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Title:	Spill Prevention, Control and Countermeasures Plan (SPCC) TA-48/Los Alamos Radiochemistry Facility
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Spill Prevention, Control and Countermeasures Plan (SPCC)

TA-48/Los Alamos Radiochemistry Facility

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In conjunction with:
Los Alamos National Laboratory
ENV-CP Water Quality

Revision 0: August 2014

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CERTIFICATION

This Plan was developed pursuant to provisions of the federal regulation for oil pollution prevention, 40 CFR Part 112 and the New Mexico Environment Department (NMED) Petroleum Storage Tanks (PST) regulations 20.5 NMAC. 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 or having an agent examine the facility, and being familiar with the provisions of this regulation, attests that the Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards, and with the requirements of Part 112. Procedures for required inspections and testing have been established and this Plan is adequate for the facility.

Certified by: _____ Date: _____

Terrill Lemke, PE
Registered Professional Engineer
Los Alamos National Laboratory

MANAGEMENT APPROVAL

This Plan has the full approval of management at a level with authority to commit the necessary resources. The owner/operator will fully implement this Plan in accordance with the requirements of 40 CFR Part 112 and 20.5 NMAC.

Facility Owner/Operator Approval:

Approved by: _____ Date: _____
Kerry Smith
Operations Manager,
Los Alamos National Laboratory

Approved by: _____ Date: _____
Cliff Kirkland
STO, Facility Operations Director,
Los Alamos National Laboratory

Approved by: _____ Date: _____
David Morris
Chemistry Division (C-Division), Division Leader
Los Alamos National Laboratory

Approved by: _____ Date: _____
Felicia Taw
C-NR Nuclear and Radiochemistry, Group Leader
Los Alamos National Laboratory

Approved by: _____ Date: _____
Rob Steiner
Clean Chemistry Team Leader, C-NR
Los Alamos National Laboratory

Approved by: _____ Date: _____
Don Dry
Countroom Team Leader, C-NR
Los Alamos National Laboratory

SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN REVIEW PAGE

In accordance with 40 CFR 112.5(b), a review and evaluation of this SPCC Plan is conducted at least once every five years. 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. Any technical amendment to the SPCC Plan shall be certified by a Professional Engineer within six months after a change in the facility design, construction, operation, or maintenance occurs which materially affects the facility's potential for the discharge of oil into or upon the navigable waters of the United States or adjoining shorelines. A Professional Engineer need not certify non-technical amendments.

Review Dates	Signature	Name	Title	Amended & Stamped (yes/no)

1. INTRODUCTION

The Spill Prevention Control and Countermeasure (SPCC) Plan is a requirement of the United States (U.S.) Environmental Protection Agency (EPA) Oil Pollution Prevention Regulations (40 CRF 112). This Plan has been developed to comply with the requirements of the regulations published August 2002 and the December 2008 Amendments to the SPCC Rule (Appendix A). 40 CFR 112.1(d) (2) (ii) requires that facilities that have an aggregate aboveground storage capacity of 1,320 gallons or greater of oil, including all containers 55 gallons or greater, maintain and implement an SPCC Plan. The intent of the SPCC Plan is to prevent oil related spills from polluting navigable waters of the U.S. through the implementation of adequate prevention and response measures. With regard to Los Alamos National Laboratory (LANL), the navigable waters of the U.S. include all canyons, arroyos, streams, and rivers within and surrounding LANL Technical Areas (TAs).

Pursuant to the SPCC regulations, LANL is classified as a bulk storage facility and because of Los Alamos National Laboratory's (to be referred to as the Laboratory) diverse activities and changing conditions, a single Plan incorporating all of the Laboratory's facilities subject to SPCC requirements is impractical. The Facility Operations Director (FOD) or the facility tenant with approval from Los Alamos National Security (LANS) ENV-CP develops, implements, and maintains SPCC Plans for the specific SPCC locations(s) within their stewardship.

This SPCC Plan addresses the Technical Area (TA)-48 Emergency Generators and their associated aboveground storage tanks (AST) for diesel fuel (north of RC-45 and east of RC-1), oil filled machine equipment, and oil drum storage area.

1.1 Conformance

This SPCC Plan and facility, conform to the requirements of 40 CFR Part 112. The facility has appropriate spill prevention, reporting, and response measures and adequate security. The tanks and secondary containment are appropriate for the materials stored. Procedures for inspections, testing, loading and unloading, record keeping, and training have been developed. .

The TA-48 Emergency Generators containment does not include permanent bermed or diked areas and the maximum oil loss from both systems has been quantified to be approximately 10 gallons per generator while running given the scenario that a fuel hose becomes disconnected or has a significant breach. The fuel storage tanks are double-walled and have been inspected and certified by an aboveground storage tank (AST) inspector to meet Steel Tank Institute (STI) SP001 standards. In addition, this SPCC Plan calls for the presence of spill response materials at each TA-48 SPCC operation and storage site. Notification of spills to the Operations Manager (FOD) is required of all LANL employees through Institutional procedure P 322-3 Performance Improvement from Abnormal Events. The Operations Manager makes other notifications to include equipment owners in the case of the generator's and the Environmental Staff to include individuals who know how to appropriately address oil spills from leaks and during fueling operations.

Future changes at the facility to ensure compliance with regulatory requirements include:

- Both generators require their vents to be raised 12 feet above the ground. The normal vent for the RC-45 generator needs to be extended to the outside of the enclosure.

- The RC-1 generator tank needs vehicle collision protection such as bollards or a jersey bouncer on the west flank.

- For the RC-45 generator any holes/openings need to be sealed and the top of the tank can be used as secondary containment. If this is not practical then a spill bucket/box will need to be added.

- Move the portable oil storage building, 48-180 to level ground or level it out where it is.

These changes will be made within 6 months of the SPCC effective date or a variance will be requested and the SPCC Program Manager will inspect the change for proper installation and initial that the change is complete. Once all changes have been made, the SPCC will be in full compliance with 40 CFR 112 requirements.

In addition to Federal regulations, this Plan complies with the New Mexico State regulations for Ground and Surface Water Protection (20.6.2 NMAC). Both tanks service emergency generators but are exempt from the NM Petroleum Storage Tanks Regulations (20.5 NMAC) because they have capacities less than 1320 gallons. Work on or around the Emergency Generators shall be performed using LANL's five step Integrated Safety Management approach, which evaluates a task and identifies potential hazards such as a spill event (http://int.lanl.gov/esh/).

The signed Certification of the Applicability of Substantial Harm Criteria is included in Appendix A.

1.2 Facility Owner & Operator

The generators associated with this Plan are equipment owned and operated by the C-NR Nuclear & Radiochemistry Division of Los Alamos National Laboratory. The generator on the north side of RC-45 is owned by the Clean Chemistry Team Leader. The generator on the east side of RC-1 is owned by the Countroom Team Leader. Both are operated by the C-NR Electrical Safety Officer. The machine shop (with oil filled equipment), RC-8 is operated by C-NR as well. The oil storage area, building 180 custodian is the DSESH-RCO FOD.

Owner and operator information for the facility is listed below:

Facility Owner
C-NR Nuclear & Radiochemistry Facilities
Los Alamos National Laboratory

Facility Contacts

Name	Phone	Title
Rob Steiner	505-667-0979	Clean Chemistry Team Leader, C-NR
Don Dry	505-667-4200	Countroom Team Leader, C-NR
Pat Foy	505-665-7536	Clean Chemistry, C-NR
Ken Oshel	505-665-6345	DSESH-RCO FOD
Art Montoya	505-667-4319	C-NR

1.3 Management Responsibilities

The owner/operator is responsible for preparing and implementing the requirements of the SPCC Plan. In addition to requirements specific to storage tanks and containment structures, 40 CFR Part 112 and

NMED 20.5 NMAC require that procedures be developed to address inspections, record keeping, training, and SPCC Plan amendments. The following sections address implementation of these procedures at the facility.

This table shows the responsibilities that are further described in the SPCC Plan.

		DSESH-RCO/ENV-CP	Facility Owner/Operator
General	Prepare SPCC Plan to meet regulatory requirements	X	
	Approve SPCC Plan		X
	Implement SPCC Plan		X
	Approve and implement physical changes needed to implement SPCC Plan		X
	Provide oversight	X	
	Leak and spill cleanup and disposal, provide spill information to ENV-CP, update spill log in Plan	X	X
	Spill reporting	X	
Inspections	Provide qualified personnel to perform and write monthly SPCC walk around inspections	X	
	Provide qualified personnel to perform and write annual SPCC inspections	X	
	Implement corrective actions noted in inspection reports		X
Recordkeeping	Maintain inspections in onsite SPCC Plan	X	
	Maintain onsite training records for periodic briefings or Lessons Learned	X	
	Update spill tracking form	X	
	Review SPCC Plan every five years	X	X
Training	Provide annual training that meets SPCC regulatory requirements	X	
	Ensure all oil handling personnel and designated persons accountable for discharge prevention complete annual training		X
Plan Amendment	Provide information on changes to design, construction, operation or maintenance		X
	Amend Plan when major spill or other change in facility occurs	X	
	Implement changes to Plan within 6 month of a significant change to the facility		X

1.3.1 Inspections

Inspections include monthly facility walk-around inspections and annual SPCC walk-around inspections. Procedures for each type of inspection are described below. Records of each inspection are kept in accordance with the requirements list in Section 1.3.2 (Recordkeeping).

In the event that a problem or concern is identified during an inspection, the inspector shall document the deficiency or concern on the applicable inspection form(s). Corrective actions shall be planned, implemented and documented. Any identified leaks or problems will be promptly corrected, and any oil accumulations will be removed. Records of these types of problems will be kept on file as part of the SPCC plan according to Section 3.1 (Spill History).

Inspection Summary

Type	Frequency	Inspector
Monthly Inspections	Monthly	Deployed Environmental Professional
Annual SPCC	Annual	Water Quality (ENV-CP)
Certified	10 years	Outside Contractor
Brittle Failure	Not applicable	n/a

Monthly SPCC Walk-Around Inspections: The Deployed Environmental Professional (DEP) conducts monthly inspections using the appropriate inspection checklist form(s) approved by ENV-CP (Appendix B) to assess generators, drum storage areas, and oil filled equipment. The inspections assess items recommended for periodic inspection in SP-001 including: tank exterior, equipment, and drum exteriors. Documentation of the monthly SPCC inspections is located in Appendix B. A report of the findings will be written and sent to the owners/custodians of the equipment with a copy sent to the Operations Manager and the C-NR group leader. The responsible individuals will have 10 working days to complete the actions needed. If the actions are incomplete, the open actions will be placed into the Laboratory's Performance Feedback and Management Tracking System (PFITS).

A copy of these inspection reports must be kept in the SPCC binder for 3 years. Once the record matures to 3 years, it can be sent to the ADESH Records Management Team.

Annual SPCC Walk-Around Inspections: ENV-CP (accompanied by the DEP) performs annual SPCC inspections to assess compliance with all aspects of the SPCC Plan including training, recordkeeping, changes to the facility, the condition of the fuel tank, piping and associated equipment, drum storage areas, and oil filled equipment. This inspection shall cover all requirements of the SPCC regulations and are performed to the industry standard STI SP-001.

The ENV-CP inspectors document their annual SPCC inspections using requirements from the STI SP-001 (August 2006) Annual Inspection Checklist. This documentation includes at a minimum the date the inspection was performed, facility/structure, and deficiencies or concerns identified during the inspection. Completed inspection forms include the signature of the inspector and/or FOD personnel.

ENV-CP will provide a formal memorandum documenting the findings and will enter non-conformances into PFITS. If time allows, ENV-CP will go over the findings with the DEP before it is formally sent out. Distribution for the memorandum will include the FOD, the Operations Manager, C-Division, the C-NR Group Leader, the DEP, and the listed owners/custodians.

Annual reports/memorandums must be kept in the SPCC Plan binder for three years and a copy of the memorandum must be entered into RCO records management team in OIO.

ENV-CP personnel will also conduct a visual inspection after the occurrence of any "Critical Situation" such as a leak, exposure to fire, or a major storm.

Brittle Failure and Catastrophe Evaluation: The SPCC and NMED regulations and industry practice require that field-constructed AST's be evaluated for the risk of discharge or failure due to brittle fracture or other catastrophe. These requirements also apply to AST's that undergo any repair, alteration, reconstruction, or change in service that might affect the risk of a discharge or failure. The tanks for the RCO generators are not field-constructed ASTs and are, therefore, not subject to those requirements.

1.3.2 Recordkeeping

The SPCC Plan will be maintained at the facility as required by 40 CFR 112.3(e). The SPCC Plan documents shall include inspection reports, drainage records, spill reports, and training records. All records shall be retained as part of this SPCC Plan for a minimum of three years. In addition, documents may be forwarded to the Records Management Team to be retained in accordance with Department of Energy requirements. Following is a summary of the record-keeping requirements:

- All monthly inspection reports are maintained as part of the SPCC Plan in Appendix B. Completed maintenance records, Monthly and Quarterly Inspection Checklists, annual SPCC inspection reports, and certified inspection reports will be maintained as part of the SPCC in Appendix B.

- SPCC training records will be documented in Appendix C and in the UTrain System in accordance with LANL's Training Standard LS113-09.0*, Training Documentation*. HAZWOPER training for spill response personnel is documented in UTrain.

- In the event of a spill, the spill tracking form will be used to describe the spill, corrective actions taken, and plans for preventing recurrence. A record of the spill will be kept in the SPCC Plan Appendix D.

- SPCC Plan Review and Amendments to the Plan will be recorded in Appendix E.

1.3.3 Training

40 CFR Part 112.7(f)(1) states: "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."

An online training program has been developed that covers spill procedure protocols; applicable pollution control laws, rules, and regulation; and lessons learned – information on known spill events or failures, SPCC-Plan elements, and spill response procedures. This training program is required at least once a year for oil-handling personnel of SPCC facilities. Additional spill prevention briefings and information on known spill events or failures, malfunctioning equipment, and recently developed precautionary measures is provided to oil handling personnel through the LANL Institutional Program, Lessons Learned Notification and Feedback Program OST402-130-01.A.3, or through periodic briefings on small spills. In addition to the above training, spill response personnel at LANL receive HAZWOPER training that covers spill prevention, control, and cleanup procedures. Personnel who interact with the tanks covered in this plan will receive site specific training by required reading of this SPCC Plan. A list tracking personnel who are required to read the SPCC Plan annually is contained in Appendix C.

Personnel that will have SPCC training at the RCO facility are the generator fuelers, oil handling personnel, employees who work on machines that hold greater than 55 gallons, and employees who perform generator inspections and maintenance (mechanical, electrical, and environmental). The SPCC training will be completed on an annual basis through the UTrain training system, course # 30441. Oil handling personnel are also familiar with and have access to Operation & Maintenance manuals applicable to the generator and tank. They can also request information or clarification from the FOD and

ENV-CP personnel. The SPCC plan is available on site for further reference. Information from Cummins, the generator manufacturer, can also be obtained if necessary.

1.3.4 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. Amendments to the Plan will be recorded in the Amendment Log located in Appendix E.

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 five years by the operating group and/or FOD and by WQ-ENV-CP. As a result of this review and evaluation, the SPCC Plan will be amended within six months of the review to include more effective spill prevention and control technology if:

1) technology that will significantly reduce the likelihood of a spill event from the facility has been developed, and/or
2) technology that has been field proven at the time of review has occurred.

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

2. FACILITY DESCRIPTION

Technical Area 48 (TA-48), the Radiochemistry Facility, is located on Pajarito Road at the Los Alamos National Laboratory and situated just north of Mortandad Canyon, a tributary to the Rio Grande River.

There are two Emergency Generators and their associated aboveground storage tanks (AST), identified as 48-0271 located on the north side of RC-45 and 48-0270 located on the east side of RC-1.

Two items of oil-filled equipment with a capacity of over 55 gallons are located in the machine shop at the facility (RC-8). RCO has consolidated its used oil storage into a drum/portable container storage area covered by this plan and labeled 48-180.

2.1 Generators and Associated Aboveground Storage Tank Description

The unit labeled 48-0271 was installed in 2005 and has a capacity of 600 gallons. It is located north of RC-45 (figure 1).

Figure 1: RC-45 Generator and Associated Aboveground Storage Tank

The unit labeled 48-0270 was installed in March of 2014 and has a capacity of 1,000 gallons. It is located east of RC-1 (figure 2).

Figure 2: RC-1 Generator and Associated Aboveground Storage Tank

Both units consist of a generator and a fuel tank for the generator. The fuel tanks are U.L. 142 listed doubled-walled tanks that hold #2 fuel oil. 48-0271 supports a 60 Hz, 250kW generator while 48-0270 supports a 60 Hz, 150kW generator. The generators are situated on top of the tanks and are located within weather-protective enclosures.

The generators draw fuel up for running and circulate the fuel to keep the diesel from sitting for too long and going bad. When the system is not in use the oil in the generators and piping remains wherever it is when the fuel pump stops running and does not drain back into the tanks. This allows the generators to start up again the next time they are run without causing the battery to die. In order to allow them to start in the cold, both tanks have an engine block heater.

The fuel tanks are equipped with an overfill alarm and are monitored by a float level fuel gage mounted on top of the tanks. Maintenance checks the generators once a month for any deficiencies and makes adjustments as needed. They will also run the generators for one hour to make sure everything is running properly. Generally the generators are refilled with oil once a year by MSS-LOG but if maintenance finds the oil to be lower than 75% they will notify Pat Foy and the generators will be filled early. The fuel level is also checked when the generator has been consistently in use for an extended period of time. In addition, the high fuel level float switch sets off a light at 90%.

2.2. Oil-filled Equipment

Per SPCC requirements equipment containing over 55 gallons of oil must be included in the SPCC plan. There are two pieces of equipment included in this section that contain water soluble oil. These are located in Bldg. 48-0008 and include a 55 gallon capacity Mazak milling machine (figure 3)

Figure 3: Mazak milling machine

as well as a 55 gallon capacity HAAS tool manufacturing machine (figure 4).

Figure 4: HAAS tool manufacturing machine

The building provides adequate secondary containment for the equipment area.

2.3. Drum or Portable Container Storage Area

Storage of used oil occurs in a designated drum/portable container storage area located north of RC-45 (figure 5).

Figure 5: Oil storage area

This storage area is labeled 48-180. Building 180 is a containment building with a built in secondary containment. The secondary containment holds roughly 1,122 gallons and the area is managed by the Bldg. 180 custodian and generally stores no more than 5 55-gallon drums, empties, and other equipment to include spill equipment. There may be times when there are more or less drums stored in this location, as determined by facility operations and needs.

2.4. Security

2008 SPCC regulations allow the owner and operator of a facility to tailor their security measures to the facility's specific characteristics and location. This facility is located within a technical area of a national laboratory therefore strict security measures are followed. Both generators are located inside of a weather protected enclosure that is locked when not in use. The oil storage building 180 and the machine shop which holds the oil-filled equipment are also locked when not in use.

Lighting within and around the area is adequate to deter vandals and to facilitate the discovery of a spill. There are lights located near the enclosed generators as well as the Machine Shop and the oil storage building.

SPCC requirements necessitate that pipes be capped or blank-flanged when not in use. The fill location for the tanks are capped and locked when not in use.

The RC-45 tank and generator enclosure is protected from vehicular damage by bollards. Bollards and/or jersey bouncers will be installed at the RC-1 on the west flank side of the generator in order to protect from vehicular damage and to comply with regulatory requirements. In addition, both enclosures are slightly raised on a concrete pad.

2.5. Facility Transfer Operations

Transfer operations occur at the facility by way of transferring oil from equipment into drums or other portable containers, from oil containers into equipment, from trucks to generators, or transfers occur when oil is moved from one location to another. Drums and equipment are refilled via drums and portable pump. Filling of the tanks will be performed by MSS-LOG personnel. The MSS-LOG refulers have their own SPCC plan which they will be trained under.

The steps delineated below will be followed for all oil movements:

- Filling operations will be attended by qualified personnel at ALL times
- Spill control equipment will be present during oil transfer operations to include spill containment kits, storm drain covers (if necessary), and portable containment dikes (if necessary).
- Drums are not to be rolled or tipped, even while empty, to prevent damage to containers.
- The containers will be inspected before and after they are transported for leaks or damage.
- Outdoor filling or drum replacement will not occur during inclement weather

Refueling operations for the generators take place next to each generator and these areas do not have permanent dikes, oil catch basins, or a diversion system. Temporary berms are used to ensure that, in the event of a spill during fueling operations, the spilled fuel does not flow into the tributary of Mortandad Canyon. Temporary berms are installed in a manner such that they will contain leaks and spills from the fueling hose. The fueling vehicle will be examined for leakage, and a hose will be run from the tanker to the fill door at the top of the tank and be gravity fed. After the tank is filled, the inlet door will be capped and locked, and the vehicle will again be examined for leakage. The generators are fuelled as needed. They are allowed to go until half full before they are refilled in order to keep the diesel fresh. The AST Procedure in Appendix G will be followed in draining and refilling the fuel tank. This procedure includes the use of maxi brakes to prevent early departure and at least two persons attending the operations to monitor for leaks. In the event of a spill from fueling operations, the LANL procedures for spill response will be applied. Spills will be tracked in Appendix D.

In the machine shop, building 8, transfer of oil into the machines is done with an air pump. These operations are always manned and are not automatic. The sump pumps are generally changed once a year. The oil storage area stores used oil from throughout TA-48. Generators will use drums, plastic containers, or carboys to store their use oil. Once these are full they are taken to the oil storage building (and placed into a drum if they are not already in one) to await pick up by the oil recycler. Oil from a non-registered site should not exceed 10 gallons while it is in their area.

3.0 SPILLS

3.1. Spill History and Potential Spill Prediction

There have been no reportable oil spills at the RCO facility associated with the tanks, generators, associated equipment, oil-filled equipment, or oil storage area. The table below identifies the tanks and containers at the facility with the potential for an oil discharge; the mode of failure; the flow direction and quantity of the discharge; and secondary containment method and containment capacity.

Type	Type of failure (discharge scenario)	Potential Discharge volume (gallons)	Direction of flow for uncontained discharge	Secondary containment method and capacity
1000 gallon RC-1 diesel fuel tank	Catastrophic	1000	South to drainage ditch to Mortandad Canyon. A more likely event would be that a fuel line would become disconnected or rupture and approximately 10 gallons flow into the internal cabinet of the generator where it would be captured in the secondary containment.	Double walled tank
600 gallon RC-45 diesel fuel tank	Catastrophic	600	North to Mortandad Canyon. A more likely event would be that a fuel line would become disconnected or rupture and approximately 10 gallons flow into the internal cabinet of the generator where it would be captured in the secondary containment.	Double walled tank

Building 48-180 Oil Storage Area	Catastrophic	55	A spill from a drum would remain within the built in containment of the building. However, if a 55-gallon drum spilled at the access door, it would flow on asphalt and run easterly and a small volume could enter Mortandad Canyon if controls such as dykes and absorbent materials were not used to minimize the spill.	Secondary containment, sorbent materials
Building 48-8 Equipment	Spills	55	Unlikely to leave the building	Temporary berms at gutter, sorbent materials, spill kit within the building

3.2. Spill Prevention

To prevent discharged oil from reaching a navigable water of the U.S., appropriate management procedures, containment structures, and ancillary equipment are in place for the oil storage tank. The likelihood of spills occurring during the fueling process is minimized through the use of the AST filling procedures contained in Appendix H.

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. Oil filled equipment, portable containers, and secondary containment units should be kept in good working order, including: periodic painting to provide corrosion control, oil seepage will be wiped off during maintenance operations, leaks and seepage will be controlled through repairs and maintenance. If leaking equipment cannot be maintained immediately, it will have spill containment installed and containment storm water will be properly managed and disposed of by the WMC. The DSESH-RCO Environmental Professional is the designated person for the facility who is accountable for discharge prevention and reports to facility management.

Movement of oil filled containers or transfers of oil will not occur during precipitation events. 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. The steps delineated in section 2.5, transfer Operations, will be followed even if an IWD is not prepared.

3.3 Spill Response & Reporting

Significant spills must be reported by calling 911 or contacting LANL Emergency Response & Emergency Operations (ER/EO) at 667-6211 to respond to the spill. Minor spills that are contained or not an immediate threat to the environment or site personnel will be cleaned by personnel with the knowledge to clean a small spill (no more than 3 gallons) or will be cleaned by ER/EO. Spill cleanup supplies are kept on the fuel truck and additional spill cleanup material are stored at the generators and other two sites. Spill material can be obtained from the area Waste Management Coordinator. ER/EO will clean up all major spills or spills that are in critical locations such as stormwater swale or if there is immediate threat of rain. In all cases, site personnel will put controls in place such as stormwater drain covers and dykes to minimize the environmental damage from spill events.

Spill disposal methods will follow LANL, DOE and NMED guidelines. It is the responsibility of the FOD or Operations Manager to contact the appropriate Waste Generator and Waste Management Coordinator who are properly trained to dispose of spill materials.

Spill reporting is accomplished through SPCC Plan documentation, ADNHHO FOD Trending notifications and ER/EO notification. Spills must be documented by the DEP and maintained in Appendix D. If ER/EO is notified of a spill event, they will contact all additional applicable parties including WQ-ENV-CP. Completion of additional spill reports, state and federal reporting as required by other regulations, and the federal reporting of spills in excess of 1,000 gallons or two combined spills greater than 42 gallons in 12 months will then be made by WQ-ENV-CP and ER/EO in accordance with Laboratory and DOE policies and federal and state regulatory reporting requirements.

Definition of the authorities, responsibilities, and duties of all entities involved in oil removal operations:

Authorities	Responsibilities	Duties
Onsite workers	Notify TA-48 Facility Coordinator and **contact EM&R at 7-6211 or 911** if necessary	
TA-48 Facility Coordinator	Notify ENV-CP, document spill in SPCC Plan in accordance with Section 1.3.2	Contact the appropriate Waste Generator and Waste Management Coordinator for disposal.
ER/EO	If ER/EO is notified of a spill event, they will contact all additional applicable parties including ENV-CP	Respond per contingency plan
ENV-CP Water Quality	Completion of spill reports that are reportable to federal and state agencies. Provide oversight for spill mitigation activities.	Provide information to federal and state agencies.

Appendix A

Certification of the Applicability of the Substantial Harm Criteria

CERTIFICATION OF THE APPLICABILITY OF THE SUBSTANTIAL HARM CRITERIA

Facility Name: RCO

Facility Address: RCO, TA-48, LANL, Los Alamos, NM

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

   Yes _____ No **X**

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

   Yes _____ No **X**

2. 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 **X**

3. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula in accordance with EPA 40 CFR 112, App. C) such that a discharge from the facility would shut down a public drinking water intake 2?

   Yes _____ No **X**

4. 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 **X**

CERTIFICATION

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

Cliff Kirkland	RCO Facility Operations Director
Name (please type or print)	Title
_____	_____
Signature	Date

Appendix B

Inspection Forms

1. **Monthly Visual Inspection Checklist**
2. **Annual Inspection Form**

TA-48 SPCC Monthly Inspection Checklist

Visual walk-around inspections are conducted by the designated person who is accountable for discharge prevention. Critical situation and annual inspections are conducted by ENV-CP

Areas or Building # inspected: _____
Inspection Date: _____ Inspected by:_____
Any changes to facility that impact ability to discharge oil? (Expansion of drum area, new drums, changes to procedures):_____
_____

Generators/Aboveground Storage Tanks	Yes	No	Description and Comments
Tank surfaces show signs of leakage			
Level gauges or overfill alarms are inoperable			
Water/Oil in interstice of double-walled tank			
Water detected in primary tank			
Tank vents obstructed or inoperable			
Debris, residue, and/or water in the spill catchment basin (at fill port)			
Physical damage to visual or mechanical liquid level devices			
Spill and overfill equipment not operational (press test button)			
Pumps and valves are unlocked			
Spill Control Equipment			
Concrete pad or ground below tank shows signs of leakage			
Pipelines and connections show signs of leakage			
Tank area is obstructed by equipment, vegetation, or trash			
Water present in outdoor secondary containment			
Drum Storage Areas	**Yes**	**No**	**Description and Comments**
Drums show signs of leakage or deterioration			
Drums show signs of spillage on their tops, sides, or surrounding ground			
Drum area is obstructed by equipment, vegetation, or trash			
Drum lids are not tightly closed			
Drums are unlabeled or outdated			
Egress pathways blocked and gates/doors inoperable			
Drums being stored outside the designated storage area			

Noticeable drum distortions, buckling, denting, or bulging			
Housekeeping (combustibles/weeds, spills, etc. in storage area)			
Spill Control Equipment			
Oil Filled Equipment	**Yes**	**No**	**Description and Comments**
Visible signs of leakage			
Is there a repair scheduled for leaking equipment			
Spill Control Equipment			
Housekeeping (debris, spills, etc.)			

ANNUAL SPCC WALK-AROUND INSPECTION FORM
TA-48 RADIOCHEMISTRY FACILITY

Inspection Date: _____ Inspectors: _____
Last SPCC review date: _____ Others Present: _____
Any changes to facility that impact ability to discharge oil? (New or removed tanks or drums, changes to procedures): _____

	Acceptable	Unacceptable
SPCC Records Maintained?	❑	❑
Spill Control Equipment	❑	❑
Housekeeping	❑	❑
Security (lighting, fencing, starter control location controlled)	❑	❑
Area drainage	❑	❑

Comments:_____

GENERATORS/ABOVEGROUND STORAGE TANKS

RC-1, 48-270 Tank Condition

	Acceptable	Unacceptable
Water present in tank	❑	❑
Tank Shell and Coating Condition	❑	❑
Foundation & Supports Condition (including ground settling and anchor bolts)	❑	❑
Pumps, Flanges, Valves, Nozzles and Flex Lines (capped)	❑	❑
Vents (including secondary tank and O-ring of emergency vents)	❑	❑
Grounding	❑	❑
Level Gauge: _____Gallons Manual stick fuel level_____	❑	❑
Overfill Liquid Level Alarm System Test	❑	❑
Condition of Secondary containment bucket (discharge valve closed (if any), accumulated water, etc.):	❑	❑
Liquid in interstice?____ Interstice alarm Test	❑	❑

Tank/Unit Identification #(s) if applicable: Total Tank/Unit Capacity:_____
Type of high liquid level gage or shutoff:_____
Describe general condition of tank and support structure, and/or piping and other associated equipment (signs of rust, leakage, tank residing in water, tank contents label, etc.):_____
_____
_____

RC-45, 48-271 Tank Condition

	Acceptable	Unacceptable
Water present in tank	❑	❑
Tank Shell and Coating Condition	❑	❑
Foundation & Supports Condition (including ground settling and anchor bolts)	❑	❑
Pumps, Flanges, Valves, Nozzles and Flex Lines (capped)	❑	❑
Vents (including secondary tank and O-ring of emergency vents)	❑	❑
Grounding	❑	❑
Level Gauge: _____Gallons Manual stick fuel level_____	❑	❑
Overfill Liquid Level Alarm System Test	❑	❑
Condition of Secondary containment bucket (discharge valve closed (if any), accumulated water, etc.):	❑	❑
Liquid in interstice?____ Interstice alarm Test	❑	❑

Tank/Unit Identification #(s) if applicable: _____Total Tank/Unit Capacity:_____
Type of high liquid level gage or shutoff:_____
Describe general condition of tank and support structure, and/or piping and other associated equipment (signs of rust, leakage, tank residing in water, tank contents label, etc.):_____
_____
_____

OIL STORAGE AREA

Area or Building #:_____

	Acceptable	Unacceptable
Spill Control equipment	❑	❑
Housekeeping	❑	❑
Security (lighting, fencing)	❑	❑
Area drainage	❑	❑
Condition of secondary containment (discharge valves closed (if any), accumulated water, etc.)	❑	❑
Condition of containers and containments (dents, bulging, leaks, etc.)	❑	❑

Other comments:_____
_____

OIL FILLED EQUIPMENT

Areas inspected:_____ List of oil filled equipment inspected (attach checklist of items inspected if needed):_____
List any equipment not inspected and why:_____

Items:_____	**Acceptable**	**Unacceptable**
Spill Control equipment	❑	❑
Housekeeping	❑	❑
Security (lighting, fencing)	❑	❑
Area drainage	❑	❑
Condition of secondary containment (discharge valves closed (if any), accumulated water, etc.)	❑	❑
Condition of containers and containments (dents, bulging, leaks, etc.)	❑	❑

Other comments:_____
_____

A. Corrective Actions Needed (give dates if possible): _____

B. Corrective actions taken (give dates if possible): _____

C. Other Comments:_____

Inspector's signature: _____ Date:_____

Owner/Operator's signature: _____ Date:_____

Owner/Operator's signature: _____ Date:_____

NOTE: YOU MUST RETAIN THIS INSPECTION REPORT FOR 36 MONTHS.

Appendix C

Training Records

Appendix D

Spill Recording

Spill Tracking Form

Date and time	Spill Location and Phone Number of facility	Quantity discharged in arroyo, stream, river, or canyon	Type, source, Material and Quantity Spilled	Description of affected media	Cause of discharge	Damages or injuries caused by discharge	Corrective Action Taken	Evacuation needed?	Names of those contacted

Appendix E

Plan Amendment Log

Amendment Log

Date	Plan Section	Reason for Amendment	Amendment	PE Certification Needed?

Appendix F

Site Maps and Facility Diagrams

Appendix G

AST Filling Procedure

AST Oil Filling Procedures

Occasional filling of AST's 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, the vehicle is examined for leakage at all outlets, 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)
    - If no permanent secondary containment is present for the fueling area, temporary dikes or berms shall be installed 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 non-vapor-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 ENV-WQH, revised 3/28/02.
Reference: 49 CFR Part 177, Subpart B: Loading and Unloading