

Permit (TA-50, SUPDES Permit)

SPILL PREVENTION CONTROL AND COUNTERMEASURES PLAN

1000 GALLON DIESEL TANK WCRRF AND RAMROD TECHNICAL AREA 50

Los Alamos National Laboratory

Prepared By:
Merrick Engineers & Architects
600 Sixth St.
Los Alamos, NM 87544
(505) 662-0606

In Conjunction with
Los Alamos National Laboratory
Water Quality and Hydrology Group (ESH-18)

Revision 1: March 2002



16001

TABLE OF CONTENTS

Table of Contents.....i
Certification.....ii
Management Approval.....iii
Record of Reviews.....iv

1. INTRODUCTION..... 1-1

 1.1. FACILITY DESCRIPTION..... 1-1
 1.2. FACILITY OWNER & OPERATOR..... 1-1
 1.3. SPILL HISTORY AND POTENTIAL SPILL PREDICTIONS..... 1-1

2. STORAGE TANK AND CONTAINMENT STRUCTURE..... 2-1

3. ADDITIONAL SPCC REQUIREMENTS 3-1

 3.1. INSPECTIONS 3-1
 3.2. RECORD KEEPING..... 3-1
 3.3. SECURITY..... 3-2
 3.4. TRAINING..... 3-2
 3.5. SPILL PREVENTION, RESPONSE & REPORTING..... 3-2
 3.6. PLAN AMENDMENT..... 3-3

Appendix A Inspection Reports
Appendix B Spill Records
Appendix C Certification of the Applicability of the Substantial Harm Criteria
Appendix D Refilling Procedures

CERTIFICATION

This Plan was developed pursuant to provisions of the federal regulation for oil pollution prevention, 40 CFR Part 112. Its purpose is to provide spill prevention and response measures to prevent the pollution of navigable waters from oil related spills.

In accordance with 40 CFR Part 112.3 (d), this Plan has been reviewed and certified by a Registered Professional Engineer (PE). By means of this certification, the engineer, having examined the facility and being familiar with the provisions of this regulation, attests that this Plan has been prepared in accordance with good engineering practices.

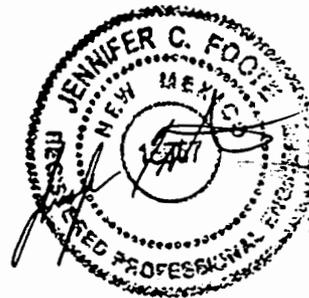
Certified by: _____



Jennifer Foote
Registered Professional Engineer

Date: _____

3-28-02



3-28-02

MANAGEMENT APPROVAL

In accordance with 40 CFR Part 112.7, this Plan has the full approval of management at a level with authority to commit the necessary resources.

Facility Owner/Operator Approval:

Approved by Sara S. Helmick

Date: 3/29/02

Sara Helmick
C-FM Facility Manager

1. INTRODUCTION

The Spill Prevention Control and Countermeasure (SPCC) Plan is a requirement of the Oil Pollution Prevention regulation, 40 CFR Part 112. Its intent is to prevent oil related spills from polluting navigable waters of the United States (U.S.) through the implementation of adequate prevention and response measures. With regard to Los Alamos National Laboratory (LANL), navigable waters of the U.S. include all canyons, arroyos, streams, and rivers within and surrounding LANL Technical Areas.

Due to LANL's diverse activity and changing conditions, a single Plan incorporating all LANL facilities subject to SPCC requirements is impractical. Therefore, SPCC locations are addressed according to their Facility Management Unit (FMU). The Facility Manager (FM), or the facility tenant with approval from the FM, develops, implements, and maintains SPCC Plans for the specific SPCC location(s) within their stewardship. LANL is classified under the SPCC regulations as a bulk storage facility.

This SPCC Plan addresses a 1000 gallon diesel fueled emergency generator (TA-50-183) located west of building 50-37. This Plan replaces the TA-50 Waste Treatment Facilities SPCC Plan dated 1994 and its subsequent inclusion into the Facility SWPP Plans.

1.1. Facility Description

LANL Technical Area (TA) 50 RAMROD and WCRRF is a waste packaging facility that has a 1000 gallon diesel fueled emergency generator (TA-50-183) located at the facility. The aboveground storage tank (AST) is located within a 7' by 17' concrete vault connected to a generator located a few feet away by underground piping. The facility is located at the beginning of Ten Site Canyon. Ten Site Canyon drains to Mortandad Canyon, which is a tributary to the Rio Grande River approximately 12 miles away.

1.2. Facility Owner & Operator

The Facility Owner is C-FM. There are several groups operating at the facility, but for the purpose of this SPCC Plan, C-FM is also in charge of the operations for the diesel storage.

Facility Owner & Operator

Chemistry Division Facility Management (C-FM)
University of California (UC)
Los Alamos National Laboratory

Facility Contacts

<i>Name</i>	<i>Phone</i>	<i>Title</i>
Loren Abercrombie	667-0813	Spill Coordinator
Deidra Yearwood	665-6615	Deputy Group Leader
Sara Helmick	667-9583	Group Leader

1.3. Spill History and Potential Spill Predictions

There have been no spills at RAMROD WCRRF related to the diesel generator in the past three years. If one occurs, this plan will be updated to reflect it.

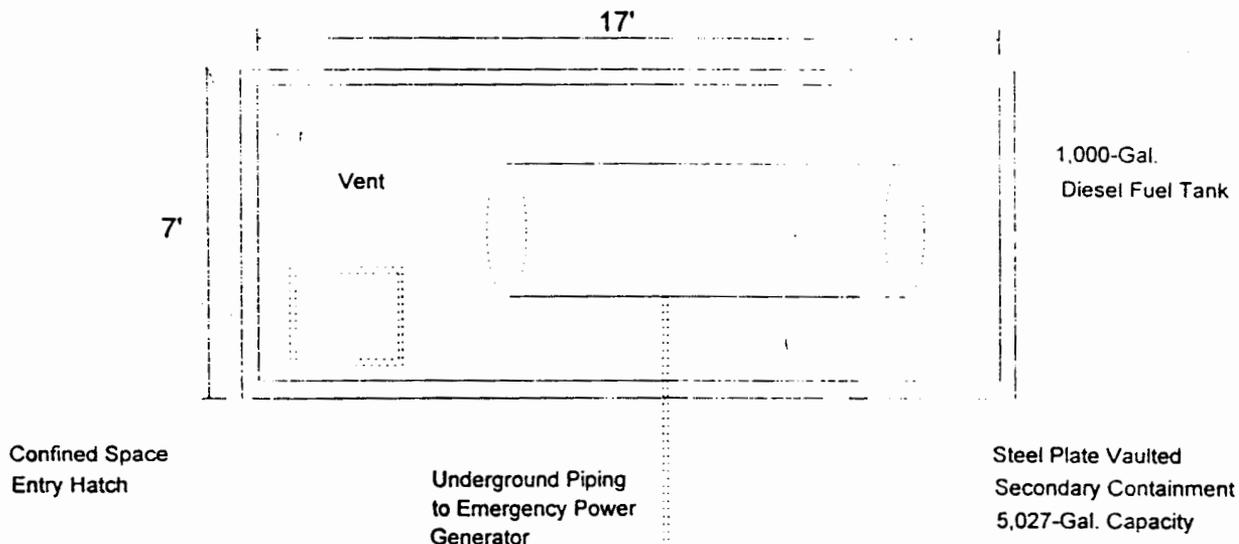
In the event of a catastrophic failure, a maximum of 1000 gallons could flow into the secondary containment, the rate of flow is dependent on the size of the breach. If a spill or leak were to occur outside the secondary containment during refueling, fuel could flow to the storm drain located at the SW corner of the generator and to Ten Site Canyon. The volume of this spill could be several gallons at a slow rate.

2. STORAGE TANK AND CONTAINMENT STRUCTURE

To prevent discharged oil from reaching a navigable water of the U.S., appropriate storage tanks, containment structures, and ancillary equipment and management procedures are in place at TA-50-183. The following discusses conformance to effective spill prevention and containment procedures related to the storage tank and containment structure, including facility drainage, storage tank descriptions, secondary containment and its drainage, integrity testing, fail-safe engineering, and transfer operations.



50-183 Diesel Fuel Tank



The AST is entirely contained within a covered concrete vault, however, refueling operations take place outside of secondary containment. The area where refueling operations take place does not have dikes, an oil catch basin, or a diversion system.

The 1000 gallon AST is made from commonly accepted metal and steel alloys used for manufacturing diesel fuel storage tanks. The secondary containment for this tank is a concrete vault sufficiently impervious to contain oil, with a 5027 gallon capacity. The tank and secondary containment are not exposed to storm water, so there are no stormwater discharge operations associated with this tank and there is no drainage

outlet or discharge valve. This tank has not been integrity tested every five years as required. Internal heating coils are not used. There is no liquid level gage for this tank; the level of liquid in the tank is determined by a measuring stick observation. There is no liquid level alarm system for detecting leaks or spills into the concrete vault. Visible leaks are corrected during monthly maintenance.

Oil is transferred to the generator by underground piping. It is unknown whether the piping is protected against corrosion. There are no out of service pipes and no pipe supports. Refilling of the AST follows facility specific and Department of Transportation procedures and regulations.

Future controls include:

- Tank filling procedures in Appendix D will be followed.
- The tank and underground piping will be integrity tested as described in the inspections section.

3. ADDITIONAL SPCC REQUIREMENTS

In addition to requirements specific to storage tanks and containment structures, 40 CFR Part 112 requires the development of procedures associated with inspections, record keeping, security, training, spill prevention, and Plan amendment. The following sections address implementation of these requirements at the facility.

3.1. Inspections

Inspection records are retained in Appendix A of this document in accordance with Section 3.2.

Monthly Inspections:

- JCNNM inspects the generator and storage tank monthly as part of their operations and maintenance procedures.
- In the future, the form in Appendix A will be used for inspections. The form includes a description of items inspected and inspection criteria.

Quarterly Inspection:

- As part of the quarterly site compliance evaluations for the facility's SWPPP, the exterior of the secondary containment is observed for signs of spills or leaks.

Integrity Testing:

- Integrity testing incorporates both visual and internal inspection to determine the structural integrity of a storage tank, its associated piping, and its support structures. Such testing must be conducted by a certified inspector. API standards 510 and 653 are the primary U.S. industry standards for storage tank inspection and testing. Records shall include all examinations and tests, conditions found, thickness measurements, settlement measurements, repairs/alterations, and recommendations.
- All storage vessels will be given a formal visual external inspection by a qualified inspector **every five years** or at the quarter corrosion-rate life of the shell, whichever is less. The time between internal inspections for the AST shall not exceed 20 years. The underground piping will be pressure tested as part of the integrity test.

3.2. Record Keeping

The inspections identified in Section 3.1, except the quarterly SWPP inspections, are documented and kept on the applicable forms in Appendix A. Currently inspections are documented in the JCNNM Preventative Maintenance Reports and kept in separate files. These inspection reports identify the date the inspection was performed, noted observations or measurements, and the name or initials of the inspector.

In the future, completed tank inspection reports will be recorded on the inspection form found in Appendix A and copies will be maintained in the SPCC Plan within Appendix A.

In the event of a spill, the spill tracking form in Appendix B will be used to describe the spill, corrective actions taken, and plans for preventing recurrence. Copies of spill reports will also be retained in Appendix B.

Training records will be maintained with the LANL Employee Development System (EDS) and in accordance with LANL's Training Standard LS113-09.0, *Training Documentation*.

All inspection records, spill reports, and other applicable data and documentation will be kept with this Plan and retained for a period of three years. All original records will be kept with the SPCC Plan at the facility. A copy of all SPCC records will be forwarded to the FMU and ESH-18 to be kept in their central

building records. After the standard recordkeeping time for the facility all original records will be transferred to the FMU.

3.3. Security

SPCC requirements dictate that storage facilities should be fenced and locked or secured when the facility is not attended or in operation. The site is located within TA-50, which is accessible only to DOE badge holders, and LANL security personnel visually inspect badges prior to authorizing entrance to the area. The facility is located within a fenced area and gates are closed outside of normal operating hours. The tank is located within a concrete vault only accessible through a manhole. In addition to restrictions on facility access, pumps and valves are locked out and tagged out or disabled by operational personnel when not in operation. Facility lighting is sufficient to facilitate the discovery of a spill.

3.4. Training

The JCNNM generator maintenance and refueling crews and the designated person responsible for oil spill prevention undergo SPCC training. Other personnel at the facility do not interact with the generator and storage tank and therefore are not required to take this training. All personnel who participate in work activities that may occur outdoors are trained in Storm Water Pollution Prevention which includes information on pollution control laws rules and regulations. However, only personnel who may access the generator and storage tank are trained in the operation and maintenance of the equipment as well as more specific SPCC regulations. The Spill Coordinator is the designated person responsible for oil spill prevention. The JCNNM generator maintenance and filling crews participate in periodic spill prevention briefings.

Currently training activities are not documented. LANL is currently developing a new online training program for SPCC and SWPP which will be documented in the LANL Employee Development System (EDS). This system sends a reminder when the annual training is due. Informal briefings are documented by recording the attendance and maintaining a file of the meeting roster.

3.5. Spill Prevention, Response & Reporting

Spill prevention includes training employees on appropriate spill prevention and work procedures and performing inspections and maintenance activities to minimize the potential for equipment failure. Work is also performed using LANL's five step Integrated Safety Management approach, which evaluates a task and identifies potential hazards such as a spill event.

Spill response measures include both the proper training of facility personnel and the use of on-site spill controls. On-site spill controls are located in Building 50-37 and in the refueling truck.

The LANL Emergency Management & Response (EM&R) Office will be notified if a spill cannot be easily controlled with the materials on hand, threatens to escape the facility or enter the environment, additional resources are needed, an unidentified hazard exists, injuries have occurred, fire protection is needed, or if operational or facility personnel are not adequately trained in the use of spill control equipment or are not confident in their ability to carry out spill response activities. EM&R, which has been appointed by the Laboratory Director as the organization responsible for emergency management at LANL, may be contacted at 667-6211 or, after hours, at 667-7080. In such an event, the facility Spill Coordinator must also be notified.

Spills shall be reported in accordance with LANL LIR 402-130-01.0, Abnormal Events. Spill events in excess of one quart will also be documented in Appendix B of the SPCC Plan. Required LANL spill reports will be completed by the organization responsible for overseeing site operations, and copies of the reports will be maintained by both the responsible organization and the LANL Water Quality & Hydrology Group, ESH-18. The federal reporting of spill events is the responsibility of ESH-18, and the

determination for such notification will be made by ESH-18 and the EM&R Office in accordance with Laboratory and DOE policies, and federal and state regulatory reporting requirements.

3.6. Plan Amendment

This SPCC Plan will be amended whenever there is a change in facility design, construction, operation or maintenance that materially affects the facility's potential for discharge of oil into or upon the navigable waters of the United States or adjoining shorelines. The Plan will also be amended as necessary if a spill causes a change in design, construction, operation, or maintenance. Such amendments shall be fully implemented as soon as possible, but not later than six months after such change occurs.

In addition, in accordance with 40 CFR 112.5(b), a complete review and evaluation of this SPCC Plan will be conducted at least once every three years by the operating group and/or Facility Manager, and by ESH-18. As a result of this review and evaluation, the SPCC Plan will be amended within six months of the review to include more effective prevention and control technology if:

- 1) such technology will significantly reduce the likelihood of a spill event from the facility, and
- 2) if such technology has been field proven at the time of review.

Changes to inspection forms, the contact lists, and the addition of records to the Plan do not require certification by a Professional Engineer. All amendments that address material changes such as a change in the facility's ability to discharge oil will be certified by a Professional Engineer.

Appendix A

Inspection Reports and Sample Form

Los Alamos

**WALK-AROUND
INSPECTION FORM
ABOVEGROUND TANKS
AND
ASSOCIATED PIPING**

General Site Information

Inspection Date:		Inspector:	
Technical Area:		Structure #:	
Tank Contents:		Capacity Tank:	
Adequate lighting:	Yes <input type="checkbox"/> No <input type="checkbox"/>	Is facility fenced?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Housekeeping:	Good <input type="checkbox"/> Poor <input type="checkbox"/>	Current Tank Content:	_____ Gallons

Storage Unit Condition

Describe general condition of tank and support structure, and/or piping (signs of rust, leakage, tank residing in water, cracks in foundation, no labels, etc.):	
Tank Contents Label:	Adequate <input type="checkbox"/> Inadequate <input type="checkbox"/>
Grounding Wires:	Adequate <input type="checkbox"/> Inadequate <input type="checkbox"/> N/A <input type="checkbox"/>
Level Gauge:	Adequate <input type="checkbox"/> Inadequate <input type="checkbox"/> N/A <input type="checkbox"/>
Liquid Level Alarm System:	Adequate <input type="checkbox"/> Inadequate <input type="checkbox"/> N/A <input type="checkbox"/>
Tank Shell Condition:	Good <input type="checkbox"/> Poor <input type="checkbox"/> N/A <input type="checkbox"/>
Foundation & Supports Condition:	Good <input type="checkbox"/> Poor <input type="checkbox"/> N/A <input type="checkbox"/>
Flanges, Valves, Nozzles and Piping:	Good <input type="checkbox"/> Poor <input type="checkbox"/> N/A <input type="checkbox"/>
Transfer Pump:	Good <input type="checkbox"/> Poor <input type="checkbox"/> N/A <input type="checkbox"/>

Secondary Containment Condition

Describe general condition of containment unit (storm water accumulation, presence of oil or other material, signs of damage, leaks, cracks, erosion, status/condition of discharge valve, etc.):	
Storm water discharge valve:	Locked <input type="checkbox"/> Unlocked <input type="checkbox"/> No valve <input type="checkbox"/>
Sump? (if yes, describe in comments below):	Yes <input type="checkbox"/> No <input type="checkbox"/>
Storm Water Accumulation in Containment Unit:	Yes <input type="checkbox"/> No <input type="checkbox"/>
Oil accumulation in dike or collection sump:	Yes <input type="checkbox"/> No <input type="checkbox"/>

Comments:

Items Requiring Corrective Actions:

Corrective actions taken (give dates):

Inspector's signature:

Date:

Appendix B

Spill Records

Appendix C

Certification of the Applicability of the Substantial Harm Criteria

CERTIFICATION OF THE APPLICABILITY OF THE SUBSTANTIAL HARM CRITERIA

Facility Name: WCRRF AND RAMROD

Facility Address: LANL

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 accordance with EPA 40 CFR 112, App. C) 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" 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 accordance with EPA 40 CFR 112, App. C) such that a discharge from the facility would shut down a public drinking water intake?

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 re-portable oil spill 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.

Sara Helmick
Name (please type or print)

Sara B. Helmick
Signature

C-FM Facility Manager
Title

3/29/02
Date

Appendix D

Refueling Procedures

Required Actions for Occasional AST Filling

Occasional filling of ASTs with oil or fuel will involve the transfer of material from motor carrier. The greatest potential for an oil or fuel spill at most LANL facilities resides with this transfer. Therefore, listed below are the required guidelines for the oil or fuel transfer.

1. No material shall be unloaded from any motor vehicle unless the maxi brakes are securely set, and all other reasonable precautions are taken to prevent motion of the motor vehicle during the unloading process. If parked on a steep incline, wheel chocks will be in place.
2. Prior to unloading the cargo tank, spill prevention and control measures shall be in place. These measures include the following, as a minimum:
 - Vehicle shall have a spill kit adequate to clean up a 5 gallon spill (absorbent "litter" and pig mats)
 - Temporary dikes or storm drain covers shall be installed at storm drains or to block off nearby drainages.
3. During unloading, keep fire away and prevent persons in the vicinity from smoking, lighting matches, or carrying any flame.
4. Ensure that at all times during unloading process, the procedure is attended by at least two qualified persons. One person is responsible for monitoring the cargo tank and one person is responsible for monitoring the delivery hose attachment, where the delivery hose is connected to the storage tank piping.
5. A person "attends" the unloading of the cargo tank if, throughout the process, he/she has an unobstructed view of the cargo tank or delivery hose attachment, and is within 25 feet of the cargo tank or delivery hose attachment.
6. A person is "qualified" if he/she has been made aware of the nature of the material which is to be unloaded, has been instructed on the procedures to be followed in the event of a spill or other emergency, and/or is authorized to move the cargo tank and has received SPCC training.
7. When a cargo tank is unloaded by a suction-piping system through an open filling hole of the cargo tank, electrical continuity shall be maintained from cargo tank to receiving tank.
8. When a cargo tank is unloaded through a vapor-tight (not open hole) top or bottom connection, so that there is no release of vapor at a point where a spark could occur, bonding or grounding, is not required. Contact of the closed connection must be made before flow starts and must not be broken until after the flow is broken until after the flow is completed.
9. Bonding or grounding is not required when a cargo tank is unloaded through a nonvapor-tight connection into a stationary tank provided the metallic filling connection is maintained in contact with the filling hole.
10. Upon completion of the oil transfer, the cargo tank shall not be moved until it has been verified that all valves and other closures in the discharge systems are closed and free of leaks.
11. EM&R shall be notified in the event of a spill, and all leaks and spills that occur during the transfer shall be cleaned up and disposed of properly.

Developed By: Merrick Engineers & Architects and ESH-18, revised 3/28/02.
Reference: 49 CFR Part 177, Subpart B: Loading and Unloading