume for identifying shoreline cleanup capacity (for Groups A and B oils).

10.3.1 The following must be determined: the worst case discharge volume of oil for the facility; the appropriate group(s) for the types of oil handled, stored, or transported at the facility (Groups A or B); and the geographic area(s) in which the facility operates (i.e., operating areas). For a facility handling, storing, or transporting oil from different groups, each group must be calculated separately. Using this information, Table 6 of this appendix must be used to determine the percentages of the total volume to be used for shoreline cleanup resource planning.

10.3.2 The shoreline cleanup planning volume must be adjusted to reflect an emulsification factor using the same procedure as described in section 10.2.2 of this appendix.

10.3.3 The resulting volume shall be used to identify an oil spill removal organization with the appropriate shoreline cleanup capability.

10.4 A response plan must identify response resources with fire fighting capability appropriate for the risk of fire and explosion at the facility from the discharge or threat of discharge of oil. The owner or operator of a facility that handles, stores, or transports Group A or B oils that does not have adequate fire fighting resources located at the facility or that cannot rely on sufficient local fire fighting resources must identify adequate fire fighting resources. The facility owner or operator shall ensure, by contract or other approved means as described in §112.2, the availability of these resources. The response plan must also identify an individual to work with the fire department for Group A or B oil fires. This individual shall also verify that sufficient well-trained fire fighting resources are available within a reasonable response time to a worst case scenario. The individual may be the qualified individual identified in the response plan or another appropriate individual located at the facility.

10.5 The following is an example of the procedure described in sections 10.2 and 10.3 of this appendix. A facility with a 37.04 million gallon (881,904 barrel) capacity of several types of vegetable oils is located in the Inland Operating Area. The vegetable oil with the highest specific gravity stored at the facility is soybean oil (specific gravity 0.922, Group B vegetable oil). The facility has ten aboveground oil storage tanks with a combined total capacity of 18 million gallons (428,571 barrels) and without secondary containment. The remaining facility tanks are inside secondary containment structures. The largest aboveground oil storage tank (3 million gallons or 71,428 barrels) has its own secondary containment. Two 2.1 million gallon (50,000 barrel) tanks (that are not connected by a manifold) are within a common secondary containment tank area, which is capable of holding 4.2 million gallons (100,000 barrels) plus sufficient freeboard.

10.5.1 The worst case discharge for the facility is calculated by adding the capacity of all aboveground vegetable oil storage tanks without secondary containment (18.0 million gallons) plus the capacity of the largest aboveground storage tank inside secondary containment (3.0 million gallons). The resulting worst case discharge is 21 million gallons or 500,000 barrels.

10.5.2 With a specific worst case discharge identified, the planning volume for on-water recovery can be identified as follows:

Worst case discharge: 21 million gallons (500,000 barrels) of Group B vegetable oil

Operating Area: Inland

Planned percent recovered floating vegetable oil (from Table 6, column Nearshore/Inland/Great Lakes): Inland, Group B is 20%

Emulsion factor (from Table 7): 2.0

Planning volumes for on-water recovery: 21,000,000 gallons × 0.2 × 2.0 = 8,400,000 gallons or 200,000 barrels.

Determine required resources for on-water recovery for each of the three tiers using mobilization factors (from Table 4, column Inland/Nearshore/Great Lakes)

Inland Operating Area	Tier 1	Tier 2	Tier 3
Mobilization factor by which you multiply planning volume	.15	.25	.40
Estimated Daily Recovery Capacity (bbls)	30,000	50,000	80,000

10.5.3 Because the requirements for On-Water Recovery Resources for Tiers 1, 2, and 3 for Inland Operating Area exceed the caps identified in Table 5 of this appendix, the facility owner will contract for a response of 12,500 barrels per day (bpd) for Tier 1, 25,000 bpd for Tier 2, and 50,000 bpd for Tier 3. Resources for the remaining 17,500 bpd for Tier 1, 25,000 bpd for Tier 2, and 30,000 bpd for Tier 3 shall be identified but need not be contracted for in advance.

10.5.4 With the specific worst case discharge identified, the planning volume of onshore recovery can be identified as follows:

Worst case discharge: 21 million gallons (500,000 barrels) of Group B vegetable oil

Operating Area: Inland

Planned percent recovered floating vegetable oil from onshore (from Table 6, column Nearshore/Inland/Great Lakes): Inland, Group B is 65%

Emulsion factor (from Table 7): 2.0

Planning volumes for shoreline recovery:

21,000,000 gallons × 0.65 × 2.0 = 27,300,000 gallons or 650,000 barrels

10.5.5 The facility owner or operator shall, as appropriate, also identify or contract for quantities of boom identified in the response plan for the protection of fish and wildlife and sensitive environments within the area potentially impacted by a worst case discharge from the facility. For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments," (see Appendix E to this part, section 13, for availability) and the applicable ACP. Attachment C–III to Appendix C provides a method for calculating a planning distance to fish and wildlife and sensitive environments and public drinking water intakes that may be adversely affected in the event of a worst case discharge.

10.6 The procedures discussed in sections 10.6.1 through 10.6.3 of this appendix must be used to determine appropriate response resources for facilities with Group C oils.

10.6.1 The owner or operator of a facility that handles, stores, or transports Group C oils shall, as appropriate, identify the response resources available by contract or other approved means, as described in §112.2. The equipment identified in a response plan shall, as appropriate, include:

(1) Sonar, sampling equipment, or other methods for locating the oil on the bottom or suspended in the water column;

(2) Containment boom, sorbent boom, silt curtains, or other methods for containing the oil that may remain floating on the surface or to reduce spreading on the bottom;

(3) Dredges, pumps, or other equipment necessary to recover oil from the bottom and shoreline;

(4) Equipment necessary to assess the impact of such discharges; and

(5) Other appropriate equipment necessary to respond to a discharge involving the type of oil handled, stored, or transported.

10.6.2 Response resources identified in a response plan for a facility that handles, stores, or transports Group C oils under section 10.6.1 of this appendix shall be capable of being deployed on scene within 24 hours of discovery of a discharge.

10.6.3 A response plan must identify response resources with fire fighting capability. The owner or operator of a facility that handles, stores, or transports Group C oils that does not have adequate fire fighting resources located at the facility or that cannot rely on sufficient local fire fighting resources must identify adequate fire fighting resources. The owner or operator shall ensure, by contract or other approved means as described in §112.2, the availability of these resources. The response plan shall also identify an individual located at the facility to work with the fire department for Group C oil fires. This individual shall also verify that sufficient well-trained fire fighting resources are available within a reasonable response time to respond to a worst case discharge. The individual may be the qualified individual identified in the response plan or another appropriate individual located at the facility.

10.7 The procedures described in sections 10.7.1 through 10.7.5 of this appendix must be used to determine appropriate response plan development and evaluation criteria for facilities that handle, store, or transport animal fats and vegetable oils. Refer to section 11 of this appendix for information on the limitations on the use of chemical agents for inland and nearshore areas.

10.7.1 An owner or operator of a facility that handles, stores, or transports animal fats and vegetable oils must provide information in the response plan that identifies:

(1) Procedures and strategies for responding to a worst case discharge of animal fats and vegetable oils to the maximum extent practicable; and

(2) Sources of the equipment and supplies necessary to locate, recover, and mitigate such a discharge.

10.7.2 An owner or operator of a facility that handles, stores, or transports animal fats and vegetable oils must ensure that any equipment identified in a response plan is capable of operating in the geographic area(s) (*i.e.*, operating environments) in which the facility operates using the criteria in Table 1 of this appendix. When evaluating the operability of equipment, the facility owner or operator must consider limitations that are identified in the appropriate ACPs, including:

(1) Ice conditions;

(2) Debris;

(3) Temperature ranges; and

(4) Weather-related visibility.

10.7.3. The owner or operator of a facility that handles, stores, or transports animal fats and vegetable oils must identify the response resources that are available by contract or other approved means, as described in §112.2. The equipment described in the response plan shall, as appropriate, include:

(1) Containment boom, sorbent boom, or other methods for containing oil floating on the surface or to protect shorelines from impact;

(2) Oil recovery devices appropriate for the type of animal fat or vegetable oil carried; and

(3) Other appropriate equipment necessary to respond to a discharge involving the type of oil carried.

10.7.4 Response resources identified in a response plan according to section 10.7.3 of this appendix must be capable of commencing an effective on-scene response within the applicable tier response times in section 5.3 of this appendix.

10.7.5 A response plan must identify response resources with fire fighting capability. The owner or operator of a facility that handles, stores, or transports animal fats and vegetable oils that does not have adequate fire fighting resources located at the facility or that cannot rely on sufficient local fire fighting resources must identify adequate fire fighting resources. The owner or operator shall ensure, by contract or other approved means as described in §112.2, the availability of these resources. The response plan shall also identify an individual located at the facility to work with the fire department for animal fat and vegetable oil fires. This individual shall also verify that sufficient well-trained fire fighting resources are available within a reasonable response time to respond to a worst case discharge.

The individual may be the qualified individual identified in the response plan or another appropriate individual located at the facility.

11.0 Determining the Availability of Alternative Response Methods

11.1 For chemical agents to be identified in a response plan, they must be on the NCP Product Schedule that is maintained by EPA. (Some States have a list of approved dispersants for use within State waters. Not all of these State-approved dispersants are listed on the NCP Product Schedule.)

11.2 Identification of chemical agents in the plan does not imply that their use will be authorized. Actual authorization will be governed by the provisions of the NCP and the applicable ACP.

12.0 Additional Equipment Necessary to Sustain Response Operations

12.1 A facility owner or operator shall identify sufficient response resources available, by contract or other approved means as described in §112.2, to respond to a medium discharge of animal fats or vegetables oils for that facility. This will require response resources capable of containing and collecting up to 36,000 gallons of oil or 10 percent of the worst case discharge, whichever is less. All equipment identified must be designed to operate in the applicable operating environment specified in Table 1 of this appendix.

12.2 A facility owner or operator shall evaluate the availability of adequate temporary storage capacity to sustain the effective daily recovery capacities from equipment identified in the plan. Because of the inefficiencies of oil spill recovery devices, response plans must identify daily storage capacity equivalent to twice the effective daily recovery capacity required on-scene. This temporary storage capacity may be reduced if a facility owner or operator can demonstrate by waste stream analysis that the efficiencies of the oil recovery devices, ability to decant waste, or the availability of alternative temporary storage or disposal locations will reduce the overall volume of oily material storage.

12.3 A facility owner or operator shall ensure that response planning includes the capability to arrange for disposal of recovered oil products. Specific disposal procedures will be addressed in the applicable ACP.

13.0 References and Availability

13.1 All materials listed in this section are part of EPA's rulemaking docket and are located in the Superfund Docket, 1235 Jefferson Davis Highway, Crystal Gateway 1, Arlington, Virginia 22202, Suite 105 (Docket Numbers SPCC–2P, SPCC–3P, and SPCC–9P). The docket is available for inspection between 9 a.m. and 4 p.m., Monday through Friday, excluding Federal holidays.

Appointments to review the docket can be made by calling 703–603–9232. Docket hours are subject to change. As provided in 40 CFR part 2, a reasonable fee may be charged for copying services.

13.2 The docket will mail copies of materials to requestors who are outside the Washington, DC metropolitan area. Materials may be available from other sources, as noted in this section. As provided in 40 CFR part 2, a reasonable fee may be charged for copying services. The RCRA/Superfund Hotline at 800–424–9346 may also provide additional information on where to obtain documents. To contact the RCRA/Superfund Hotline in the Washington, DC metropolitan area, dial 703–412–9810. The Telecommunications Device for the Deaf (TDD) Hotline number is 800–553–7672, or, in the Washington, DC metropolitan area, 703–412–3323.

13.3 Documents

(1) National Preparedness for Response Exercise Program (PREP). The PREP draft guidelines are available from United States Coast Guard Headquarters (G-MEP-4), 2100 Second Street, SW., Washington, DC 20593. (See 58 FR 53990–91, October 19, 1993, Notice of Availability of PREP Guidelines).

(2) "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments (published in the FEDERAL REGISTER by DOC/NOAA at 59 FR 14713–22, March 29, 1994.). The guidance is available in the Superfund Docket (see sections 13.1 and 13.2 of this appendix).

(3) ASTM Standards. ASTM F 715, ASTM F 989, ASTM F 631–99, ASTM F 808–83 (1999). The ASTM standards are available from the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428–2959.

(4) Response Plans for Marine Transportation-Related Facilities, Interim Final Rule. Published by USCG, DOT at 58 FR 7330–76, February 5, 1993.

TABLE 1 TO APPENDIX E—RESPONSE RESOURCE OPERATING CRITERIA

Oil Recovery Devices		
Operating environment	Significant wave height [1]	Sea state
Rivers and Canals	≤ 1 foot	1
Inland	≤ 3 feet	2

TABLE 1 TO APPENDIX E—RESPONSE RESOURCE OPERATING CRITERIA—Continued

Oil Recovery Devices

Operating environment	Significant wave height [1]	Sea state
Great Lakes	≤ 4 feet	2–3
Ocean	≤ 6 feet	3–4

Boom

Boom property	Use			
	Rivers and canals	Inland	Great Lakes	Ocean
Significant Wave Height [1]	≤ 1	≤ 3	≤ 4	≤ 6
Sea State	1	2	2–3	3–4
Boom height—inches (draft plus freeboard)	6–18	18–42	18–42	≥42
Reserve Buoyancy to Weight Ratio	2:1	2:1	2:1	3:1 to 4:1
Total Tensile Strength—pounds	4,500	15,000–20,000.	15,000–20,000.	≥20,000
Skirt Fabric Tensile Strength—pounds	200	300	300	500
Skirt Fabric Tear Strength—pounds	100	100	100	125

[1] Oil recovery devices and boom *shall* be at least capable of operating in wave heights up to and including the values listed in Table 1 for each operating environment.

TABLE 2 TO APPENDIX E—REMOVAL CAPACITY PLANNING TABLE FOR PETROLEUM OILS

Spill location	Rivers and canals			Nearshore/Inland/Great Lakes		
Sustainability of on-water oil recovery	3 days			4 days		
Oil group [1]	Percent natural dissipation	Percent recovered floating oil	Percent oil onshore	Percent natural dissipation	Percent recovered floating oil	Percent oil onshore
1—Non-persistent oils	80	10	10	80	20	10
2—Light crudes	40	15	45	50	50	30
3—Medium crudes and fuels	20	15	65	30	50	50
4—Heavy crudes and fuels	5	20	75	10	50	70

[1] The response resource considerations for non-petroleum oils other than animal fats and vegetable oils are outlined in section 7.7 of this appendix.

NOTE: Group 5 oils are defined in section 1.2.8 of this appendix; the response resource considerations are outlined in section 7.6 of this appendix.

TABLE 3 TO APPENDIX E—EMULSIFICATION FACTORS FOR PETROLEUM OIL GROUPS [1]

Non-Persistent Oil:	
Group 1	1.0
Persistent Oil:	
Group 2	1.8
Group 3	2.0
Group 4	1.4
Group 5 oils are defined in section 1.2.7 of this appendix; the response resource considerations are outlined in section 7.6 of this appendix.	

[1] See sections 1.2.2 and 1.2.7 of this appendix for group designations for non-persistent and persistent oils, respectively.

TABLE 4 TO APPENDIX E—ON-WATER OIL RECOVERY RESOURCE MOBILIZATION FACTORS

Operating area	Tier 1	Tier 2	Tier 3
Rivers and Canals	0.30	0.40	0.60
Inland/Nearshore Great Lakes	0.15	0.25	0.40

Note: These mobilization factors are for total resources mobilized, not incremental response resources.

TABLE 5 TO APPENDIX E—RESPONSE CAPABILITY CAPS BY OPERATING AREA

	Tier 1	Tier 2	Tier 3
February 18, 1993:			
All except Rivers & Canals, Great Lakes	10K bbls/day	20K bbls/day	40K bbls/day.
Great Lakes	5K bbls/day	10K bbls/day	20K bbls/day.
Rivers & Canals	1.5K bbls/day	3.0K bbls/day	6.0K bbls/day.

TABLE 5 TO APPENDIX E—RESPONSE CAPABILITY CAPS BY OPERATING AREA—Continued

	Tier 1	Tier 2	Tier 3
February 18, 1998:			
All except Rivers & Canals, Great Lakes	12.5K bbls/day	25K bbls/day	50K bbls/day.
Great Lakes	6.35K bbls/day	12.3K bbls/day	25K bbls/day.
Rivers & Canals	1.875K bbls/day	3.75K bbls/day	7.5K bbls/day.
February 18, 2003:			
All except Rivers & Canals, Great Lakes	TBD	TBD	TBD.
Great Lakes	TBD	TBD	TBD.
Rivers & Canals	TBD	TBD	TBD.

Note: The caps show cumulative overall effective daily recovery capacity, not incremental increases.
TBD=To Be Determined.

TABLE 6 TO APPENDIX E—REMOVAL CAPACITY PLANNING TABLE FOR ANIMAL FATS AND VEGETABLE OILS

Spill location	Rivers and canals			Nearshore/Inland/Great Lakes		
Sustainability of on-water oil recovery	3 days			4 days		
Oil group [1]	Percent natural loss	Percent recovered floating oil	Percent recovered oil from onshore	Percent natural loss	Percent recovered floating oil	Percent recovered oil from onshore
Group A	40	15	45	50	20	30
Group B	20	15	65	30	20	50

[1] Substances with a specific gravity greater than 1.0 generally sink below the surface of the water. Response resource considerations are outlined in section 10.6 of this appendix. The owner or operator of the facility is responsible for determining appropriate response resources for Group C oils including locating oil on the bottom or suspended in the water column; containment boom or other appropriate methods for containing oil that may remain floating on the surface; and dredges, pumps, or other equipment to recover animal fats or vegetable oils from the bottom and shoreline.

NOTE: Group C oils are defined in sections 1.2.1 and 1.2.9 of this appendix; the response resource procedures are discussed in section 10.6 of this appendix.

TABLE 7 TO APPENDIX E—EMULSIFICATION FACTORS FOR ANIMAL FATS AND VEGETABLE OILS

Oil Group [1]:	
Group A	1.0
Group B	2.0

[1] Substances with a specific gravity greater than 1.0 generally sink below the surface of the water. Response resource considerations are outlined in section 10.6 of this appendix. The owner or operator of the facility is responsible for determining appropriate response resources for Group C oils including locating oil on the bottom or suspended in the water column; containment boom or other appropriate methods for containing oil that may remain floating on the surface; and dredges, pumps, or other equipment to recover animal fats or vegetable oils from the bottom and shoreline.

NOTE: Group C oils are defined in sections 1.2.1 and 1.2.9 of this appendix; the response resource procedures are discussed in section 10.6 of this appendix.

ATTACHMENTS TO APPENDIX E

Attachment E-1 --
Worksheet to Plan Volume of Response Resources for Worst Case Discharge - Petroleum Oils

Part I Background Information

Step (A) Calculate Worst Case Discharge in barrels (Appendix D) ☐ (A)

Step (B) Oil Group[1] (Table 3 and section 1.2 of this appendix) . ☐

Step (C) Operating Area (choose one) . . . . ☐ Near shore/Inland Great Lakes ☐ or Rivers and Canals

Step (D) Percentages of Oil (Table 2 of this appendix)

Percent Lost to Natural Dissipation	Percent Recovered Floating Oil	Percent Oil Onshore
(D1)	(D2)	(D3)

Step (E1) On-Water Oil Recovery $\frac{\text{Step (D2) x Step(A)}}{100}$ ☐ (E1)

Step (E2) Shoreline Recovery $\frac{\text{Step (D3) x Step (A)}}{100}$ . . . . ☐ (E2)

Step (F) Emulsification Factor (Table 3 of this appendix) . . . . ☐ (F)

Step (G) On-Water Oil Recovery Resource Mobilization Factor (Table 4 of this appendix)

Tier 1	Tier 2	Tier 3
(G1)	(G2)	(G3)

[1] A facility that handles, stores, or transports multiple groups of oil must do separate calculations for each oil group on site except for those oil groups that constitute 10 percent or less by volume of the total oil storage capacity at the facility. For purposes of this calculation, the volumes of all products in an oil group must be summed to determine the percentage of the facility's total oil storage capacity.

Attachment E-1 (continued) --
Worksheet to Plan Volume of Response Resources
for Worst Case Discharge - Petroleum Oils

Part II <u>On-Water Oil Recovery Capacity</u> (barrels/day)

Tier 1	Tier 2	Tier 3
Step (E1) x Step (F) x Step (G1)	Step (E1) x Step (F) x Step (G2)	Step (E1) x Step (F) x Step (G3)

Part III <u>Shoreline Cleanup Volume</u> (barrels) . . . . [ ]

Step (E2) x Step (F)

Part IV <u>On-Water Response Capacity By Operating Area</u>
(Table 5 of this appendix)
(Amount needed to be contracted for in barrels/day)

Tier 1	Tier 2	Tier 3
(J1)	(J2)	(J3)

Part V <u>On-Water Amount Needed to be Identified, but not Contracted for in Advance</u> (barrels/day)

Tier 1	Tier 2	Tier 3
Part II Tier 1 - Step (J1)	Part II Tier 2 - Step (J2)	Part II Tier 3 - Step (J3)

NOTE: To convert from barrels/day to gallons/day, multiply the quantities in Parts II through V by 42 gallons/barrel.

Attachment E-1 Example --
Worksheet to Plan Volume of Response Resources
for Worst Case Discharge - Petroleum Oils

Part I Background Information

Step (A) Calculate Worst Case Discharge in barrels (Appendix D) 170,000 (A)

Step (B) Oil Group[1] (Table 3 and section 1.2 of this appendix) . 4

Step (C) Operating Area (choose one) . . [X] Near shore/Inland Great Lakes [ ] or Rivers and Canals

Step (D) Percentages of Oil (Table 2 of this appendix)

Percent Lost to Natural Dissipation	Percent Recovered Floating Oil	Percent Oil Onshore
10	50	70
(D1)	(D2)	(D3)

Step (E1) On-Water Oil Recovery $\frac{\text{Step (D2) x Step (A)}}{100}$ 85,000 (E1)

Step (E2) Shoreline Recovery $\frac{\text{Step (D3) x Step (A)}}{100}$ 119,000 (E2)

Step (F) Emulsification Factor
(Table 3 of this appendix) . . . . 1.4 (F)

Step (G) On-Water Oil Recovery Resource Mobilization Factor
(Table 4 of this appendix)

Tier 1	Tier 2	Tier 3
0.15	0.25	0.40
(G1)	(G2)	(G3)

[1] A facility that handles, stores, or transports multiple groups of oil must do separate calculations for each oil group on site except for those oil groups that constitute 10 percent or less by volume of the total oil storage capacity at the facility. For purposes of this calculation, the volumes of all products in an oil group must be summed to determine the percentage of the facility's total oil storage capacity.

Attachment E-1 Example (continued) --
Worksheet to Plan Volume of Response Resources
for Worst Case Discharge - Petroleum Oils

Part II On-Water Oil Recovery Capacity (barrels/day)

Tier 1	Tier 2	Tier 3
17,850	29,750	47,600
Step (E1) x Step (F) x Step (G1)	Step (E1) x Step (F) x Step (G2)	Step (E1) x Step (F) x Step (G3)

Part III Shoreline Cleanup Volume (barrels) 166,600
Step (E2) x Step (F)

Part IV On-Water Response Capacity By Operating Area
(Table 5 of this appendix)
(Amount needed to be contracted for in barrels/day)

Tier 1	Tier 2	Tier 3
10,000	20,000	40,000
(J1)	(J2)	(J3)

Part V On-Water Amount Needed to be Identified, but not Contracted for in Advance (barrels/day)

Tier 1	Tier 2	Tier 3
7,850	9,750	7,600
Part II Tier 1 - Step (J1)	Part II Tier 2 - Step (J2)	Part II Tier 3 - Step (J3)

NOTE: To convert from barrels/day to gallons/day, multiply the quantities in Parts II through V by 42 gallons/barrel.

Attachment E-2 --
Worksheet to Plan Volume of Response Resources
for Worst Case Discharge - Animal Fats and Vegetable Oils

Part I Background Information

Step (A) Calculate Worst Case Discharge in barrels (Appendix D) [ ] (A)

Step (B) Oil Group[1] (Table 7 and section 1.2 of this appendix) . [ ]

Step (C) Operating Area (choose one) . . . . [ ] Near shore/Inland Great Lakes [ ] or Rivers and Canals

Step (D) Percentages of Oil (Table 6 of this appendix)

Percent Lost to Natural Dissipation	Percent Recovered Floating Oil	Percent Oil Onshore
(D1)	(D2)	(D3)

Step (E1) On-Water Oil Recovery $\frac{\text{Step (D2) x Step (A)}}{100}$ [ ] (E1)

Step (E2) Shoreline Recovery $\frac{\text{Step (D3) x Step (A)}}{100}$ . . . [ ] (E2)

Step (F) Emulsification Factor
(Table 7 of this appendix) . . . . [ ] (F)

Step (G) On-Water Oil Recovery Resource Mobilization Factor
(Table 4 of this appendix)

Tier 1	Tier 2	Tier 3
(G1)	(G2)	(G3)

[1] A facility that handles, stores, or transports multiple groups of oil must do separate calculations for each oil group on site except for those oil groups that constitute 10 percent or less by volume of the total oil storage capacity at the facility. For purposes of this calculation, the volumes of all products in an oil group must be summed to determine the percentage of the facility's total oil storage capacity.

Attachment E-2 (continued) --
Worksheet to Plan Volume of Response Resources
for Worst Case Discharge - Animal Fats and Vegetable Oils

Part II On-Water Oil Recovery Capacity (barrels/day)

Tier 1	Tier 2	Tier 3
Step (E1) x Step (F) x Step (G1)	Step (E1) x Step (F) x Step (G2)	Step (E1) x Step (F) x Step (G3)

Part III Shoreline Cleanup Volume (barrels) . . . . [ ]

Step (E2) x Step (F)

Part IV On-Water Response Capacity By Operating Area
(Table 5 of this appendix)
(Amount needed to be contracted for in barrels/day)

Tier 1	Tier 2	Tier 3
(J1)	(J2)	(J3)

Part V On-Water Amount Needed to be Identified, but not Contracted for in Advance (barrels/day)

Tier 1	Tier 2	Tier 3
Part II Tier 1 - Step (J1)	Part II Tier 2 - Step (J2)	Part II Tier 3 - Step (J3)

NOTE: To convert from barrels/day to gallons/day, multiply the quantities in Parts II through V by 42 gallons/barrel.

Attachment E-2 Example --
Worksheet to Plan Volume of Response Resources
for Worst Case Discharge - Animal Fats and Vegetable Oils

Part I Background Information

Step (A) Calculate Worst Case Discharge in barrels (Appendix D) . . . . 500,000 (A)

Step (B) Oil Group[1] (Table 7 and section 1.2 of this appendix) . . . . B

Step (C) Operating Area (choose one)

X	Near shore/Inland and Great Lakes		or Rivers and Canals

Step (D) Percentages of Oil (Table 6 of this appendix)

Percent Lost to Natural Dissipation	Percent Recovered Floating Oil	Percent Oil Onshore
30	20	50
(D1)	(D2)	(D3)

Step (E1) On-Water Oil Recovery $\frac{\text{Step (D2) x Step (A)}}{100}$ 100,000 (E1)

Step (E2) Shoreline Recovery $\frac{\text{Step (D3) x Step (A)}}{100}$ 250,000 (E2)

Step (F) Emulsification Factor (Table 7 of this appendix) . . . . 2.0 (F)

Step (G) On-Water Oil Recovery Resource Mobilization Factor (Table 4 of this appendix)

Tier 1	Tier 2	Tier 3
0.15	0.25	0.40
(G1)	(G2)	(G3)

[1] A facility that handles, stores, or transports multiple groups of oil must do separate calculations for each oil group on site except for those oil groups that constitute 10 percent or less by volume of the total oil storage capacity at the facility. For purposes of this calculation, the volumes of all products in an oil group must be summed to determine the percentage of the facility's total oil storage capacity.

Attachment E-2 Example (continued) --
Worksheet to Plan Volume of Response Resources
for Worst Case Discharge - Animal Fats and Vegetable Oils (continued)

Part II On-Water Oil Recovery Capacity (barrels/day)

Tier 1	Tier 2	Tier 3
30,000	50,000	80,000
Step (E1) x Step (F) x Step (G1)	Step (E1) x Step (F) x Step (G2)	Step (E1) x Step (F) x Step (G3)

Part III Shoreline Cleanup Volume (barrels) 500,000

Step (E2) x Step (F)

Part IV On-Water Response Capacity By Operating Area
(Table 5 of this appendix)
(Amount needed to be contracted for in barrels/day)

Tier 1	Tier 2	Tier 3
12,500	25,000	50,000
(J1)	(J2)	(J3)

Part V On-Water Amount Needed to be Identified, but not Contracted for in Advance (barrels/day)

Tier 1	Tier 2	Tier 3
17,500	25,000	30,000
Part II Tier 1 - Step (J1)	Part II Tier 2 - Step (J2)	Part II Tier 3 - Step (J3)

NOTE: To convert from barrels/day to gallons/day, multiply the quantities in Parts II through V by 42 gallons/barrel.

[59 FR 34111, July 1, 1994; 59 FR 49006, Sept. 26, 1994, as amended at 65 FR 40806, 40807, June 30, 2000; 65 FR 47325, Aug. 2, 2000; 66 FR 34560, June 29, 2001]

APPENDIX F TO PART 112—FACILITY-SPECIFIC RESPONSE PLAN

Table of Contents

1.0 Model Facility-Specific Response Plan

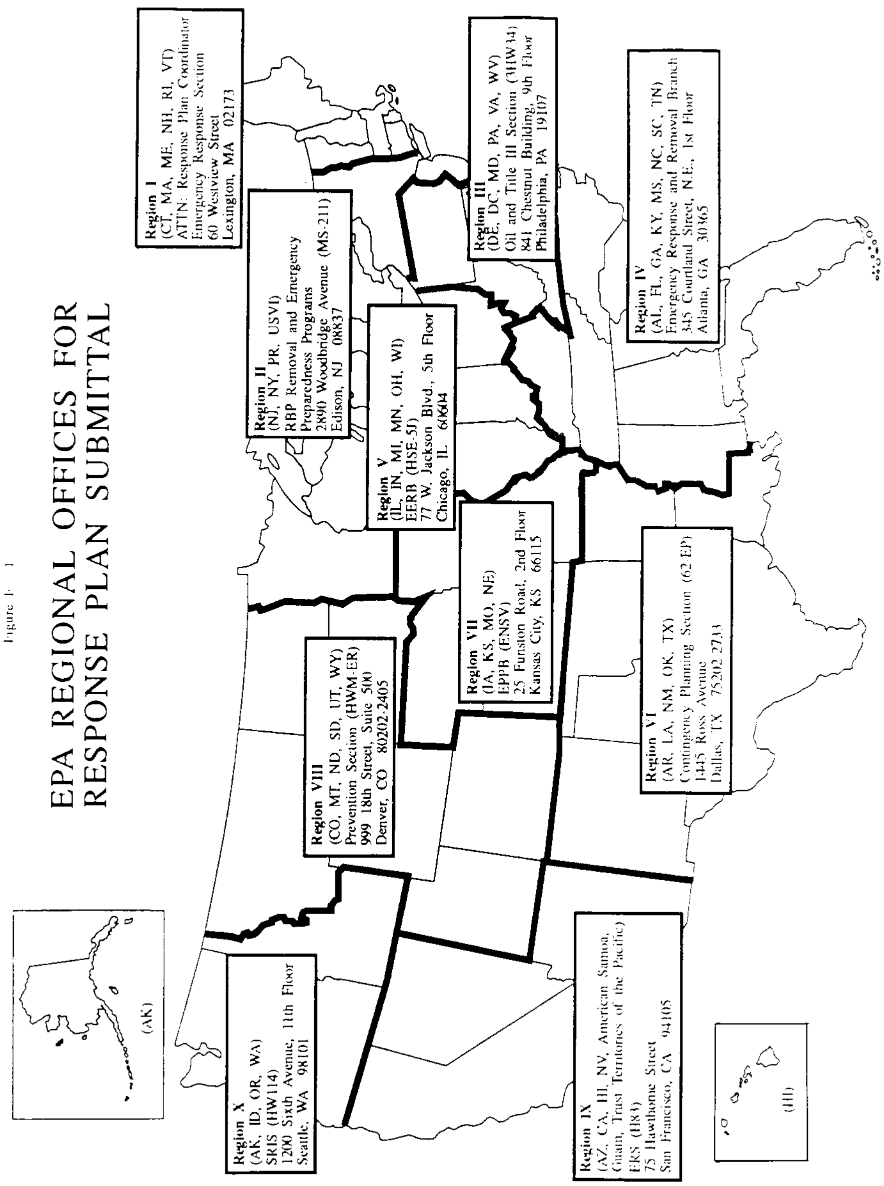
(A) Owners or operators of facilities regulated under this part which pose a threat of substantial harm to the environment by discharging oil into or on navigable waters or adjoining shorelines are required to prepare and submit facility-specific response plans to EPA in accordance with the provisions in this appendix. This appendix further describes the required elements in §112.20(h).

(B) Response plans must be sent to the appropriate EPA Regional office. Figure F–1 of this Appendix lists each EPA Regional office and the address where owners or operators must submit their response plans. Those facilities deemed by the Regional Administrator (RA) to pose a threat of significant and substantial harm to the environment will have their plans reviewed and approved by EPA. In certain cases, information required in the model response plan is similar to information currently maintained in the facility's Spill Prevention, Control, and Countermeasures (SPCC) Plan as required by 40 CFR 112.3. In these cases, owners or operators may reproduce the information and include a photocopy in the response plan.

(C) A complex may develop a single response plan with a set of core elements for all regulating agencies and separate sections for the non-transportation-related and transportation-related components, as described in §112.20(h). Owners or operators of large facilities that handle, store, or transport oil at more than one geographically distinct location (e.g., oil storage areas at opposite ends of a single, continuous parcel of property) shall, as appropriate, develop separate sections of the response plan for each storage area.

Figure F-1

EPA REGIONAL OFFICES FOR RESPONSE PLAN SUBMITTAL



1.1 Emergency Response Action Plan

Several sections of the response plan shall be co-located for easy access by response personnel during an actual emergency or oil discharge. This collection of sections shall be called the Emergency Response Action Plan. The Agency intends that the Action Plan contain only as much information as is necessary to combat the discharge and be arranged so response actions are not delayed. The Action Plan may be arranged in a number of ways. For example, the sections of the Emergency Response Action Plan may be photocopies or condensed versions of the forms included in the associated sections of the response plan. Each Emergency Response Action Plan section may be tabbed for quick reference. The Action Plan shall be maintained in the front of the same binder that contains the complete response plan or it shall be contained in a separate binder. In the latter case, both binders shall be kept together so that the entire plan can be accessed by the qualified individual and appropriate spill response personnel. The Emergency Response Action Plan shall be made up of the following sections:

1. Qualified Individual Information (Section 1.2) partial
2. Emergency Notification Phone List (Section 1.3.1) partial
3. Spill Response Notification Form (Section 1.3.1) partial
4. Response Equipment List and Location (Section 1.3.2) complete
5. Response Equipment Testing and Deployment (Section 1.3.3) complete
6. Facility Response Team (Section 1.3.4) partial
7. Evacuation Plan (Section 1.3.5) condensed
8. Immediate Actions (Section 1.7.1) complete
9. Facility Diagram (Section 1.9) complete

1.2 Facility Information

The facility information form is designed to provide an overview of the site and a description of past activities at the facility. Much of the information required by this section may be obtained from the facility's existing SPCC Plan.

1.2.1 *Facility name and location:* Enter facility name and street address. Enter the address of corporate headquarters only if corporate headquarters are physically located at the facility. Include city, county, state, zip code, and phone number.

1.2.2 *Latitude and Longitude:* Enter the latitude and longitude of the facility. Include degrees, minutes, and seconds of the main entrance of the facility.

1.2.3 *Wellhead Protection Area:* Indicate if the facility is located in or drains into a wellhead protection area as defined by the Safe Drinking Water Act of 1986 (SDWA).[1] The response plan requirements in the Wellhead Protection Program are outlined by the State or Territory in which the facility resides.

1.2.4 *Owner/operator:* Write the name of the company or person operating the facility and the name of the person or company that owns the facility, if the two are different. List the address of the owner, if the two are different.

1.2.5 *Qualified Individual:* Write the name of the qualified individual for the entire facility. If more than one person is listed, each individual indicated in this section shall have full authority to implement the facility response plan. For each individual, list: name, position, home and work addresses (street addresses, not P.O. boxes), emergency phone number, and specific response training experience.

1.2.6 *Date of Oil Storage Start-up:* Enter the year which the present facility first started storing oil.

1.2.7 *Current Operation:* Briefly describe the facility's operations and include the North American Industrial Classification System (NAICS) code.

1.2.8 *Dates and Type of Substantial Expansion:* Include information on expansions that have occurred at the facility. Examples of such expansions include, but are not limited to: Throughput expansion, addition of a product line, change of a product line, and installation of additional oil storage capacity. The data provided shall include all facility historical information and detail the expansion of the facility. An example of substantial expansion is any material alteration of the facility which causes the owner or operator of the facility to re-evaluate and increase the response equipment necessary to adequately respond to a worst case discharge from the facility.

Date of Last Update: _____

FACILITY INFORMATION FORM

Facility Name: ________________________
Location (Street Address): ______________
City: _____ State: _____ Zip: _____
County: _____ Phone Number: ( ) _____
Latitude: _____ Degrees _____ Minutes _____ Seconds
Longitude: _____ Degrees _____ Minutes _____ Seconds
Wellhead Protection Area: _______________
Owner: ________________________________
Owner Location (Street Address): _______
(if different from Facility Address)
City: _____ State:_____ Zip: _____
County: _____ Phone Number: ( ) _____
Operator (if not Owner): _________________
Qualified Individual(s): (attach additional sheets if more than one)
Name: ____________________________
Position: ____________________________
Work Address: __________________________
Home Address: _________________________
Emergency Phone Number: ( ) _______

[1] A wellhead protection area is defined as the surface and subsurface area surrounding a water well or wellfield, supplying a public water system, through which contaminants are reasonably likely to move toward and reach such water well or wellfield. For further information regarding State and territory protection programs, facility owners or operators may contact the SDWA Hotline at 1–800–426–4791.

Date of Oil Storage Start-up: ______________
Current Operations: ______________________
____
____
Date(s) and Type(s) of Substantial Expansion(s): ______________________________
____
(Attach additional sheets if necessary)

1.3 Emergency Response Information

(A) The information provided in this section shall describe what will be needed in an actual emergency involving the discharge of oil or a combination of hazardous substances and oil discharge. The Emergency Response Information section of the plan must include the following components:

(1) The information provided in the Emergency Notification Phone List in section 1.3.1 identifies and prioritizes the names and phone numbers of the organizations and personnel that need to be notified immediately in the event of an emergency. This section shall include all the appropriate phone numbers for the facility. These numbers must be verified each time the plan is updated. The contact list must be accessible to all facility employees to ensure that, in case of a discharge, any employee on site could immediately notify the appropriate parties.

(2) The Spill Response Notification Form in section 1.3.1 creates a checklist of information that shall be provided to the National Response Center (NRC) and other response personnel. All information on this checklist must be known at the time of notification, or be in the process of being collected. This notification form is based on a similar form used by the NRC. Note: Do not delay spill notification to collect the information on the list.

(3) Section 1.3.2 provides a description of the facility's list of emergency response equipment and location of the response equipment. When appropriate, the amount of oil that emergency response equipment can handle and any limitations (e.g., launching sites) must be described.

(4) Section 1.3.3 provides information regarding response equipment tests and deployment drills. Response equipment deployment exercises shall be conducted to ensure that response equipment is operational and the personnel who would operate the equipment in a spill response are capable of deploying and operating it. Only a representative sample of each type of response equipment needs to be deployed and operated, as long as the remainder is properly maintained. If appropriate, testing of response equipment may be conducted while it is being deployed. Facilities without facility-owned response equipment must ensure that the oil spill removal organization that is identified in the response plan to provide this response equipment certifies that the deployment exercises have been met. Refer to the National Preparedness for Response Exercise Program (PREP) Guidelines (see Appendix E to this part, section 13, for availability), which satisfy Oil Pollution Act (OPA) response exercise requirements.

(5) Section 1.3.4 lists the facility response personnel, including those employed by the facility and those under contract to the facility for response activities, the amount of time needed for personnel to respond, their responsibility in the case of an emergency, and their level of response training. Three different forms are included in this section. The Emergency Response Personnel List shall be composed of all personnel employed by the facility whose duties involve responding to emergencies, including oil discharges, even when they are not physically present at the site. An example of this type of person would be the Building Engineer-in-Charge or Plant Fire Chief. The second form is a list of the Emergency Response Contractors (both primary and secondary) retained by the facility. Any changes in contractor status must be reflected in updates to the response plan. Evidence of contracts with response contractors shall be included in this section so that the availability of resources can be verified. The last form is the Facility Response Team List, which shall be composed of both emergency response personnel (referenced by job title/position) and emergency response contractors, included in one of the two lists described above, that will respond immediately upon discovery of an oil discharge or other emergency (i.e., the first people to respond). These are to be persons normally on the facility premises or primary response contractors. Examples of these personnel would be the Facility Hazardous Materials (HAZMAT) Spill Team 1, Facility Fire Engine Company 1, Production Supervisor, or Transfer Supervisor. Company personnel must be able to respond immediately and adequately if contractor support is not available.

(6) Section 1.3.5 lists factors that must, as appropriate, be considered when preparing an evacuation plan.

(7) Section 1.3.6 references the responsibilities of the qualified individual for the facility in the event of an emergency.

(B) The information provided in the emergency response section will aid in the assessment of the facility's ability to respond to a worst case discharge and will identify additional assistance that may be needed. In addition, the facility owner or operator may want to produce a wallet-size card containing a checklist of the immediate response and notification steps to be taken in the event of an oil discharge.

1.3.1 Notification

Date of Last Update: ____________________

EMERGENCY NOTIFICATION PHONE LIST WHOM TO NOTIFY

Reporter's Name: ______
Date: ______
Facility Name: ______
Owner Name: ______
Facility Identification Number: ______
Date and Time of Each NRC Notification: ______

Organization	Phone No.
1. National Response Center (NRC):	1–800–424–8802
2. Qualified Individual:	
Evening Phone:	
3. Company Response Team:	
Evening Phone:	
4. Federal On-Scene Coordinator (OSC) and/or Regional Response Center (RRC):	
Evening Phone(s):	
Pager Number(s):	
5. Local Response Team (Fire Dept./Cooperatives):	
6. Fire Marshall:	
Evening Phone:	
7. State Emergency Response Commission (SERC):	
Evening Phone:	
8. State Police:	
9. Local Emergency Planning Committee (LEPC):	
10. Local Water Supply System:	
Evening Phone:	
11. Weather Report:	
12. Local Television/Radio Station for Evacuation Notification:	
13. Hospitals:	

SPILL RESPONSE NOTIFICATION FORM

Reporter's Last Name: ______
First: ______
M.I.: ______
Position: ______
Phone Numbers:
Day (   )   –
Evening (   )   –
Company: ______
Organization Type: ______
Address: ______

______
City: ______
State: ______
Zip: ______
Were Materials Discharged? ______ (Y/N) Confidential? ______ (Y/N)
Meeting Federal Obligations to Report? ______ (Y/N) Date Called: ______
Calling for Responsible Party? ______ (Y/N) Time Called: ______

Incident Description

Source and/or Cause of Incident: ______

______
______
______
______

Date of Incident: ______
Time of Incident: ______ AM/PM
Incident Address/Location: ______

______
Nearest City: ______ State: ______ County: ______ Zip: ______
Distance from City: ______ Units of Measure: ______ Direction from City: ______
Section: ______ Township: ______ Range: ______ Borough: ______
Container Type: ______ Tank Oil Storage Capacity: ______ Units of Measure: ______
Facility Oil Storage Capacity: ______ Units of Measure: ______
Facility Latitude: ______ Degrees ______ Minutes ______ Seconds
Facility Longitude: ______ Degrees ______ Minutes ______ Seconds

Material

CHRIS Code	Discharged quantity	Unit of measure	Material Discharged in water	Quantity	Unit of measure

Response Action

Actions Taken to Correct, Control or Mitigate Incident:

____

____

____

____

Impact

Number of Injuries: _____ Number of Deaths: _____

Were there Evacuations? _____ (Y/N) Number Evacuated: _____

Was there any Damage? _____ (Y/N)

Damage in Dollars (approximate): ________

Medium Affected: ____________________

Description: _________________________

More Information about Medium: ________

____

____

Additional Information

Any information about the incident not recorded elsewhere in the report:

____

____

____

Caller Notifications

EPA? _____ (Y/N) USCG? _____ (Y/N) State? _____ (Y/N)

Other? _____ (Y/N) Describe: _________

1.3.2 Response Equipment List

Date of Last Update:_____

FACILITY RESPONSE EQUIPMENT LIST

1. Skimmers/Pumps—Operational Status: __
Type, Model, and Year: ______________
____
Type Model Year
Number: ________________________
Capacity: ______ gal./min.
Daily Effective Recovery Rate: ________
Storage Location(s): ______________
Date Fuel Last Changed: ____________

2. Boom—Operational Status: __________
Type, Model, and Year: ______________
Type Model Year
Number: ________________________
Size (length): ______ ft.
Containment Area: ______ sq. ft.
Storage Location: __________________

3. Chemicals Stored (Dispersants listed on EPA's NCP Product Schedule)

Type	Amount	Date purchased	Treatment capacity	Storage location

Were appropriate procedures used to receive approval for use of dispersants in accordance with the NCP (40 CFR 300.910) and the Area Contingency Plan (ACP), where applicable?_____ (Y/N).

Name and State of On-Scene Coordinator (OSC) authorizing use: _____ .

Date Authorized: _____ .

4. Dispersant Dispensing Equipment—Operational Status: _____ .

Type and year	Capacity	Storage location	Response time (minutes)

5. Sorbents—Operational Status: _________
Type and Year Purchased: ___________
Amount: ________________________
Absorption Capacity (gal.): ___________
Storage Location(s): ______________

Type and year	Quantity	Storage location

6. Hand Tools—Operational Status: ________

Type and year	Quantity	Storage location

7. Communication Equipment (include operating frequency and channel and/or cellular phone numbers)—Operational Status: ______

Type and year	Quantity	Storage location/ number

8. Fire Fighting and Personnel Protective Equipment—Operational Status: ______

Type and year	Quantity	Storage location

9. Other (e.g., Heavy Equipment, Boats and Motors)—Operational Status: ______

Type and year	Quantity	Storage location

1.3.3 Response Equipment Testing/Deployment

Date of Last Update:________

Response Equipment Testing and Deployment Drill Log

Last Inspection or Response Equipment Test Date: ______

Inspection Frequency: ______

Last Deployment Drill Date: ______

Deployment Frequency: ______

Oil Spill Removal Organization Certification (if applicable): ______

1.3.4 Personnel

Date of Last Update:________

EMERGENCY RESPONSE PERSONNEL

Company Personnel

Name	Phone [1]	Response time	Responsibility during response action	Response training type/date
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				

[1] Phone number to be used when person is not on-site.

EMERGENCY RESPONSE CONTRACTORS

Date of Last Update: ________

Contractor	Phone	Response time	Contract responsibility [1]
1.			

EMERGENCY RESPONSE CONTRACTORS—Continued

Date of Last Update: _______

Contractor	Phone	Response time	Contract responsibility [1]
2.			
3.			
4.			

[1] Include evidence of contracts/agreements with response contractors to ensure the availability of personnel and response equipment.

FACILITY RESPONSE TEAM

Date of Last Update:_______

Team member	Response time (minutes)	Phone or pager number (day/evening)
Qualified Individual:		/
		/
		/
		/
		/
		/
		/
		/
		/
		/
		/
		/
		/
		/
		/
		/
		/
		/

NOTE: If the facility uses contracted help in an emergency response situation, the owner or operator must provide the contractors' names and review the contractors' capacities to provide adequate personnel and response equipment.

1.3.5 Evacuation Plans

1.3.5.1 Based on the analysis of the facility, as discussed elsewhere in the plan, a facility-wide evacuation plan shall be developed. In addition, plans to evacuate parts of the facility that are at a high risk of exposure in the event of a discharge or other release must be developed. Evacuation routes must be shown on a diagram of the facility (see section 1.9 of this appendix). When developing evacuation plans, consideration must be given to the following factors, as appropriate:

(1) Location of stored materials;

(2) Hazard imposed by discharged material;

(3) Discharge flow direction;

(4) Prevailing wind direction and speed;

(5) Water currents, tides, or wave conditions (if applicable);

(6) Arrival route of emergency response personnel and response equipment;

(7) Evacuation routes;

(8) Alternative routes of evacuation;

(9) Transportation of injured personnel to nearest emergency medical facility;

(10) Location of alarm/notification systems;

(11) The need for a centralized check-in area for evacuation validation (roll call);

(12) Selection of a mitigation command center; and

(13) Location of shelter at the facility as an alternative to evacuation.

1.3.5.2 One resource that may be helpful to owners or operators in preparing this section of the response plan is The *Handbook of Chemical Hazard Analysis Procedures* by the Federal Emergency Management Agency (FEMA), Department of Transportation (DOT), and EPA. *The Handbook of Chemical Hazard Analysis Procedures* is available from: FEMA , Publication Office, 500 C. Street, S.W., Washington, DC 20472, (202) 646–3484.

1.3.5.3 As specified in §112.20(h)(1)(vi), the facility owner or operator must reference existing community evacuation plans, as appropriate.

1.3.6 Qualified Individual's Duties

The duties of the designated qualified individual are specified in §112.20(h)(3)(ix). The qualified individual's duties must be described and be consistent with the minimum requirements in §112.20(h)(3)(ix). In addition, the qualified individual must be identified with the Facility Information in section 1.2 of the response plan.

1.4 Hazard Evaluation

This section requires the facility owner or operator to examine the facility's operations closely and to predict where discharges could occur. Hazard evaluation is a widely used industry practice that allows facility owners or operators to develop a complete understanding of potential hazards and the response actions necessary to address these hazards. *The Handbook of Chemical Hazard Analysis Procedures*, prepared by the EPA, DOT, and the FEMA and the *Hazardous Materials Emergency Planning Guide* (NRT–1), prepared by the National Response Team are good references for conducting a hazard analysis. Hazard identification and evaluation will assist facility owners or operators in planning for potential discharges, thereby reducing the severity of discharge impacts that may occur in the future. The evaluation also may help the operator identify and correct potential sources of discharges. In addition, special hazards to workers and emergency response personnel's health and safety shall be evaluated, as well as the facility's oil spill history.

1.4.1 Hazard Identification

The Tank and Surface Impoundment (SI) forms, or their equivalent, that are part of this section must be completed according to the directions below. (''Surface Impoundment'' means a facility or part of a facility which is a natural topographic depression, man-made excavation, or diked area formed primarily of earthen materials (although it may be lined with man-made materials), which is designed to hold an accumulation of liquid wastes or wastes containing free liquids, and which is not an injection well or a seepage facility.) Similar worksheets, or their equivalent, must be developed for any other type of storage containers.

(1) List each tank at the facility with a separate and distinct identifier. Begin aboveground tank identifiers with an ''A'' and belowground tank identifiers with a ''B'', or submit multiple sheets with the aboveground tanks and belowground tanks on separate sheets.

(2) Use gallons for the maximum capacity of a tank; and use square feet for the area.

(3) Using the appropriate identifiers and the following instructions, fill in the appropriate forms:

(a) Tank or SI number—Using the aforementioned identifiers (A or B) or multiple reporting sheets, identify each tank or SI at the facility that stores oil or hazardous materials.

(b) Substance Stored—For each tank or SI identified, record the material that is stored therein. If the tank or SI is used to store more than one material, list all of the stored materials.

(c) Quantity Stored—For each material stored in each tank or SI, report the average volume of material stored on any given day.

(d) Tank Type or Surface Area/Year—For each tank, report the type of tank (e.g., floating top), and the year the tank was originally installed. If the tank has been refabricated, the year that the latest refabrication was completed must be recorded in parentheses next to the year installed. For each SI, record the surface area of the impoundment and the year it went into service.

(e) Maximum Capacity—Record the operational maximum capacity for each tank and SI. If the maximum capacity varies with the season, record the upper and lower limits.

(f) Failure/Cause—Record the cause and date of any tank or SI failure which has resulted in a loss of tank or SI contents.

(4) Using the numbers from the tank and SI forms, label a schematic drawing of the facility. This drawing shall be identical to any schematic drawings included in the SPCC Plan.

(5) Using knowledge of the facility and its operations, describe the following in writing:

(a) The loading and unloading of transportation vehicles that risk the discharge of oil or release of hazardous substances during transport processes. These operations may include loading and unloading of trucks, railroad cars, or vessels. Estimate the volume of material involved in transfer operations, if the exact volume cannot be determined.

(b) Day-to-day operations that may present a risk of discharging oil or releasing a hazardous substance. These activities include scheduled venting, piping repair or replacement, valve maintenance, transfer of tank contents from one tank to another, etc. (not including transportation-related activities). Estimate the volume of material involved in these operations, if the exact volume cannot be determined.

(c) The secondary containment volume associated with each tank and/or transfer point at the facility. The numbering scheme developed on the tables, or an equivalent system, must be used to identify each containment area. Capacities must be listed for each individual unit (tanks, slumps, drainage traps, and ponds), as well as the facility total.

(d) Normal daily throughput for the facility and any effect on potential discharge volumes that a negative or positive change in that throughput may cause.

HAZARD IDENTIFICATION TANKS [1]

Date of Last Update: _______

Tank No.	Substance Stored (Oil and Hazardous Substance)	Quantity Stored (gallons)	Tank Type/Year	Maximum Capacity (gallons)	Failure/Cause

[1] Tank = any container that stores oil.
Attach as many sheets as necessary.

HAZARD IDENTIFICATION SURFACE IMPOUNDMENTS (SIS)

Date of Last Update: _______

SI No.	Substance Stored	Quantity Stored (gallons)	Surface Area/Year	Maximum Capacity (gallons)	Failure/Cause

HAZARD IDENTIFICATION SURFACE IMPOUNDMENTS (SIS)—Continued

Date of Last Update: ______

SI No.	Substance Stored	Quantity Stored (gallons)	Surface Area/Year	Maximum Capacity (gallons)	Failure/Cause

Attach as many sheets as necessary.

1.4.2 Vulnerability Analysis

The vulnerability analysis shall address the potential effects (i.e., to human health, property, or the environment) of an oil discharge. Attachment C–III to Appendix C to this part provides a method that owners or operators shall use to determine appropriate distances from the facility to fish and wildlife and sensitive environments. Owners or operators can use a comparable formula that is considered acceptable by the RA. If a comparable formula is used, documentation of the reliability and analytical soundness of the formula must be attached to the response plan cover sheet. This analysis must be prepared for each facility and, as appropriate, must discuss the vulnerability of:

(1) Water intakes (drinking, cooling, or other);

(2) Schools;

(3) Medical facilities;

(4) Residential areas;

(5) Businesses;

(6) Wetlands or other sensitive environments;[2]

(7) Fish and wildlife;

(8) Lakes and streams;

(9) Endangered flora and fauna;

(10) Recreational areas;

(11) Transportation routes (air, land, and water);

(12) Utilities; and

(13) Other areas of economic importance (e.g., beaches, marinas) including terrestrially sensitive environments, aquatic environments, and unique habitats.

1.4.3 Analysis of the Potential for an Oil Discharge

Each owner or operator shall analyze the probability of a discharge occurring at the facility. This analysis shall incorporate factors such as oil discharge history, horizontal range of a potential discharge, and vulnerability to natural disaster, and shall, as appropriate, incorporate other factors such as tank age. This analysis will provide information for developing discharge scenarios for a worst case discharge and small and medium discharges and aid in the development of techniques to reduce the size and frequency of discharges. The owner or operator may need to research the age of the tanks the oil discharge history at the facility.

1.4.4 Facility Reportable Oil Spill History

Briefly describe the facility's reportable oil spill[3] history for the entire life of the facility to the extent that such information is reasonably identifiable, including:

(1) Date of discharge(s);

(2) List of discharge causes;

(3) Material(s) discharged;

(4) Amount discharged in gallons;

(5) Amount of discharge that reached navigable waters, if applicable;

(6) Effectiveness and capacity of secondary containment;

(7) Clean-up actions taken;

(8) Steps taken to reduce possibility of recurrence;

(9) Total oil storage capacity of the tank(s) or impoundment(s) from which the material discharged;

(10) Enforcement actions;

(11) Effectiveness of monitoring equipment; and

(12) Description(s) of how each oil discharge was detected.

[2] Refer to the DOC/NOAA "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments" (See appendix E to this part, section 13, for availability).

[3] As described in 40 CFR part 110, reportable oil spills are those that: (a) violate applicable water quality standards, or (b) cause a film or sheen upon or discoloration of the surface of the water or adjoining shorelines or cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.

The information solicited in this section may be similar to requirements in 40 CFR 112.4(a). Any duplicate information required by §112.4(a) may be photocopied and inserted.

1.5 Discharge Scenarios

In this section, the owner or operator is required to provide a description of the facility's worst case discharge, as well as a small and medium discharge, as appropriate. A multi-level planning approach has been chosen because the response actions to a discharge (*i.e.*, necessary response equipment, products, and personnel) are dependent on the magnitude of the discharge. Planning for lesser discharges is necessary because the nature of the response may be qualitatively different depending on the quantity of the discharge. The facility owner or operator shall discuss the potential direction of the discharge pathway.

1.5.1 Small and Medium Discharges

1.5.1.1 To address multi-level planning requirements, the owner or operator must consider types of facility-specific discharge scenarios that may contribute to a small or medium discharge. The scenarios shall account for all the operations that take place at the facility, including but not limited to:

(1) Loading and unloading of surface transportation;

(2) Facility maintenance;

(3) Facility piping;

(4) Pumping stations and sumps;

(5) Oil storage tanks;

(6) Vehicle refueling; and

(7) Age and condition of facility and components.

1.5.1.2 The scenarios shall also consider factors that affect the response efforts required by the facility. These include but are not limited to:

(1) Size of the discharge;

(2) Proximity to downgradient wells, waterways, and drinking water intakes;

(3) Proximity to fish and wildlife and sensitive environments;

(4) Likelihood that the discharge will travel offsite (*i.e.*, topography, drainage);

(5) Location of the material discharged (*i.e.*, on a concrete pad or directly on the soil);

(6) Material discharged;

(7) Weather or aquatic conditions (*i.e.*, river flow);

(8) Available remediation equipment;

(9) Probability of a chain reaction of failures; and

(10) Direction of discharge pathway.

1.5.2 Worst Case Discharge

1.5.2.1 In this section, the owner or operator must identify the worst case discharge volume at the facility. Worksheets for production and non-production facility owners or operators to use when calculating worst case discharge are presented in Appendix D to this part. When planning for the worst case discharge response, all of the aforementioned factors listed in the small and medium discharge section of the response plan shall be addressed.

1.5.2.2 For onshore storage facilities and production facilities, permanently manifolded oil storage tanks are defined as tanks that are designed, installed, and/or operated in such a manner that the multiple tanks function as one storage unit (i.e., multiple tank volumes are equalized). In this section of the response plan, owners or operators must provide evidence that oil storage tanks with common piping or piping systems are not operated as one unit. If such evidence is provided and is acceptable to the RA, the worst case discharge volume shall be based on the combined oil storage capacity of all manifold tanks or the oil storage capacity of the largest single oil storage tank within the secondary containment area, whichever is greater. For permanently manifolded oil storage tanks that function as one storage unit, the worst case discharge shall be based on the combined oil storage capacity of all manifolded tanks or the oil storage capacity of the largest single tank within a secondary containment area, whichever is greater. For purposes of the worst case discharge calculation, permanently manifolded oil storage tanks that are separated by internal divisions for each tank are considered to be single tanks and individual manifolded tank volumes are not combined.

1.6 Discharge Detection Systems

In this section, the facility owner or operator shall provide a detailed description of the procedures and equipment used to detect discharges. A section on discharge detection by personnel and a discussion of automated discharge detection, if applicable, shall be included for both regular operations and after hours operations. In addition, the facility owner or operator shall discuss how the reliability of any automated system will be checked and how frequently the system will be inspected.

1.6.1 Discharge Detection by Personnel

In this section, facility owners or operators shall describe the procedures and personnel that will detect any discharge of oil or release of a hazardous substance. A thorough discussion of facility inspections must be included. In addition, a description of initial response actions shall be addressed. This section shall reference section 1.3.1 of the response plan for emergency response information.

1.6.2 Automated Discharge Detection

In this section, facility owners or operators must describe any automated discharge detection equipment that the facility has in place. This section shall include a discussion of overfill alarms, secondary containment sensors, etc. A discussion of the plans to verify an automated alarm and the actions to be taken once verified must also be included.

1.7 Plan Implementation

In this section, facility owners or operators must explain in detail how to implement the facility's emergency response plan by describing response actions to be carried out under the plan to ensure the safety of the facility and to mitigate or prevent discharges described in section 1.5 of the response plan. This section shall include the identification of response resources for small, medium, and worst case discharges; disposal plans; and containment and drainage planning. A list of those personnel who would be involved in the cleanup shall be identified. Procedures that the facility will use, where appropriate or necessary, to update their plan after an oil discharge event and the time frame to update the plan must be described.

1.7.1 Response Resources for Small, Medium, and Worst Case Discharages

1.7.1.1 Once the discharge scenarios have been identified in section 1.5 of the response plan, the facility owner or operator shall identify and describe implementation of the response actions. The facility owner or operator shall demonstrate accessibility to the proper response personnel and equipment to effectively respond to all of the identified discharge scenarios. The determination and demonstration of adequate response capability are presented in Appendix E to this part. In addition, steps to expedite the cleanup of oil discharges must be discussed. At a minimum, the following items must be addressed:

(1) Emergency plans for spill response;

(2) Additional response training;

(3) Additional contracted help;

(4) Access to additional response equipment/experts; and

(5) Ability to implement the plan including response training and practice drills.

1.7.1.2A recommended form detailing immediate actions follows.

OIL SPILL RESPONSE—IMMEDIATE ACTIONS

1. Stop the product flow	Act quickly to secure pumps, close valves, etc.
2. Warn personnel	Enforce safety and security measures.
3. Shut off ignition sources.	Motors, electrical circuits, open flames, etc.
4. Initiate containment	Around the tank and/or in the water with oil boom.
5. Notify NRC	1–800–424–8802
6. Notify OSC	
7. Notify, as appropriate	

Source: FOSS, Oil Spill Response—Emergency Procedures, Revised December 3, 1992.

1.7.2 Disposal Plans

1.7.2.1 Facility owners or operators must describe how and where the facility intends to recover, reuse, decontaminate, or dispose of materials after a discharge has taken place. The appropriate permits required to transport or dispose of recovered materials according to local, State, and Federal requirements must be addressed. Materials that must be accounted for in the disposal plan, as appropriate, include:

(1) Recovered product;

(2) Contaminated soil;

(3) Contaminated equipment and materials, including drums, tank parts, valves, and shovels;

(4) Personnel protective equipment;

(5) Decontamination solutions;

(6) Adsorbents; and

(7) Spent chemicals.

1.7.2.2 These plans must be prepared in accordance with Federal (e.g., the Resource Conservation and Recovery Act [RCRA]), State, and local regulations, where applicable. A copy of the disposal plans from the facility's SPCC Plan may be inserted with this section, including any diagrams in those plans.

Material	Disposal facility	Location	RCRA permit/manifest
1.			
2.			
3.			
4.			

1.7.3 Containment and Drainage Planning

A proper plan to contain and control a discharge through drainage may limit the threat of harm to human health and the environment. This section shall describe how to contain and control a discharge through drainage, including:

(1) The available volume of containment (use the information presented in section 1.4.1 of the response plan);

(2) The route of drainage from oil storage and transfer areas;

(3) The construction materials used in drainage troughs;

(4) The type and number of valves and separators used in the drainage system;

(5) Sump pump capacities;

(6) The containment capacity of weirs and booms that might be used and their location (see section 1.3.2 of this appendix); and

(7) Other cleanup materials.

In addition, a facility owner or operator must meet the inspection and monitoring requirements for drainage contained in 40 CFR part 112, subparts A through C. A copy of the containment and drainage plans that are required in 40 CFR part 112, subparts A through C may be inserted in this section, including any diagrams in those plans.

NOTE: The general permit for stormwater drainage may contain additional requirements.

1.8 Self-Inspection, Drills/Exercises, and Response Training

The owner or operator must develop programs for facility response training and for drills/exercises according to the requirements of 40 CFR 112.21. Logs must be kept for facility drills/exercises, personnel response training, and spill prevention meetings. Much of the recordkeeping information required by this section is also contained in the SPCC Plan required by 40 CFR 112.3. These logs may be included in the facility response plan or kept as an annex to the facility response plan.

1.8.1 Facility Self-Inspection

Under 40 CFR 112.7(e), you must include the written procedures and records of inspections for each facility in the SPCC Plan. You must include the inspection records for each container, secondary containment, and item of response equipment at the facility. You must cross-reference the records of inspections of each container and secondary containment required by 40 CFR 112.7(e) in the facility response plan. The inspection record of response equipment is a new requirement in this plan. Facility self-inspection requires two-steps: (1) a checklist of things to inspect; and (2) a method of recording the actual inspection and its findings. You must note the date of each inspection. You must keep facility response plan records for five years. You must keep SPCC records for three years.

1.8.1.1. Tank Inspection

The tank inspection checklist presented below has been included as guidance during inspections and monitoring. Similar requirements exist in 40 CFR part 112, subparts A through C. Duplicate information from the SPCC Plan may be photocopied and inserted in this section. The inspection checklist consists of the following items:

TANK INSPECTION CHECKLIST

1. Check tanks for leaks, specifically looking for:
   - A. drip marks;
   - B. discoloration of tanks;
   - C. puddles containing spilled or leaked material;
   - D. corrosion;
   - E. cracks; and
   - F. localized dead vegetation.
2. Check foundation for:
   - A. cracks;
   - B. discoloration;
   - C. puddles containing spilled or leaked material;
   - D. settling;
   - E. gaps between tank and foundation; and
   - F. damage caused by vegetation roots.
3. Check piping for:
   - A. droplets of stored material;
   - B. discoloration;
   - C. corrosion;
   - D. bowing of pipe between supports;
   - E. evidence of stored material seepage from valves or seals; and
   - F. localized dead vegetation.

TANK/SURFACE IMPOUNDMENT INSPECTION LOG

Inspector	Tank or SI#	Date	Comments

TANK/SURFACE IMPOUNDMENT INSPECTION LOG—Continued

Inspector	Tank or SI#	Date	Comments

1.8.1.2 Response Equipment Inspection

Using the Emergency Response Equipment List provided in section 1.3.2 of the response plan, describe each type of response equipment, checking for the following:

Response Equipment Checklist

1. Inventory (item and quantity);
2. Storage location;
3. Accessibility (time to access and respond);
4. Operational status/condition;
5. Actual use/testing (last test date and frequency of testing); and
6. Shelf life (present age, expected replacement date).

Please note any discrepancies between this list and the available response equipment.

RESPONSE EQUIPMENT INSPECTION LOG

[Use section 1.3.2 of the response plan as a checklist]

Inspector	Date	Comments

RESPONSE EQUIPMENT INSPECTION LOG—Continued

[Use section 1.3.2 of the response plan as a checklist]

Inspector	Date	Comments

1.8.1.3 Secondary Containment Inspection

Inspect the secondary containment (as described in sections 1.4.1 and 1.7.2 of the response plan), checking the following:

Secondary Containment Checklist

1. Dike or berm system.
   A. Level of precipitation in dike/available capacity;
   B. Operational status of drainage valves;
   C. Dike or berm permeability;
   D. Debris;
   E. Erosion;
   F. Permeability of the earthen floor of diked area; and
   G. Location/status of pipes, inlets, drainage beneath tanks, etc.
2. Secondary containment
   A. Cracks;
   B. Discoloration;
   C. Presence of spilled or leaked material (standing liquid);
   D. Corrosion; and
   E. Valve conditions.
3. Retention and drainage ponds
   A. Erosion;
   B. Available capacity;
   C. Presence of spilled or leaked material;
   D. Debris; and
   E. Stressed vegetation.

The tank inspection checklist presented below has been included as guidance during inspections and monitoring. Similar requirements exist in 40 CFR part 112, subparts A through C. Similar requirements exist in 40 CFR 112.7(e). Duplicate information from the SPCC Plan may be photocopied and inserted in this section.

1.8.2 Facility Drills/Exercises

(A) CWA section 311(j)(5), as amended by OPA, requires the response plan to contain a description of facility drills/exercises. According to 40 CFR 112.21(c), the facility owner or operator shall develop a program of facility response drills/exercises, including evaluation procedures. Following the PREP guidelines (see Appendix E to this part, section 13, for availability) would satisfy a facility's requirements for drills/exercises under this part. Alternately, under §112.21(c), a facility owner or operator may develop a program that is not based on the PREP guidelines. Such a program is subject to approval by the Regional Administrator based on the description of the program provided in the response plan.

(B) The PREP Guidelines specify that the facility conduct internal and external drills/exercises. The internal exercises include: qualified individual notification drills, spill management team tabletop exercises, equipment deployment exercises, and unannounced exercises. External exercises include Area Exercises. Credit for an Area or Facility-specific Exercise will be given to the facility for an actual response to a discharge in the area if the plan was utilized for response to the discharge and the objectives of the Exercise were met and were properly evaluated, documented, and self-certified.

(C) Section 112.20(h)(8)(ii) requires the facility owner or operator to provide a description of the drill/exercise program to be carried out under the response plan. Qualified Individual Notification Drill and Spill Management Team Tabletop Drill logs shall be provided in sections 1.8.2.1 and 1.8.2.2, respectively. These logs may be included in the facility response plan or kept as an annex to the facility response plan. See section 1.3.3 of this appendix for Equipment Deployment Drill Logs.

1.8.2.1 Qualified Individual Notification Drill Logs

Qualified Individual Notification Drill Log

Date: ______
Company: ______
Qualified Individual(s): ______
Emergency Scenario: ______

Evaluation: ______

Changes to be Implemented: ______

Time Table for Implementation: ______

1.8.2.2 Spill Management Team Tabletop Exercise Logs

Spill Management Team Tabletop Exercise Log

Date: ______
Company: ______
Qualified Individual(s): ______
Emergency Scenario: ______

Evaluation: ______

Changes to be Implemented: ______

Time Table for Implementation: ______

1.8.3 Response Training

Section 112.21(a) requires facility owners or operators to develop programs for facility response training. Facility owners or operators are required by §112.20(h)(8)(iii) to provide a description of the response training program to be carried out under the response plan. A facility's training program can be based on the USCG's Training Elements for Oil Spill Response, to the extent applicable to facility operations, or another response training program acceptable to the RA. The training elements are available from the USCG Office of Response (G-MOR) at (202) 267–0518 or fax (202) 267–4085. Personnel response training logs and discharge prevention meeting logs shall be included in sections 1.8.3.1 and 1.8.3.2 of the response plan respectively. These logs may be included in the facility response plan or kept as an annex to the facility response plan.

1.8.3.1 Personnel Response Training Logs

PERSONNEL RESPONSE TRAINING LOG

Name	Response training/date and number of hours	Prevention training/date and number of hours

1.8.3.2 Discharge Prevention Meetings Logs

DISCHARGE PREVENTION MEETING LOG

Date: ______
Attendees: ______

Subject/issue identified	Required action	Implementation date

1.9 Diagrams

The facility-specific response plan shall include the following diagrams. Additional diagrams that would aid in the development of response plan sections may also be included.

(1) The Site Plan Diagram shall, as appropriate, include and identify:
 (A) the entire facility to scale;
 (B) above and below ground bulk oil storage tanks;
 (C) the contents and capacities of bulk oil storage tanks;
 (D) the contents and capacity of drum oil storage areas;
 (E) the contents and capacities of surface impoundments;
 (F) process buildings;
 (G) transfer areas;
 (H) secondary containment systems (location and capacity);
 (I) structures where hazardous materials are stored or handled, including materials stored and capacity of storage;
 (J) location of communication and emergency response equipment;
 (K) location of electrical equipment which contains oil; and
 (L) for complexes only, the interface(s) (i.e., valve or component) between the portion of the facility regulated by EPA and the portion(s) regulated by other Agencies. In most cases, this interface is defined as the last valve inside secondary containment before piping leaves the secondary containment area to connect to the transportation-related portion of the facility (i.e., the structure used or intended to be used to transfer oil to or from a vessel or pipeline). In the absence of secondary containment, this interface is the valve manifold adjacent to the tank nearest the transfer structure as described above. The interface may be defined differently at a specific facility if agreed to by the RA and the appropriate Federal official.

(2) The Site Drainage Plan Diagram shall, as appropriate, include:
 (A) major sanitary and storm sewers, manholes, and drains;
 (B) weirs and shut-off valves;
 (C) surface water receiving streams;
 (D) fire fighting water sources;
 (E) other utilities;
 (F) response personnel ingress and egress;
 (G) response equipment transportation routes; and
 (H) direction of discharge flow from discharge points.

(3) The Site Evacuation Plan Diagram shall, as appropriate, include:
 (A) site plan diagram with evacuation route(s); and
 (B) location of evacuation regrouping areas.

1.10 Security

According to 40 CFR 112.7(g) facilities are required to maintain a certain level of security, as appropriate. In this section, a description of the facility security shall be provided and include, as appropriate:

(1) emergency cut-off locations (automatic or manual valves);
(2) enclosures (e.g., fencing, etc.);
(3) guards and their duties, day and night;
(4) lighting;
(5) valve and pump locks; and
(6) pipeline connection caps.

The SPCC Plan contains similar information. Duplicate information may be photocopied and inserted in this section.

2.0 Response Plan Cover Sheet

A three-page form has been developed to be completed and submitted to the RA by owners or operators who are required to prepare and submit a facility-specific response plan. The cover sheet (Attachment F–1) must accompany the response plan to provide the Agency with basic information concerning the facility. This section will describe the Response Plan Cover Sheet and provide instructions for its completion.

2.1 General Information

Owner/Operator of Facility: Enter the name of the owner of the facility (if the owner is the operator). Enter the operator of the facility if otherwise. If the owner/operator of the facility is a corporation, enter the name of the facility's principal corporate executive. Enter as much of the name as will fit in each section.

(1) *Facility Name:* Enter the proper name of the facility.

(2) *Facility Address:* Enter the street address, city, State, and zip code.

(3) *Facility Phone Number:* Enter the phone number of the facility.

(4) *Latitude and Longitude:* Enter the facility latitude and longitude in degrees, minutes, and seconds.

(5) *Dun and Bradstreet Number:* Enter the facility's Dun and Bradstreet number if available (this information may be obtained from public library resources).

(6) North American Industrial Classification System (NAICS) Code: Enter the facility's NAICS code as determined by the Office of Management and Budget (this information may be obtained from public library resources.)

(7) *Largest Oil Storage Tank Capacity:* Enter the capacity in GALLONS of the largest aboveground oil storage tank at the facility.

(8) *Maximum Oil Storage Capacity:* Enter the total maximum capacity in GALLONS of all aboveground oil storage tanks at the facility.

(9) *Number of Oil Storage Tanks:* Enter the number of all aboveground oil storage tanks at the facility.

(10) *Worst Case Discharge Amount:* Using information from the worksheets in Appendix D, enter the amount of the worst case discharge in GALLONS.

(11) *Facility Distance to Navigable Waters:* Mark the appropriate line for the nearest distance between an opportunity for discharge (i.e., oil storage tank, piping, or flowline) and a navigable water.

2.2 Applicability of Substantial Harm Criteria

Using the flowchart provided in Attachment C–I to Appendix C to this part, mark the appropriate answer to each question. Explanations of referenced terms can be found in Appendix C to this part. If a comparable formula to the ones described in Attachment C–III to Appendix C to this part is used to calculate the planning distance, documentation of the reliability and analytical soundness of the formula must be attached to the response plan cover sheet.

2.3 Certification

Complete this block after all other questions have been answered.

3.0 Acronyms

ACP: Area Contingency Plan
ASTM: American Society of Testing Materials
bbls: Barrels
bpd: Barrels per Day
bph: Barrels per Hour
CHRIS: Chemical Hazards Response Information System
CWA: Clean Water Act
DOI: Department of Interior
DOC: Department of Commerce
DOT: Department of Transportation
EPA: Environmental Protection Agency
FEMA: Federal Emergency Management Agency
FR: Federal Register
gal: Gallons
gpm: Gallons per Minute
HAZMAT: Hazardous Materials
LEPC: Local Emergency Planning Committee
MMS: Minerals Management Service (part of DOI)
NAICS: North American Industrial Classification System
NCP: National Oil and Hazardous Substances Pollution Contingency Plan
NOAA: National Oceanic and Atmospheric Administration (part of DOC)
NRC: National Response Center
NRT: National Response Team
OPA: Oil Pollution Act of 1990
OSC: On-Scene Coordinator
PREP: National Preparedness for Response Exercise Program
RA: Regional Administrator
RCRA: Resource Conservation and Recovery Act
RRC: Regional Response Centers
RRT: Regional Response Team
RSPA: Research and Special Programs Administration
SARA: Superfund Amendments and Reauthorization Act
SERC: State Emergency Response Commission
SDWA: Safe Drinking Water Act of 1986
SI: Surface Impoundment
SPCC: Spill Prevention, Control, and Countermeasures
USCG: United States Coast Guard

4.0 References

CONCAWE. 1982. Methodologies for Hazard Analysis and Risk Assessment in the Petroleum Refining and Storage Industry. Prepared by CONCAWE's Risk Assessment Adhoc Group.

U.S. Department of Housing and Urban Development. 1987. Siting of HUD-Assisted Projects Near Hazardous Facilities: Acceptable Separation Distances from Explosive and Flammable Hazards. Prepared by the Office of Environment and Energy, Environmental Planning Division, Department of Housing and Urban Development. Washington, DC.

U.S. DOT, FEMA and U.S. EPA. Handbook of Chemical Hazard Analysis Procedures.

U.S. DOT, FEMA and U.S. EPA. Technical Guidance for Hazards Analysis: Emergency

Planning for Extremely Hazardous Substances.

The National Response Team. 1987. Hazardous Materials Emergency Planning Guide. Washington, DC.

The National Response Team. 1990. Oil Spill Contingency Planning, National Status: A Report to the President. Washington, DC. U.S. Government Printing Office.

Offshore Inspection and Enforcement Division. 1988. Minerals Management Service, Offshore Inspection Program: National Potential Incident of Noncompliance (PINC) List. Reston, VA.

ATTACHMENTS TO APPENDIX F

Attachment F–1—Response Plan Cover Sheet

This cover sheet will provide EPA with basic information concerning the facility. It must accompany a submitted facility response plan. Explanations and detailed instructions can be found in Appendix F. Please type or write legibly in blue or black ink. Public reporting burden for the collection of this information is estimated to vary from 1 hour to 270 hours per response in the first year, with an average of 5 hours per response. This estimate includes time for reviewing instructions, searching existing data sources, gathering the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate of this information, including suggestions for reducing this burden to: Chief, Information Policy Branch, Mail Code: PM–2822, U.S. Environmental Protection Agency, Ariel Rios Building, 1200 Pennsylvania Avenue, NW., Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington D.C. 20503.

GENERAL INFORMATION

Owner/Operator of Facility: ________________

____

Facility Name: ________________________

Facility Address (street address or route):

____

City, State, and U.S. Zip Code: ____________

Facility Phone No.: ______________________

Latitude (Degrees: North):

____

degrees, minutes, seconds

Dun & Bradstreet Number:[1] ______________

Largest Aboveground Oil Storage Tank Capacity (Gallons): ____________________

Number of Aboveground Oil Storage Tanks:

Longitude (Degrees: West):

____

degrees, minutes, seconds ________________

North American Industrial Classification System (NAICS) Code:[1] ________________

Maximum Oil Storage Capacity (Gallons): __

Worst Case Oil Discharge Amount (Gallons):

____

Facility Distance to Navigable Water. Mark the appropriate line. ________________

0–¼ mile ___ ¼–½ mile ___ ½–1 mile ___ >1 mile ___

APPLICABILITY OF SUBSTANTIAL HARM CRITERIA

Does the facility transfer oil over-water[2] to or from vessels and does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?

Yes ________________________________

No ________________________________

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

Yes ________________________________

No ________________________________

Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance[2] (as calculated using the appropriate formula in Appendix C or a comparable formula) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments?[3]

Yes ________________________________

No ________________________________

[1] These numbers may be obtained from public library resources.

[2] Explanations of the above-referenced terms can be found in Appendix C to this part. If a comparable formula to the ones contained in Attachment C–III is used to establish the appropriate distance to fish and wildlife and sensitive environments or public drinking water intakes, documentation of the reliability and analytical soundness of the formula must be attached to this form.

[3] For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments" (see Appendix E to this part, section 13, for availability) and the applicable ACP.

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

Yes ____________________

No ____________________

Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and has the facility experienced a reportable oil spill[2] in an amount greater than or equal to 10,000 gallons within the last 5 years?

Yes ____________________

No ____________________

CERTIFICATION

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

Signature: ____________________

Name (Please type or print): ____________________

Title: ____________________

Date: ____________________

[59 FR 34122, July 1, 1994; 59 FR 49006, Sept. 26, 1994, as amended at 65 FR 40816, June 30, 2000; 65 FR 43840, July 14, 2000; 66 FR 34561, June 29, 2001; 67 FR 47152, July 17, 2002]

APPENDIX G TO PART 112—TIER I QUALIFIED FACILITY SPCC PLAN

Tier I Qualified Facility SPCC Plan

This template constitutes the SPCC Plan for the facility, when completed and signed by the owner or operator of a facility that meets the applicability criteria in §112.3(g)(1). This template addresses the requirements of 40 CFR part 112. Maintain a complete copy of the Plan at the facility if the facility is normally attended at least four hours per day, or for a facility attended fewer than four hours per day, at the nearest field office. When making operational changes at a facility that are necessary to comply with the rule requirements, the owner/operator should follow state and local requirements (such as for permitting, design and construction) and obtain professional assistance, as appropriate.

Facility Description

Facility Name ______________________________

Facility Address ______________________________

City ____________ State ____________ ZIP ________

County ____________ Tel. Number ( ) - ____________

Owner or operator Name ______________________________

Owner or operator Address ______________________________

City ____________ State ____________ ZIP ________

County ____________ Tel. Number ( ) - ____________

I. Self-Certification Statement (§112.6(a)(1))

The owner or operator of a facility certifies that each of the following is true in order to utilize this template to comply with the SPCC requirements:

I ______________________________, certify that the following is accurate:

1. I am familiar with the applicable requirements of 40 CFR part 112;
2. I have visited and examined the facility;
3. This Plan was prepared in accordance with accepted and sound industry practices and standards;
4. Procedures for required inspections and testing have been established in accordance with industry inspection and testing standards or recommended practices;
5. I will fully implement the Plan;
6. This facility meets the following qualification criteria (under §112.3(g)(1)):
    a. The aggregate aboveground oil storage capacity of the facility is 10,000 U.S. gallons or less; and
    b. The facility has had no single discharge as described in §112.1(b) exceeding 1,000 U.S. gallons and 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 40 CFR part 112 if the facility has been in operation for less than three years (not including oil discharges as described in §112.1(b) that are the result of natural disasters, acts of war, or terrorism); and

c. There is no individual oil storage container at the facility with an aboveground capacity greater than 5,000 U.S. gallons.

7. This Plan does not deviate from any requirement of 40 CFR part 112 as allowed by §112.7(a)(2) (environmental equivalence) and §112.7(d) (impracticability of secondary containment) or include an measures pursuant to §112.9(c)(6) for produced water containers and any associated piping;
8. This Plan and individual(s) responsible for implementing this Plan have the full approval of management and I have committed the necessary resources to fully implement this Plan.

I also understand my other obligations relating to the storage of oil at this facility, including, among others:

1. To report any oil discharge to navigable waters or adjoining shorelines to the appropriate authorities. Notification information is included in this Plan.
2. To review and amend this Plan whenever there is a material change at the facility that affects the potential for an oil discharge, and at least once every five years. Reviews and amendments are recorded in an attached log [See Five Year Review Log and Technical Amendment Log in Attachments 1.1 and 1.2.]
3. Optional use of a contingency plan. A contingency plan:
   a. May be used in lieu of secondary containment for qualified oil-filled operational equipment, in accordance with the requirements under §112.7(k), and;
   b. Must be prepared for flowlines and/or intra-facility gathering lines which do not have secondary containment at an oil production facility, and;
   c. Must include an established and documented inspection or monitoring program; must follow the provisions of 40 CFR part 109; and must include a written commitment of manpower, equipment and materials to expeditiously remove any quantity of oil discharged that may be harmful. If applicable, a copy of the contingency plan and any additional documentation will be attached to this Plan as Attachment 2.

I certify that I have satisfied the requirement to prepare and implement a Plan under §112.3 and all of the requirements under §112.6(a). I certify that the information contained in this Plan is true.

Signature ______________________________ Title: ______________________

Name ______________________________ Date: ____/_____/20___

II. Record of Plan Review and Amendments

Five Year Review (§112.5(b)):

Complete a review and evaluation of this SPCC Plan at least once every five years. As a result of the review, amend this Plan within six months to include more effective prevention and control measures for the facility, if applicable. Implement any SPCC Plan amendment as soon as possible, but no later than six months following Plan amendment. Document completion of the review and evaluation, and complete the Five Year Review Log in Attachment 1.1. If the facility no longer meets Tier I qualified facility eligibility, the owner or operator must revise the Plan to meet Tier II qualified facility requirements, or complete a full PE certified Plan.

Table G-1 Technical Amendments (§§112.5(a), (c) and 112.6(a)(2))	
This SPCC Plan will be amended when there is a change in the facility design, construction, operation, or maintenance that materially affects the potential for a discharge to navigable waters or adjoining shorelines. Examples include adding or removing containers, reconstruction, replacement, or installation of piping systems, changes to secondary containment systems, changes in product stored at this facility, or revisions to standard operating procedures.	☐
Any technical amendments to this Plan will be re-certified in accordance with Section I of this Plan template. *[§112.6(a)(2)]* [See Technical Amendment Log in Attachment 1.2]	☐

III. Plan Requirements

1. Oil Storage Containers (§112.7(a)(3)(i)):

Table G-2 Oil Storage Containers and Capacities		
This table includes a complete list of all oil storage containers (aboveground containers[a] and completely buried tanks[b]) with capacity of 55 U.S. gallons or more, unless otherwise exempt from the rule. For mobile/portable containers, an estimate number of containers, types of oil, and anticipated capacities are provided.		☐
Oil Storage Container *(indicate whether aboveground (A) or completely buried (B))*	**Type of Oil**	**Shell Capacity (gallons)**

	Total Aboveground Storage Capacity [c]	______ gallons
	Total Completely Buried Storage Capacity	______ gallons
	Facility Total Oil Storage Capacity	______ gallons

[a] Aboveground storage containers that must be included when calculating total facility oil storage capacity include: tanks and mobile or portable containers; oil-filled operational equipment (e.g. transformers); other oil-filled equipment, such as flow-through process equipment. Exempt containers that are not included in the capacity calculation include: any container with a storage capacity of less than 55 gallons of oil; containers used exclusively for wastewater treatment; permanently closed containers; motive power containers; hot-mix asphalt containers; heating oil containers used solely at a single-family residence; and pesticide application equipment or related mix containers.

[b] Although the criteria to determine eligibility for qualified facilities focuses on the aboveground oil storage containers at the facility, the completely buried tanks at a qualified facility are still subject to the rule requirements and must be addressed in the template; however, they are not counted toward the qualified facility applicability threshold.

[c] Counts toward qualified facility applicability threshold.

2. Secondary Containment and Oil Spill Control (§§112.6(a)(3)(i) and (ii), 112.7(c) and 112.9(c)(2)):

Table G-3 Secondary Containment and Oil Spill Control	
Appropriate secondary containment and/or diversionary structures or equipment[a] is provided for all oil handling containers, equipment, and transfer areas to prevent a discharge to navigable waters or adjoining shorelines. The entire secondary containment system, including walls and floor, is capable of containing oil and is constructed so that any discharge from a primary containment system, such as a tank or pipe, will not escape the containment system before cleanup occurs.	☐

[a] Use one of the following methods of secondary containment or its equivalent: (1) Dikes, berms, or retaining walls sufficiently impervious to contain oil; (2) Curbing; (3) Culverting, gutters, or other drainage systems; (4) Weirs, booms, or other barriers; (5) Spill diversion ponds; (6) Retention ponds; or (7) Sorbent materials.

Table G-4 below identifies the tanks and containers at the facility with the potential for an oil discharge; the mode of failure; the flow direction and potential quantity of the discharge; and the secondary containment method and containment capacity that is provided.

Table G-4 Containers with Potential for an Oil Discharge

Area	Type of failure (discharge scenario)	Potential discharge volume (gallons)	Direction of flow for uncontained discharge	Secondary containment method[a]	Secondary containment capacity (gallons)
Bulk Storage Containers and Mobile/Portable Containers[b]					
Oil-filled Operational Equipment (e.g., hydraulic equipment, transformers)[c]					
Piping, Valves, etc.					
Product Transfer Areas (location where oil is loaded to or from a container, pipe or other piece of equipment.)					
Other Oil-Handling Areas or Oil-Filled Equipment (e.g. flow-through process vessels at an oil production facility)					

[a] Use one of the following methods of secondary containment or its equivalent: (1) Dikes, berms, or retaining walls sufficiently impervious to contain oil; (2) Curbing; (3) Culverting, gutters, or other drainage systems; (4) Weirs, booms, or other barriers; (5) Spill diversion ponds; (6) Retention ponds; or (7) Sorbent materials.
[b] For storage tanks and bulk storage containers, the secondary containment capacity must be at least the capacity of the largest container plus additional capacity to contain rainfall or other precipitation.
[c] For oil-filled operational equipment: Document in the table above if alternative measures to secondary containment (as described in §112.7(k)) are implemented at the facility.

3. Inspections, Testing, Recordkeeping and Personnel Training (§§112.7(e) and (f), 112.8(c)(6) and (d)(4), 112.9(c)(3), 112.12(c)(6) and (d)(4)):

Table G-5 Inspections, Testing, Recordkeeping and Personnel Training	
An inspection and/or testing program is implemented for all aboveground bulk storage containers and piping at this facility. *[§§112.8(c)(6) and (d)(4), 112.9(c)(3), 112.12(c)(6) and (d)(4)]*	☐
The following is a description of the inspection and/or testing program (e.g. reference to industry standard utilized, scope, frequency, method of inspection or test, and person conducting the inspection) for all aboveground bulk storage containers and piping at this facility:	
Inspections, tests, and records are conducted in accordance with written procedures developed for the facility. Records of inspections and tests kept under usual and customary business practices will suffice for purposes of this paragraph. *[§112.7(e)]*	☐
A record of the inspections and tests are kept at the facility or with the SPCC Plan for a period of three years. *[§112.7(e)]* [See Inspection Log and Schedule in Attachment 3.1]	☐
Inspections and tests are signed by the appropriate supervisor or inspector. *[§112.7(e)]*	☐
Personnel, training, and discharge prevention procedures [§112.7(f)]	
Oil-handling personnel are trained 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. *[§112.7(f)]*	☐
A person who reports to facility management is designated and accountable for discharge prevention. *[§112.7(f)]* Name/Title:____	☐
Discharge prevention briefings are conducted for oil-handling personnel annually to assure adequate understanding of the SPCC Plan for that facility. Such briefings highlight and describe past reportable discharges or failures, malfunctioning components, and any recently developed precautionary measures. *[§112.7(f)]* [See Oil-handling Personnel Training and Briefing Log in Attachment 3.4]	☐

4. Security (excluding oil production facilities) §112.7(g):

Table G-6 Implementation and Description of Security Measures	
Security measures are implemented at this facility to prevent unauthorized access to oil handling, processing, and storage area.	☐
The following is a description of 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; address the appropriateness of security lighting to both prevent acts of vandalism and assist in the discovery of oil discharges:	

5. Emergency Procedures and Notifications (§112.7(a)(3)(iv) and 112.7(a)(5)):

Table G-7 Description of Emergency Procedures and Notifications
The following is a description of the immediate actions to be taken by facility personnel in the event of a discharge to navigable waters or adjoining shorelines *[§112.7(a)(3)(iv) and 112.7(a)(5)]*:

6. Contact List (§112.7(a)(3)(vi)):

Table G-8 Contact List	
Contact Organization / Person	**Telephone Number**
National Response Center (NRC)	1-800-424-8802
Cleanup Contractor(s)	
Key Facility Personnel	
Designated Person Accountable for Discharge Prevention:	Office:
	Emergency:
	Office:
	Emergency:
	Office:
	Emergency:
	Office:
	Emergency:
State Oil Pollution Control Agencies	
Other State, Federal, and Local Agencies	
Local Fire Department	
Local Police Department	
Hospital	
Other Contact References (e.g., downstream water intakes or neighboring facilities)	

7. NRC Notification Procedure (§112.7(a)(4) and (a)(5)):

Table G-9 NRC Notification Procedure		
In the event of a discharge of oil to navigable waters or adjoining shorelines, the following information identified in Attachment 4 will be provided to the National Response Center immediately following identification of a discharge to navigable waters or adjoining shorelines [See Discharge Notification Form in Attachment 4]: *[§112.7(a)(4)]*		☐
• The exact address or location and phone number of the facility; • Date and time of the discharge; • Type of material discharged; • Estimate of the total quantity discharged; • Estimate of the quantity discharged to navigable waters; • Source of the discharge;	• Description of all affected media; • 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 • Names of individuals and/or organizations who have also been contacted.	

8. SPCC Spill Reporting Requirements (Report within 60 days) (§112.4):

Submit information to the EPA Regional Administrator (RA) and the appropriate agency or agencies in charge of oil pollution control activities in the State in which the facility is located within 60 days from one of the following discharge events:

- A single discharge of more than 1,000 U.S. gallons of oil to navigable waters or adjoining shorelines or
- Two discharges to navigable waters or adjoining shorelines each more than 42 U.S. gallons of oil occurring within any twelve month period

You must submit the following information to the RA:

(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 the reportable discharge, including a failure analysis of the system or subsystem in which the failure occurred; and
(8) Additional preventive measures you have taken or contemplated to minimize the possibility of recurrence
(9) Such other information as the Regional Administrator may reasonably require pertinent to the Plan or discharge

* * * * *

NOTE: Complete one of the following sections (A, B or C)

as appropriate for the facility type.

A. Onshore Facilities (excluding production) (§§112.8(b) through (d), 112.12(b) through (d)):

The owner or operator must meet the general rule requirements as well as requirements under this section. Note that not all provisions may be applicable to all owners/operators. For example, a facility may not maintain completely buried metallic storage tanks installed after January 10, 1974, and thus would not have to abide by requirements in §§112.8(c)(4) and 112.12(c)(4), listed below. In cases where a provision is not applicable, write "N/A".

Table G-10 General Rule Requirements for Onshore Facilities	
Drainage from diked storage areas is restrained 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. Diked areas may be emptied by pumps or ejectors that must be manually activated after inspecting the condition of the accumulation to ensure no oil will be discharged. *[§§112.8(b)(1) and 112.12(b)(1)]*	☐
Valves of manual, open-and-closed design are used for the drainage of diked areas. *[§§112.8(b)(2) and 112.12(b)(2)]*	☐
The containers at the facility are compatible with materials stored and conditions of storage such as pressure and temperature. *[§§112.8(c)(1) and 112.12(c)(1)]*	☐
Secondary containment for the bulk storage containers (including mobile/portable oil storage containers) holds the capacity of the largest container plus additional capacity to contain precipitation. Mobile or portable oil storage containers are positioned to prevent a discharge as described in §112.1(b). *[§112.6(a)(3)(ii)]*	☐
If uncontaminated rainwater from diked areas drains into a storm drain or open watercourse the following procedures will be implemented at the facility: *[§§112.8(c)(3) and 112.12(c)(3)]*	
• Bypass valve is normally sealed closed	☐
• Retained rainwater is inspected to ensure that its presence will not cause a discharge to navigable waters or adjoining shorelines	☐
• Bypass valve is opened and resealed under responsible supervision	☐
• Adequate records of drainage are kept [See Dike Drainage Log in Attachment 3.3]	☐
For completely buried metallic tanks installed on or after January 10, 1974 at this facility *[§§112.8(c)(4) and 112.12(c)(4)]*:	
• Tanks have corrosion protection with coatings or cathodic protection compatible with local soil conditions.	☐
• Regular leak testing is conducted.	☐
For partially buried or bunkered metallic tanks *[§112.8(c)(5) and §112.12(c)(5)]*: • Tanks have corrosion protection with coatings or cathodic protection compatible with local soil conditions.	☐
Each aboveground bulk container is tested or inspected for integrity on a regular schedule and whenever material repairs are made. Scope and frequency of the inspections and inspector qualifications are in accordance with industry standards. Container supports and foundations are regularly inspected. [See Inspection Log and Schedule and Bulk Storage Container Inspection Schedule in Attachments 3.1 and 3.2] *[§112.8(c)(6) and §112.12(c)(6)(i)]*	☐
Outsides of bulk storage containers are frequently inspected for signs of deterioration, discharges, or accumulation of oil inside diked areas. [See Inspection Log and Schedule in Attachment 3.1] *[§§112.8(c)(6) and 112.12(c)(6)]*	☐
For bulk storage containers that are subject to 21 CFR part 110 which are shop-fabricated, constructed of austenitic stainless steel, elevated and have no external insulation, formal visual inspection is conducted on a regular schedule. Appropriate qualifications for personnel performing tests and inspections are documented. [See Inspection Log and Schedule and Bulk	☐

Table G-10 General Rule Requirements for Onshore Facilities	
Storage Container Inspection Schedule in Attachments 3.1 and 3.2] *[§112.12(c)(6)(ii)]*	
Each container is provided with a system or documented procedure to prevent overfills for the container. Describe:	☐
Liquid level sensing devices are regularly tested to ensure proper operation [See Inspection Log and Schedule in Attachment 3.1]. *[§112.6(a)(3)(iii)]*	☐
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 are promptly corrected and oil in diked areas is promptly removed. *[§§112.8(c)(10) and 112.12(c)(10)]*	☐
Aboveground valves, piping, and appurtenances such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces are inspected regularly. [See Inspection Log and Schedule in Attachment 3.1] *[§§112.8(d)(4) and 112.12(d)(4)]*	☐
Integrity and leak testing are conducted on buried piping at the time of installation, modification, construction, relocation, or replacement. [See Inspection Log and Schedule in Attachment 3.1] *[§§112.8(d)(4) and 112.12(d)(4)]*	☐

B. Onshore Oil Production Facilities (excluding drilling and workover facilities) (§112.9(b), (c), and (d)):

The owner or operator must meet the general rule requirements as well as the requirements under this section. Note that not all provisions may be applicable to all owners/operators. In cases where a provision is not applicable, write "N/A".

Table G-11 General Rule Requirements for Onshore Oil Production Facilities	
At tank batteries, separation and treating areas, drainage is closed and sealed except when draining uncontaminated rainwater. Accumulated oil on the rainwater is returned to storage or disposed of in accordance with legally approved methods. *[§112.9(b)(1)]*	☐
Prior to drainage, diked areas are inspected and *[§112.9(b)(1)]*:	
• Retained rainwater is inspected to ensure that its presence will not cause a discharge to navigable waters	☐
• Bypass valve is opened and resealed under responsible supervision	☐
• Adequate records of drainage are kept [See Dike Drainage Log in Attachment 3.3]	☐
Field drainage systems and oil traps, sumps, or skimmers are inspected at regularly scheduled intervals for oil, and accumulations of oil are promptly removed [See Inspection Log and Schedule in Attachment 3.1] *[§112.9(b)(2)]*	☐
The containers used at this facility are compatible with materials stored and conditions of storage. *[§112.9(c)(1)]*	☐
All tank battery, separation, and treating facility installations (except for flow-through process vessels) are constructed with a capacity to hold the largest single container plus additional capacity to contain rainfall. Drainage from undiked areas is safely confined in a catchment basin or holding pond. *[§112.9(c)(2)]*	☐
Except for flow-through process vessels, containers that are on or above the surface of the ground, including foundations and supports, are visually inspected for deterioration and maintenance needs on a regular schedule. [See Inspection Log and Schedule in Attachment 3.1] *[§112.9(c)(3)]*	☐
New and old tank batteries at this facility are engineered/updated in accordance with good engineering practices to prevent discharges including at least one of the following: (i) adequate container capacity to prevent overfill if regular pumping/gauging is delayed; (ii) overflow equalizing lines between containers so that a full container can overflow to an adjacent container; (iii) vacuum protection to prevent container collapse; or (iv) high level sensors to generate and transmit an alarm to the computer where the facility is subject to a computer production control system. *[§112.9(c)(4)]*	☐
Flow-through process vessels and associated components are:	
• Are constructed with a capacity to hold the largest single container plus additional capacity to contain rainfall. Drainage from undiked areas is safely confined in a catchment basin or holding pond; *[§112.9(c)(2)]* and	☐
• That are on or above the surface of the ground, including foundations and supports, are visually inspected for deterioration and maintenance needs on a regular schedule. [See Inspection Log and Schedule in Attachment 3.1] *[§112.9(c)(3)]*	☐
Or	
• Visually inspected and/or tested periodically and on a regular schedule for leaks, corrosion, or other conditions that could lead to a discharge to navigable waters; and	☐
• Corrective action or repairs are applied to flow-through process vessels and any associated components as indicated by regularly scheduled visual inspections, tests, or evidence of an oil discharge; and	☐
• Any accumulations of oil discharges associated with flow-through process vessels are promptly removed; and	☐

Table G-11 General Rule Requirements for Onshore Oil Production Facilities	
• Flow-through process vessels are provided with a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation within six months of a discharge from flow-through process vessels of more than 1,000 U.S. gallons of oil in a single discharge as described in §112.1(b), or a discharge more than 42 U.S. gallons of oil in each of two discharges as described in §112.1(b) within any twelve month period. *[§112.9(c)(5)]* *(Leave blank until such time that this provision is applicable.)*	☐
All aboveground valves and piping associated with transfer operations are inspected periodically and upon a regular schedule. 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 are included in the inspection. [See Inspection Log and Schedule in Attachment 3.1] *[§112.9(d)(1)]*	☐
An oil spill contingency plan and written commitment of resources are provided for flowlines and intra-facility gathering lines [See Oil Spill Contingency Plan and Checklist in Attachment 2 and Inspection Log and Schedule in Attachment 3.1] *[§112.9(d)(3)]* or Appropriate secondary containment and/or diversionary structures or equipment is provided for flowlines and intra-facility gathering lines to prevent a discharge to navigable waters or adjoining shorelines. The entire secondary containment system, including walls and floor, is capable of containing oil and is constructed so that any discharge from the pipe, will not escape the containment system before cleanup occurs.	☐ ☐
A flowline/intra-facility gathering line maintenance program to prevent discharges from each flowline has been established at this facility. The maintenance program addresses each of the following: • 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; • Flowlines, intra-facility gathering lines and associated appurtenances are visually inspected and/or tested 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). The frequency and type of testing allows for the implementation of a contingency plan as described under part 109 of this chapter. • Corrective action and 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. • Accumulations of oil discharges associated with flowlines, intra-facility gathering lines, and associated appurtenances are promptly removed. *[§112.9(d)(4)]*	☐ ☐ ☐ ☐ ☐
The following is a description of the flowline/intra-facility gathering line maintenance program implemented at this facility:	

C. Onshore Oil Drilling and Workover Facilities (§112.10(b), (c) and (d)):

The owner or operator must meet the general rule requirements as well as the requirements under this section.

Table G-12 General Rule Requirements for Onshore Oil Drilling and Workover Facilities	
Mobile drilling or worker equipment is positioned or located to prevent discharge as described in §112.1(b). *[§112.10(b)]*	☐
Catchment basins or diversion structures are provided to intercept and contain discharges of fuel, crude oil, or oily drilling fluids. *[§112.10(c)]*	☐
A blowout prevention (BOP) assembly and well control system was installed before drilling below any casing string or during workover operations. *[§112.10(d)]*	☐
The BOP assembly and well control system is capable of controlling any well-head pressure that may be encountered while the BOP assembly and well control system are on the well. *[§112.10(d)]*	☐

ATTACHMENT 1 – Five Year Review and Technical Amendment Logs

ATTACHMENT 1.1 – Five Year Review Log

I have completed a review and evaluation of the SPCC Plan for this facility, and will/will not amend this Plan as a result.

Table G-13 Review and Evaluation of SPCC Plan for Facility			
Review Date	Plan Amendment		Name and signature of person authorized to review this Plan
	Will Amend	Will Not Amend	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	

ATTACHMENT 1.2 – Technical Amendment Log

Any technical amendments to this Plan will be re-certified in accordance with Section I of this Plan template.

Table G-14 Description and Certification of Technical Amendments		
Review Date	Description of Technical Amendment	Name and signature of person certifying this technical amendment

ATTACHMENT 2 – Oil Spill Contingency Plan and Checklist

An oil spill contingency plan and written commitment of resources is required for:

- Flowlines and intra-facility gathering lines at oil production facilities and
- Qualified oil-filled operational equipment which has no secondary containment.

An oil spill contingency plan meeting the provisions of 40 CFR part 109, as described below, and a written commitment of manpower, equipment and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful is attached to this Plan.	☐

Complete the checklist below to verify that the necessary operations outlined in 40 CFR part 109 - Criteria for State, Local and Regional Oil Removal Contingency Plans - have been included.

Table G-15 Checklist of Development and Implementation Criteria for State, Local and Regional Oil Removal Contingency Plans (§109.5)[a]	
(a) Definition of the authorities, responsibilities and duties of all persons, organizations or agencies which are to be involved in planning or directing oil removal operations.	☐
(b) Establishment of notification procedures for the purpose of early detection and timely notification of an oil discharge including:	
(1) The identification of critical water use areas to facilitate the reporting of and response to oil discharges.	☐
(2) A current list of names, telephone numbers and addresses of the responsible persons (with alternates) and organizations to be notified when an oil discharge is discovered.	☐
(3) Provisions for access to a reliable communications system for timely notification of an oil discharge, and the capability of interconnection with the communications systems established under related oil removal contingency plans, particularly State and National plans (e.g., NCP).	☐
(4) An established, prearranged procedure for requesting assistance during a major disaster or when the situation exceeds the response capability of the State, local or regional authority.	☐
(c) Provisions to assure that full resource capability is known and can be committed during an oil discharge situation including:	
(1) The identification and inventory of applicable equipment, materials and supplies which are available locally and regionally.	☐
(2) An estimate of the equipment, materials and supplies which would be required to remove the maximum oil discharge to be anticipated.	☐
(3) Development of agreements and arrangements in advance of an oil discharge for the acquisition of equipment, materials and supplies to be used in responding to such a discharge.	☐
(d) Provisions for well defined and specific actions to be taken after discovery and notification of an oil discharge including:	
(1) Specification of an oil discharge response operating team consisting of trained, prepared and available operating personnel.	☐
(2) Predesignation of a properly qualified oil discharge response coordinator who is charged with the responsibility and delegated commensurate authority for directing and coordinating response operations and who knows how to request assistance from Federal authorities operating under existing national and regional contingency plans.	☐

Table G-15 Checklist of Development and Implementation Criteria for State, Local and Regional Oil Removal Contingency Plans (§109.5)[a]	
(3) A preplanned location for an oil discharge response operations center and a reliable communications system for directing the coordinated overall response operations.	☐
(4) Provisions for varying degrees of response effort depending on the severity of the oil discharge.	☐
(5) Specification of the order of priority in which the various water uses are to be protected where more than one water use may be adversely affected as a result of an oil discharge and where response operations may not be adequate to protect all uses.	☐
(6) Specific and well defined procedures to facilitate recovery of damages and enforcement measures as provided for by State and local statutes and ordinances.	☐

[a] The contingency plan must be consistent with all applicable state and local plans, Area Contingency Plans, and the National Contingency Plan (NCP).

ATTACHMENT 3 – Inspections, Dike Drainage and Personnel Training Logs

ATTACHMENT 3.1 – Inspection Log and Schedule

Table G-16 Inspection Log and Schedule

This log is intended to document compliance with §§112.6(a)(3)(iii), 112.8(c)(6), 112.8(d)(4), 112.9(b)(2), 112.9(c)(3), 112.9(d)(1), 112.9(d)(4), 112.12.(c)(6), and 112.12(d)(4), as applicable.

Date of Inspection	Container / Piping / Equipment	Describe Scope (or cite Industry Standard)	Observations	Name/ Signature of Inspector	Records maintained separately [a]
					☐
					☐
					☐
					☐
					☐

[a] Indicate in the table above if records of facility inspections are maintained separately at this facility.

ATTACHMENT 3.2 – Bulk Storage Container Inspection Schedule – onshore facilities (excluding production):

To comply with integrity inspection requirement for bulk storage containers, inspect/test each shop-built aboveground bulk storage container on a regular schedule in accordance with a recognized container inspection standard based on the minimum requirements in the following table.

<table>
<tr><th colspan="2">Table G-17 Bulk Storage Container Inspection Schedule</th></tr>
<tr><th>Container Size and Design Specification</th><th>Inspection requirement</th></tr>
<tr><td>Portable containers (including drums, totes, and intermodal bulk containers (IBC))</td><td>Visually inspect monthly for signs of deterioration, discharges or accumulation of oil inside diked areas</td></tr>
<tr><td>55 to 1,100 gallons with sized secondary containment</td><td rowspan="2">Visually inspect monthly for signs of deterioration, discharges or accumulation of oil inside diked areas plus any annual inspection elements per industry inspection standards</td></tr>
<tr><td>1,101 to 5,000 gallons with sized secondary containment and a means of leak detection[a]</td></tr>
<tr><td>1,101 to 5,000 gallons with sized secondary containment and no method of leak detection[a]</td><td>Visually inspect monthly for signs of deterioration, discharges or accumulation of oil inside diked areas, plus any annual inspection elements and other specific integrity tests that may be required per industry inspection standards</td></tr>
</table>

[a] Examples of leak detection include, but are not limited to, double-walled tanks and elevated containers where a leak can be visually identified.

ATTACHMENT 3.3 – Dike Drainage Log

Table G-18 Dike Drainage Log

Date	Bypass valve sealed closed	Rainwater inspected to be sure no oil (or sheen) is visible	Open bypass valve and reseal it following drainage	Drainage activity supervised	Observations	Signature of Inspector
	☐	☐	☐	☐		
	☐	☐	☐	☐		
	☐	☐	☐	☐		
	☐	☐	☐	☐		
	☐	☐	☐	☐		
	☐	☐	☐	☐		
	☐	☐	☐	☐		
	☐	☐	☐	☐		

ATTACHMENT 3.4 – Oil-handling Personnel Training and Briefing Log

Table G-19 Oil-Handling Personnel Training and Briefing Log		
Date	Description / Scope	Attendees

ATTACHMENT 4 – Discharge Notification Form

In the event of a discharge of oil to navigable waters or adjoining shorelines, the following information will be provided to the National Response Center [also see the notification information provided in Section 7 of the Plan]:

Table G-20 Information provided to the National Response Center in the Event of a Discharge			
Discharge/Discovery Date		Time	
Facility Name			
Facility Location (Address/Lat-Long/Section Township Range)			
Name of reporting individual		Telephone #	
Type of material discharged		Estimated total quantity discharged	Gallons/Barrels
Source of the discharge		Media affected	☐ Soil ☐ Water (specify) ____________ ☐ Other (specify) ____________
Actions taken			
Damage or injuries	☐ No ☐ Yes (specify)	Evacuation needed?	☐ No ☐ Yes (specify)
Organizations and individuals contacted	☐ National Response Center 800-424-8802 Time ____________		
	☐ Cleanup contractor (Specify) Time ____________		
	☐ Facility personnel (Specify) Time ____________		
	☐ State Agency (Specify) Time ____________		
	☐ Other (Specify) Time ____________		

[74 FR 58811, Nov. 13, 2009]

PART 113—LIABILITY LIMITS FOR SMALL ONSHORE STORAGE FACILITIES

Subpart A—Oil Storage Facilities

AUTHORITY: Sec. 311(f)(2), 86 Stat. 867 (33 U.S.C. 1251 (1972)).

SOURCE: 38 FR 25440, Sept. 13, 1973, unless otherwise noted.

Subpart A—Oil Storage Facilities

§ 113.1 Purpose.

This subpart establishes size classifications and associated liability limits for small onshore oil storage facilities with fixed capacity of 1,000 barrels or less.

§ 113.2 Applicability.

This subpart applies to all onshore oil storage facilities with fixed capacity of 1,000 barrels or less. When a discharge to the waters of the United States occurs from such facilities and when removal of said discharge is performed by the United States Government pursuant to the provisions of subsection 311(c)(1) of the Act, the liability

MAP ID	CONTENTS
A1	LUBE AND GEAR OILS
BP1A	CONCRETE
BP1B	CONCRETE
BP2	GLENIUM 7500
BU1	RYKON 46
BU2	RYKON 100
BU3	USED OIL
BU5	50 wt. GEAR OIL
BU6	15-40 wt. MOTOR OIL
BU7	MOTOR OIL
BU8	RYKON 100
C1	MACHINE OIL
C2	MACHINE OIL
C3	MACHINE OIL
C4	MACHINE OIL
C6	USED OIL AND RYKON 46
C7	MACHINE OIL
C8A	ANTIFREEZE
C8B	ANTIFREEZE
C8C	ANTIFREEZE
C9	ANTIFREEZE
CO1	NEW PRODUCT STORAGE, USED OIL
CO4	EMULSION
F1	GASOLINE
F2	DIESEL
HH1	HYDRAULIC OIL
HH2	HYDRAULIC OIL
HH3	USED OIL
HH4	HYDRAULIC OIL, GEAR OIL, LUBE
M2	LUBRICANT
M4	OIL, LUBE, ANTIFREEZE, SOAP
PB1	SODIUM HYPOCHLORITE
PRW1	PROCESS WATER
PS1	USED OIL, GEAR OIL
PS10	OIL
PS11	OIL
PS3	USED GREASE
PS5	DIESEL
PS6	HAZARDOUS WASTE
PS7	USED OIL
PS8	USED OIL TANK UNDERGROUND PIPING
PS9	SAFETY KLEEN SOLVENT
PS10	BEARING OIL
PS11	BEARING OIL
PW1	POTABLE WATER
PW2	POTABLE WATER
PW3	POTABLE WATER
T1A	TRANSFORMER OIL
T1B	TRANSFORMER OIL
T2	TRANSFORMER OIL
T3	TRANSFORMER OIL
T4	TRANSFORMER OIL
T5	TRANSFORMER OIL
WW1	SODIUM HYPOCHLORITE, FLOCCULANT
WW3	CORROSION INHIBITOR, OIL, USED OIL, LUBE

LOCATION MAP

MAP FEATURES

- BUILDINGS
- PROPERTY BOUNDARY
- T1A — SPCC TANK/AREA LOCATIONS
- BP2 — NON-SPCC TANK/AREA LOCATIONS
- PAVED AREA
- CONCENTRATED FLOW
- SHEET FLOW
- SPILL KIT(S)
- PALLET(S) OF FLOOR DRY
- OIL TRANSFER AREA

NOTES

REFER TO APPENDIX C OF THE SPCC PLAN FOR VOLUME AND CONTENT OF STORAGE CONTAINERS AND AREAS SHOWN ON THIS FIGURE.

REVISION	DATE	AUTHOR
Updated figure into GIS	04/2011	MT
Added C7, C8A, C8B, C8C, C9, BP1B, CO2, PW1, PW2, PW3, PB1, T1A, T1B, U2, U4A, U4B, U6	10/2011	MT
Added Spill Kit and Floor Dry Pallet Locations	04/2012	MT
Added U7-U9, PS10 and PS11; Removed CO2; Updated Inventory Table	10/2012	MT
Added PS10, PS11 and CO4; Added transfer areas.	12/21/12	MT
Added T5	2/20/13	MT

Climax Molybdenum
A Freeport-McMoRan Company
HENDERSON OPERATIONS
1746 County Road 202
Empire, Colorado 80438

FIGURE 1
HENDERSON MINE SURFACE AREA

Aquionix
3700 E. 41st Avenue
Denver, CO 80216-6504
303-289-7250
www.aquionix.com

DESIGNED BY: MT
DRAWN BY: MT
DATE DRAWN: 4/11/11

SCALE: 1:2,900
DATA FRAME COORD. SYSTEM: WGS_1984_Web_Mercator_Auxiliary_Sphere

S:\ArcGIS\Henderson GIS\mxds\mine\SPCC

MAP ID	CONTENTS
U1	SULFURIC ACID
U2	PROCESS SOLUTION
U3	PROCESS WATER
U4A	QUICKLIME
U4B	QUICKLIME
U5	FLOCCULANT
U6	PROCESS SOLUTION
U7	OIL
U8	DIESEL
U9	PROCESS WATER, OIL

LOCATION MAP

MAP FEATURES

- BUILDINGS
- PROPERTY BOUNDARY
- PIPELINE TO URAD WWTP (Untreated Mine Water)
- U1 — NON-SPCC TANK/AREA LOCATION
- U7 — SPCC TANK/AREA LOCATION
- SPILL KIT(S)
- PALLET(S) OF FLOOR DRY

NOTES

REFER TO APPENDIX C OF THE SPCC PLAN FOR VOLUME AND CONTENT OF STORAGE CONTAINERS AND AREAS SHOWN ON THIS FIGURE.

REVISION	DATE	AUTHOR
Create figures in ArcGIS	4/14/2011	MT
Added U4A, U4B, U3, U6	10/2011	MT
Added Location of Spill Response Materials	4/20/2012	MT
Added U7, U8 and U9	10/29/2012	MT

Climax Molybdenum
A Freeport-McMoRan Company
HENDERSON OPERATIONS
1746 County Road 202
Empire, Colorado 80438

FIGURE 2
HENDERSON MINE URAD

Aquionix
3700 E. 41st Avenue
Denver, CO 80216-6504
303-289-7520 (Office)
303-289-7521 (Fax)

DESIGNED BY: MT
DRAWN BY: MT
DATE DRAWN: 4/14/11

SCALE:1:1,600
DATA FRAME COORD. SYSTEM: WGS_1984_Web_Mercator_Auxiliary_Sphere

S:\ArcGIS\Henderson GIS\mxds\mine\SPCC

LOCATION MAP

MAP FEATURES

BUILDINGS

PROPERTY BOUNDARY

PIPELINE TO URAD WWTP
(Untreated Mine Water)

REVISION	DATE	AUTHOR
Updated title block.	12/21/2012	MT

Aquionix
3700 E. 41st Avenue
Denver, CO 80216-6504
303-289-7520
www.aquionix.com

Climax Molybdenum
A Freeport-McMoRan Company
HENDERSON OPERATIONS
1746 County Road 202
Empire, Colorado 80438

FIGURE 3
HENDERSON MINE PROCESS WATER PIPELINE

DESIGNED BY: MT
DRAWN BY: MT
DATE DRAWN: 4/14/11

SCALE:1:10,000
DATA FRAME COORD. SYSTEM: WGS_1984_Web_Mercator_Auxiliary_Sphere

S:\ArcGIS\Henderson GIS\mxds\mine\SPCC