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# SPILL PREVENTION CONTROL AND COUNTERMEASURES PLAN

## 2000 GALLON DIESEL TANK FMU-64, TECHNICAL AREA 50

Los Alamos National Laboratory

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

Revision 1: March 2002



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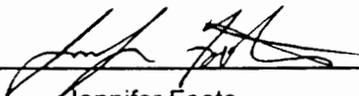
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### CERTIFICATION

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.

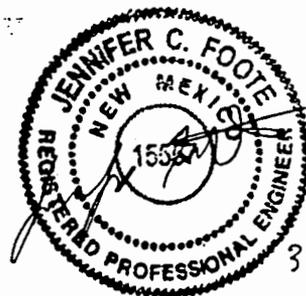
In accordance with 40 CFR Part 112.3 (d), this Plan has been reviewed and certified by a Registered Professional Engineer (PE). By means of this certification, the engineer, having examined the facility and being familiar with the provisions of this regulation, attests that this Plan has been prepared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

Date: 4/1/02

Dennis McLain  
FMU-64 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 2000 gallon diesel fueled emergency generator (TA-50-188) located east of TA-50-1. This Plan replaces the TA-50 Waste Treatment Facilities SPCC Plan dated 1994 (listed as a future tank) and its subsequent inclusion into the Facility SWPP Plans.

### 1.1. Facility Description

LANL Technical Area (TA) 50 FMU 64, includes building TA-50-1, the Radioactive Liquid Waste Treatment Facility (RLTWF) and several other smaller buildings and activities. This SPCC Plan addresses a 2000 gallon diesel fueled emergency generator (TA-50-188) located east of TA-50-1. The aboveground storage tank (AST) is a doublewalled tank located within the generator housing. 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 FMU 64, FMU 64 is also in charge of the operations for the diesel storage.

#### Facility Owner & Operator

FMU-64  
University of California (UC)  
Los Alamos National Laboratory

#### Facility Contacts

<i>Name</i>	<i>Phone</i>	<i>Title</i>
Steve Gomez	667-0341	
Rick Alexander	665-7020	Facility and Operations Lead

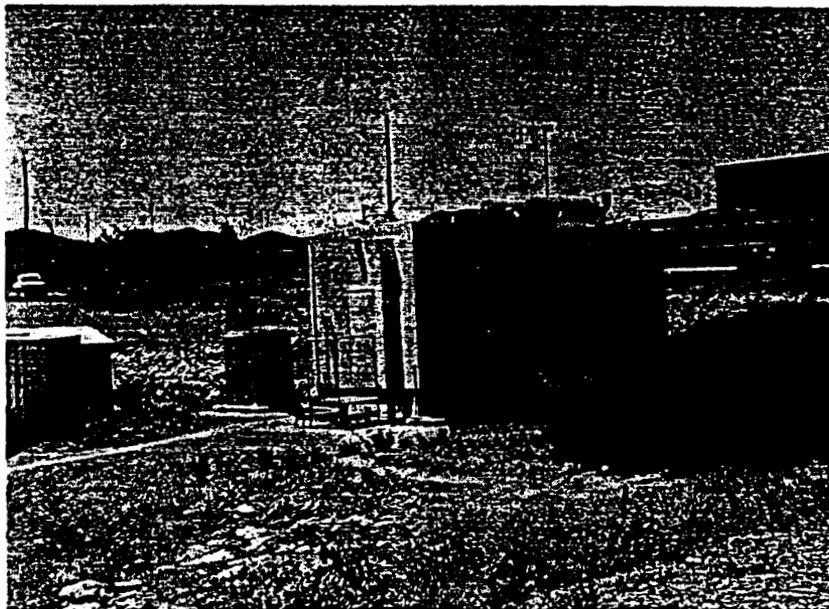
### 1.3. Spill History and Potential Spill Predictions

There have been no spills at TA-50 FMU 64 related to the diesel generator in the past three years. If one occurs, this plan will be updated to reflect it.

Since the tank is doublewalled, a spill or leak in the tank would flow to the secondary containment. The volume of this spill could be a few gallons at a slow rate to the secondary containment before it set off the leak detector. -The highest probability for a spill occurs during refueling operations. A leak or overflow during refilling could discharge tens of gallons. The predicted direction is to the south to a culvert then east to a ditch and south to Ten Site Canyon, the rate would vary with the size of the spill. ©

## 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 FMU 64 TA-50. 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.



The diesel generator and storage is located within a covered housing. The housing does not act as secondary containment. The area where refueling operations take place does not have secondary containment, dikes, an oil catch basin, or a diversion system.

The 2,000 gallon doublewall vaulted diesel fuel storage tank is made of a material and construction compatible with its contents. It was installed in 1994. The tank is located in the floorspace below the generator housing, there are no stormwater discharge operations associated with this tank and no drainage outlet or discharge valve. There is an oil drain valve on the housing for the generator engine. This tank has not been integrity tested every five years as required. Internal heating coils are not used. The tank has a low level alarm and leak detector. The liquid level sensors have not been tested. Visible leaks are corrected.

Oil is transferred to the generator by aboveground piping located within the generator housing. 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 E will be followed.
- The tank will be integrity tested and the liquid level sensors will be tested as described in the inspections section. The low level alarm should also be tested.

### 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.

##### Daily Walk Around Inspections:

- As part of the daily walkaround inspections for the facility the generator and tank housing is inspected for signs of spills or leaks. These records are in the operations monitoring center.

##### Monthly Inspections:

- JCNNM inspects the generator monthly as part of their operations and maintenance procedures. A description of items inspected and inspection criteria is included on the inspection form in Appendix A.

##### Future Monthly Inspections:

- Will include the 2000 gallon storage tank. The tank inspection form in Appendix A will be used. The liquid level sensors will be tested.

##### Quarterly Inspection:

- As part of the quarterly site compliance evaluations for the facility's SWPPP, the exterior of the AST, piping, and 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.

#### 3.2. Record Keeping

The monthly inspections identified in Section 3.1 are documented on the forms in Appendix A, and retained at the facility. 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 ESH-18 to be kept in their records. After one year, JCNNM maintenance records are transferred to document control.

### **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 gates are closed outside of normal operating hours. The tank is located within a locked housing. 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. Above ground piping is capped or blank flanged when not in service or in standby service for an extended period of time. 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 facility manager 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 the refueling truck, there are no other onsite spill controls. At this facility EM&R is notified for all spills, they also have mobile spill control kits.

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 Manager Dennis

McLain at 996-1489, or the Facility and Operations Lead Rick Alexander at 996-3112 should 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.

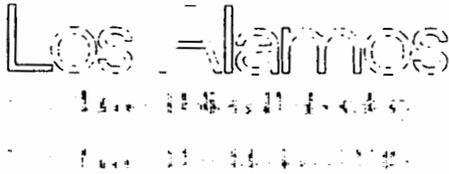
In addition, in accordance with 40 CFR 112.5(b), a complete review and evaluation of this SPCC Plan will be conducted at least once every three years by the operating group and/or Facility Manager, and by ESH-18. As a result of this review and evaluation, the SPCC Plan will be amended within six months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



**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:**

--	--

**MONTHLY - GENERATOR MECHANICAL PREVENTIVE MAINTENANCE CHECKLIST**

TA 50 BLDG. 108 ROOM \_\_\_\_\_ EQUIPMENT I.D. CODE GE-1  
 GENERATOR MFG. CNAN MODEL NO. 1250 2FL SERIAL NO. 29425 23874

THIS INSPECTION WAS CONDUCTED FOLLOWING JOHNSON CONTROLS NORTHERN NEW MEXICO LOS ALAMOS SUPPORT SERVICES SUBCONTRACT PREVENTIVE MAINTENANCE INSTRUCTIONS. PMI NUMBER 40-25-007  
 W.O. NO. \_\_\_\_\_

REF. NO.	ITEM	S	U	N/A	COMMENTS
<b>INITIAL EQUIPMENT OBSERVATIONS</b>					
9.0.1	RECORD VISIT IN LOG BOOK	<input checked="" type="checkbox"/>			
9.1.1.1	RECORD HOUR METER READING	<input checked="" type="checkbox"/>			89.1 HOU
9.1.1.2	REPORT UNAUTHORIZED ITEM STORED	<input checked="" type="checkbox"/>			
9.1.1.3	CHECK JOB SITE FOR DAMAGE	<input checked="" type="checkbox"/>			
9.1.1.4	CHECK INSIDE TRANSFER SWITCH	<input checked="" type="checkbox"/>			
9.1.1.5	TRANSFER SWITCH IN "AUTO" POS.	<input checked="" type="checkbox"/>			YES: <input checked="" type="checkbox"/> NO: _____
9.1.1.6	RECORD BATTERY CHARGER CURRENT	<input checked="" type="checkbox"/>			AM
9.1.1.7	GENERATOR CONTROL IN "REMOTE"	<input checked="" type="checkbox"/>			YES: <input checked="" type="checkbox"/> NO: _____
9.1.1.8	GENERATOR MAIN BREAKER IS "ON"				YES: <input checked="" type="checkbox"/> NO: _____
<b>LOCKOUT/TAGOUT OF SYSTEM</b>					
CAUTION	DISCONNECT LEADS/LOCKING DEVICE			<input checked="" type="checkbox"/>	
CAUTION	GENERATOR CONTROL IN "STOP"	<input checked="" type="checkbox"/>			
<b>LUBRICATION SYSTEM</b>					
9.1.2.1	CHECK OIL LEVEL	<input checked="" type="checkbox"/>			TYPE: _____
9.1.2.1	ADD OIL AS REQUIRED			<input checked="" type="checkbox"/>	ADDED: _____ QT
9.1.2.2	CHECK HYD. GOV. FLUID LEVEL			<input checked="" type="checkbox"/>	TYPE: _____
9.1.2.2	ADD FLUID AS REQUIRED			<input checked="" type="checkbox"/>	ADDED: _____ QT
9.1.2.3	CHECK OIL HEATER			<input checked="" type="checkbox"/>	
9.1.2.4	CHECK GASKETS/SEALS FOR LEAKS	<input checked="" type="checkbox"/>			
<b>ENGINE SYSTEM OBSERVATIONS</b>					
9.1.3.1	CHECK COOLANT LEVEL	<input checked="" type="checkbox"/>			
9.1.3.1	ADD COOLANT AS REQUIRED (50/50)			<input checked="" type="checkbox"/>	ADDED: _____ QT
9.1.3.2	TEST FREEZING POINT OF COOLANT			<input checked="" type="checkbox"/>	
9.1.3.3	CHECK COOLANT HOSES	<input checked="" type="checkbox"/>			
<b>REMARKS:</b>					

PLACE CHECK UNDER "S" IF SATISFACTORY, "U" IF UNSATISFACTORY, OR "N/A" IF NOT APPLICABLE TO THIS GENERATOR. ADVISE FOREMAN OR SUPERVISOR OF PROBLEMS INVOLVING IMMINENT DANGER.

**MONTHLY - GENERATOR MECHANICAL PREVENTIVE MAINTENANCE CHECKLIST**

TA 50 BLDG. 138 ROOM NA EQUIPMENT I.D. CODE 600-1

REF. NO.	ITEM	S	U	N/A	COMMENTS
9.1.3.4	CHECK BLOCK HEATER	✓			141° L / 151° R
9.1.3.5	CHECK BELTS	✓			
9.1.3.6	CHECK WATER PUMP SEALS	✓			No leaks
9.1.3.7	CHECK WATER PUMP BEARINGS	✓			Visual
9.1.3.8	CHECK FOR AIR RESTRICTIONS	✓			
9.1.3.9	CHECK MOTORIZED AIR LOUVERS	✓			
9.1.3.10	CHECK HEAT EXCHANGER	✓			
<b>AIR INTAKE SYSTEM</b>					
9.1.4.1	CHECK FOR DUCTWORK LEAKS	✓			
9.1.4.2	CHECK FOR AIR FILTER	✓			OK
9.1.4.3	CHECK FOR AIR RESTRICTIONS	✓			none
9.1.4.4	CHECK MOTORIZED AIR LOUVER	✓			
9.1.4.5	CHECK AIR PIPING/CONNECTIONS	✓			
<b>DIESEL FUEL SYSTEM</b>					
9.1.5.1	STORAGE TANK FUEL LEVEL				INCH
9.1.5.2	MEASURE WATER LEVEL IN TANK				INCH
9.1.5.3	CHECK FUEL LINES	✓			
9.1.5.4	CHECK DAY TANK FUEL SYSTEM	✓			
9.1.5.5	CHECK GOVERNOR LINKAGE	✓			EFC
<b>NATURAL GAS SYSTEM</b>					
9.1.6.1	RECORD NATURAL GAS PRESSURE			✓	P.S.
9.1.6.2	CHECK SHUT OFF SOLENOID VALVE			✓	
9.1.6.3	CHECK GOVERNOR LINKAGE			✓	
9.1.6.4	CHECK NATURAL GAS PIPING			✓	
<b>ENGINE EXHAUST SYSTEM</b>					
9.1.7.1	CHECK FOR AIR RESTRICTIONS				
9.1.7.2	CHECK TURBO CHARGER	✓			No leaks
9.1.7.3	CHECK MUFFLER	✓			X 2 OK
9.1.7.4	CHECK PIPING/CONNECTIONS	✓			

REMARKS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

PLACE CHECK UNDER "S" IF SATISFACTORY, "U" IF UNSATISFACTORY, OR "N/A" IF NOT APPLICABLE TO THIS GENERATOR. ADVISE FOREMAN OR SUPERVISOR OF PROBLEMS INVOLVING IMMINENT DANGER.

**MONTHLY - GENERATOR MECHANICAL PREVENTIVE MAINTENANCE CHECKLIST**

TA 52 BLDG. 153 ROOM N/A EQUIPMENT I.D. CODE 67E-1

REF. NO.	ITEM	S	U	N/A	COMMENTS
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**ENGINE ELECTRICAL SYSTEM**

9.1.8.1	CHECK BATTERY CONNECTIONS	✓			
9.1.8.2	CHECK ELECTROLYTE LEVEL	✓			
9.1.8.2	FILL AS REQUIRED			✓	
9.1.8.3	MEASURE/NOTE SPECIFIC GRAVITY				
9.1.8.4	MEASURE FLOAT CHARGER AMPS	✓			10.4 @ 2940C
9.1.8.5	MEASURE ALTERNATOR AMPS				
9.1.8.6	CHECK GENERATOR CONTROL PANEL	✓			
9.1.8.7	CHECK ALARM INDICATOR LIGHTS				

**IF ANNUAL LOAD TEST SCHEDULED**

9.1.9.1	IF LOAD TEST NOW SCHEDULED, OMIT REMAINDER OF MONTHLY STEPS	✓			USE FORM NO. 40-25-007.2
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**OPERATIONAL OBSERVATIONS - START-UP**

9.1.9.2	GENERATOR CONTROL TO "RUN"			✓	
9.1.9.3	RECORD STARTUP ALTERNATOR MAX.			✓	AMP
9.1.9.3	RECORD RUNNING ALTERNATOR AMPS			✓	AMP
9.1.9.4	RECORD COLD OIL PRESSURE			✓	P.S.I
9.1.9.5	RECORD COLD COOLANT TEMPERATURE			✓	

**IF ANNUAL LOAD TEST SCHEDULED**

9.1.9.6	IF ANNUAL PM IS NOW SCHEDULED, CONDUCT NOW, THEN COMPLETE THE REMAINDER OF THE MONTHLY STEPS			✓	USE FORM NO. 40-25-007.3
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**RECORD OPERATION MEASUREMENTS AT FREQUENCIES INDICATED BELOW**

9.1.9.7	15, 30, 45 & 60 MINUTES			✓	
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**AFTER FIFTEEN MINUTES OPERATION**

9.1.9.8	4-RECORD ENGINE COOLANT TEMP.			✓	
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**REMARKS:**

*perform annual electrical load test.*

PLACE CHECK UNDER "S" IF SATISFACTORY, "U" IF UNSATISFACTORY, OR "N/A" IF NOT APPLICABLE TO THIS GENERATOR. ADVISE FOREMAN OR SUPERVISOR OF PROBLEMS INVOLVING IMMINENT DANGER.

**MONTHLY - GENERATOR MECHANICAL PREVENTIVE MAINTENANCE CHECKLIST**

TA 50 BLDG. 188 ROOM A/A EQUIPMENT I.D. CODE 60E-1

REF. NO.	ITEM	S	U	N/A	COMMENTS
9.1.9.9	4-RECORD AC OUTPUT VOLTAGE			✓	VOLT
9.1.9.10	4-RECORD OUTPUT FREQUENCY			✓	HERT
9.1.9.11	4-RECORD ENGINE OIL PRESSURE			✓	P.S.I
9.1.9.8	1-RECORD ENGINE COOLANT TEMP.			✓	
9.1.9.9	1-RECORD AC OUTPUT VOLTAGE			✓	VOLT
9.1.9.10	1-RECORD OUTPUT FREQUENCY			✓	HERT
9.1.9.11	1-RECORD ENGINE OIL PRESSURE			✓	P.S.I
<b>AFTER THIRTY MINUTES OPERATION</b>					
9.1.9.8	2-RECORD ENGINE COOLANT TEMP.			✓	
9.1.9.9	2-RECORD AC OUTPUT VOLTAGE			✓	VOLT
9.1.9.10	2-RECORD OUTPUT FREQUENCY			✓	HERT
9.1.9.11	2-RECORD ENGINE OIL PRESSURE			✓	P.S.I
<b>AFTER FORTY-FIVE MINUTES OPERATION</b>					
9.1.9.8	3-RECORD ENGINE COOLANT TEMP.			✓	
9.1.9.9	3-RECORD AC OUTPUT VOLTAGE			✓	VOLT
9.1.9.10	3-RECORD OUTPUT FREQUENCY			✓	HERT
9.1.9.11	3-RECORD ENGINE OIL PRESSURE			✓	P.S.I
<b>AFTER SIXTY MINUTES OPERATION</b>					
9.1.9.8	4-RECORD ENGINE COOLANT TEMP.			✓	
9.1.9.9	4-RECORD AC OUTPUT VOLTAGE			✓	VOLT
9.1.9.10	4-RECORD OUTPUT FREQUENCY			✓	HERT
9.1.9.11	4-RECORD ENGINE OIL PRESSURE			✓	P.S.I

REMARKS:

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PLACE CHECK UNDER "S" IF SATISFACTORY, "U" IF UNSATISFACTORY, OR "N/A" IF NOT APPLICABLE TO THIS GENERATOR. ADVISE FOREMAN OR SUPERVISOR OF PROBLEMS INVOLVING IMMINENT DANGER.

**MONTHLY - GENERATOR MECHANICAL PREVENTIVE MAINTENANCE CHECKLIST**

TA 5A BLDG. 158 ROOM N/A EQUIPMENT I.D. CODE 6DE-1

REF. NO.	ITEM	S	U	N/A	COMMENTS
<b>SHUTDOWN MODE</b>					
9.1.9.12	OBSERVE DAY TANK AUTO REFILL			✓	(AT ANYTIM
9.1.9.13	TRANSFER SWITCH NORMAL LITE ON			✓	
9.1.9.14	GENERATOR CONTROL TO "REMOTE"			✓	
9.1.9.15	RECORD HOUR METER READING			✓	HOU
9.1.9.16	RECORD DAY FUEL TANK LEVEL			✓	
9.0.1	NOTE DETAILS IN LOGBOOK			✓	

REMARKS:

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PLACE CHECK UNDER "S" IF SATISFACTORY, "U" IF UNSATISFACTORY, OR "N/A" IF NOT APPLICABLE TO THIS GENERATOR. ADVISE FOREMAN OR SUPERVISOR OF PROBLEMS INVOLVING IMMINENT DANGER.

NAME OF MECHANIC [Signature] Z-NUMBER 669946  
 SIGNATURE OF MECHANIC [Signature] DATE 3-15-02  
 NAME OF ELECTRICIAN Santiago Lopez Z-NUMBER 077942  
 SIGNATURE OF ELECTRICIAN [Signature] DATE 03/18/02  
 WORK VERIFICATION BY FOREMAN [Signature] DATE 3-19-02

## **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: FMU64, TA 50

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.

Dennis McLain  
Name (please type or print)

*Dennis McLain*  
Signature

Facility Manager  
Title

4/1/02  
Date

## **Appendix D**

### **Tank and Housing Information**

# D. T. S., Inc.

CUSTOM MANUFACTURING SPECIALISTS

1-29 & EXIT 73 SO.  
P.O. BOX 1068  
SIOUX FALLS, S.D. 57101

PHONE: 605-368-5306  
FAX: 605-368-2210

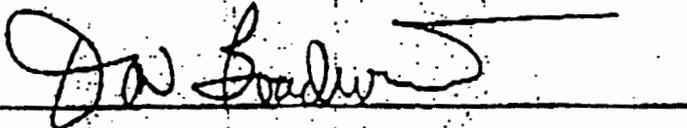
DATE: 6/14/94

ATTN: BOB RUSSELL  
CSW, ALBUQUERQUE, NM.  
FAX: 10

FROM: DON BOADWINE  
QUOTE: Q7439  
RE: SKIDBASE HOUSING WITH 2000 GALLON DOUBLEWALL  
TANK FOR ONAN MODEL 1250DFLC AT LOS ALAMOS  
NATIONAL LABS TA-50.

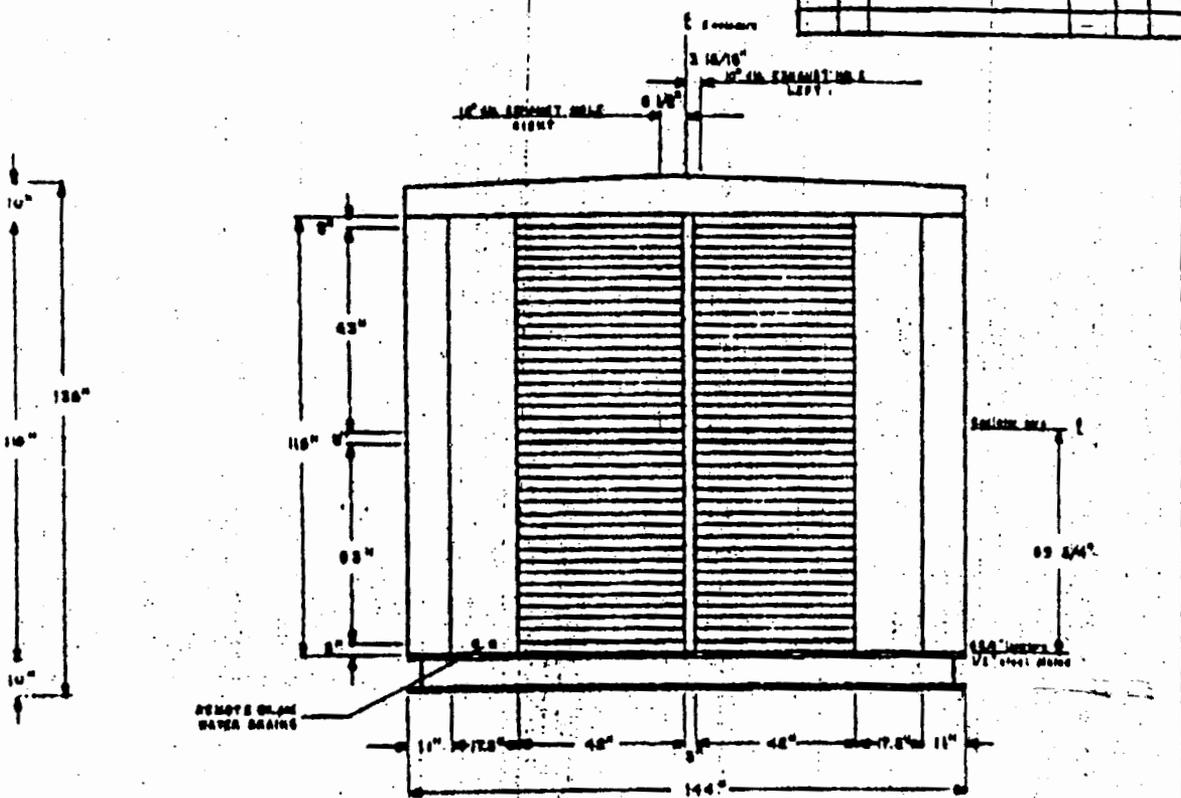
SIZE: 120" wide, 280" long, 141" high overall.  
CONSTRUCTION: Electric arc welded and bolted.  
ROOF SECTION: 6" - 8" tapered with 12 gauge  
crossmembers and 16 gauge roof panels.  
WALL SECTION: 1 1/2" deep fabricated 14 gauge panels  
with fiberglass insulation & 26 gauge  
galvanized liner.  
BASE: 21" high 2000 gallon doublewall tank  
with low level alarm, leak detector,  
& a conduit stubup area.  
LOUVERS: Motorized intake and exhaust louvers  
with birdscreen.  
DOORS: 14 gauge construction, with rainrail  
moldings above doors, #279L recessed  
"D" handles with positive rod locking  
assemblies, weatherstripping, removable  
doors with weld on hinges & brass pins.  
PAINT: Caulk all seams, metal prep, prime  
two coats, and finish two coats, one  
color, with acrylic enamel paint.  
INCLUDED: DTS to install customer's genset,  
mufflers, & flex exhausts (roofmounted  
& removed)  
DTS to supply & install 100 amp 120/240  
volt breaker panel, lights, light  
switch, duplex outlet, outside lights,  
5 KW space heater, & wiring of the  
louvers, engine heater, & battery  
charger.  
FREIGHT: FOB Jobsite

NOTE: ANY APPLICABLE TAXES ARE EXTRA.

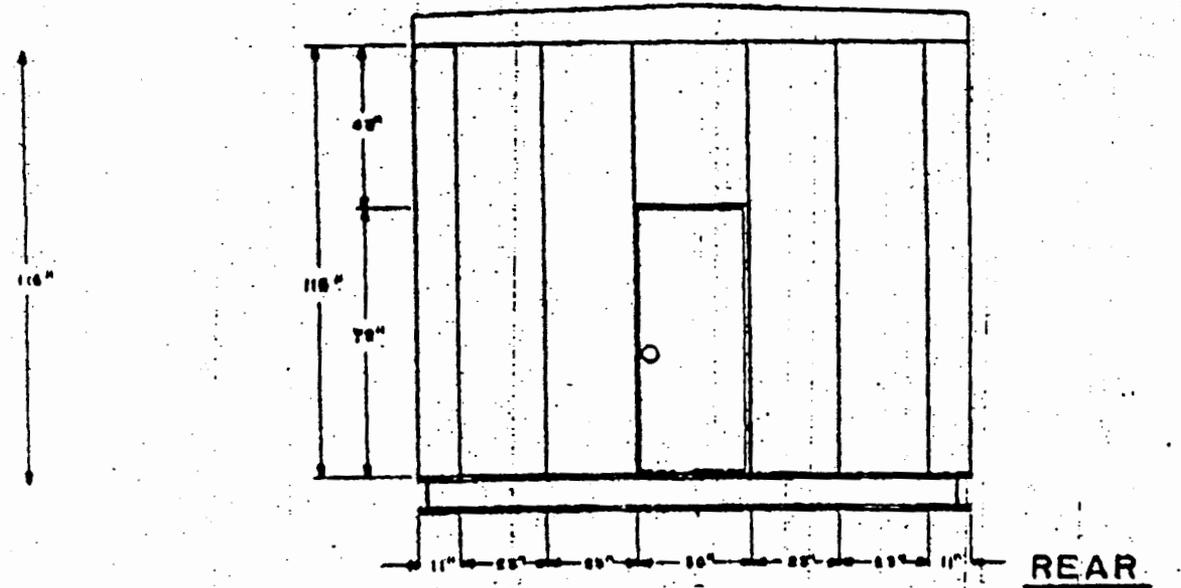
  
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DATE	BY	REVISION	REASON	AUTH	NO.	QTY.
4-12-88		RIGHT DOOR, DOOR / LOUVERS		109	89	

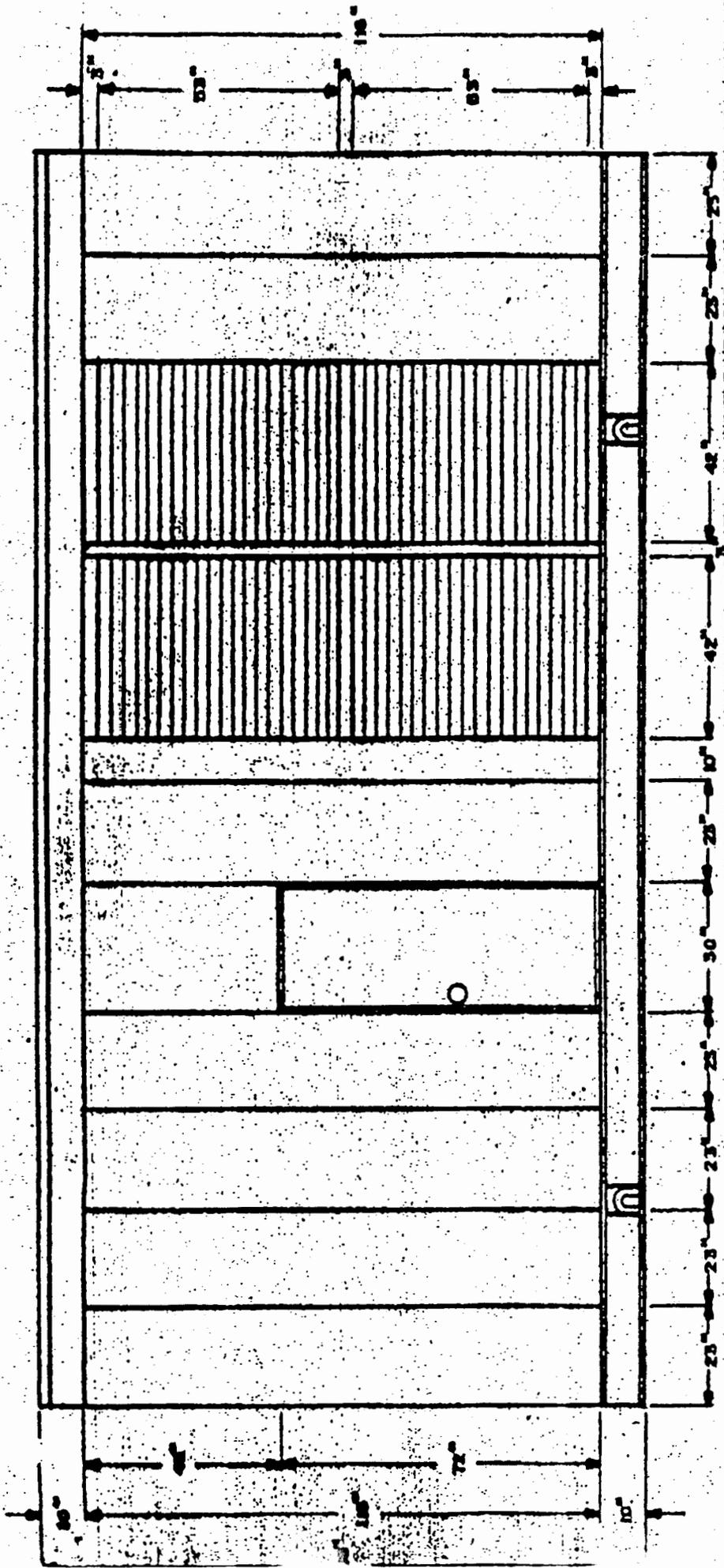


**FRONT**



**REAR**

TOLERANCES (UNLESS OTHERWISE SPECIFIED)	D.T.S. Inc. BOX 1066 SIOUX FALLS, S.D. 57101		
ORIGINAL	FLAHERTY EQUIP New BRIGHTON, MN.	SCALE	DRAWN BY T. KRIER
FRACTIONAL	TRUCK BASE ENCLOSURE W/1000 GALLON FUEL TANK FOR A ONAN 1250 DF		APPROVED BY



LEFT SIDE

# FUEL SUPPLY NETWORK

## NOTES:

1. All fuel piping should be of black iron or copper pipe. Pipe sizes should follow engine manufacturer's recommendations based on KW of generator set.

**WARNING: A DANGEROUS INSTALLATION WILL RESULT IF PROPERLY SIZED OVERFLOW AND VENT PIPES ARE NOT CONNECTED TO THIS TANK.**

**OVERFLOW:** Should tank be overfilled as a result of misadjustment of fuel level controls, fuel spillage or overpressurization of the tank may result. An overflow pipe back to the main storage tank of at least double the size of the fill pipe must be installed with consideration given to length of run and vertical drop. (Use min. 1" I.D.)

**VENT:** A properly sized and installed vent pipe is mandatory. The vent provides a means for tank to breathe when fuel is withdrawn or added to tank. Venting also provides pressure relief in case of overflow or rapid expansion or gasification of contents in event of fire. Portions of this tank may become permanently distorted at pressures above 5 PSI, and may rupture at pressures

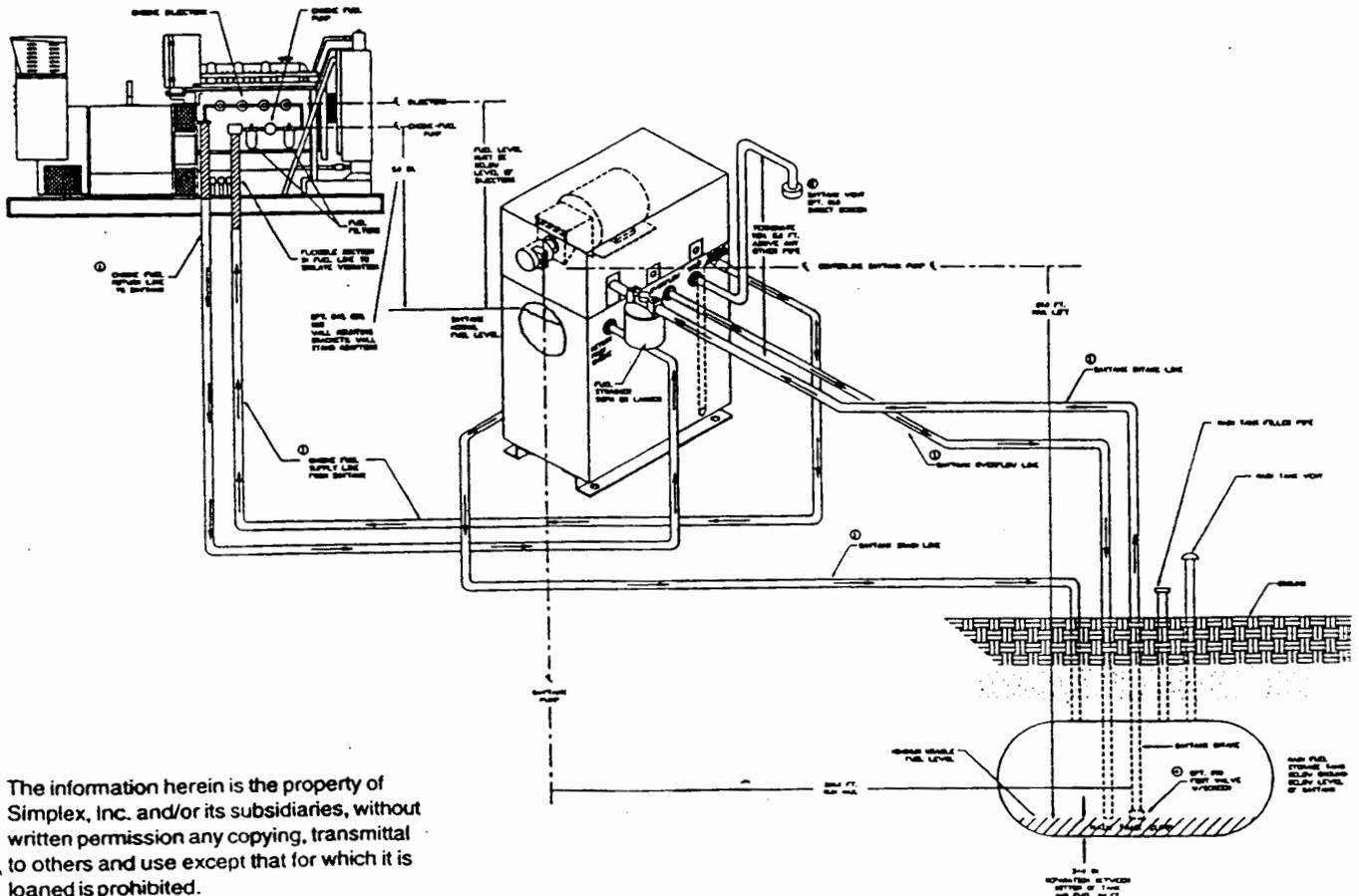
above the designed maximum withstand pressure of 25 PSI. To avoid overpressurization a vent pipe to atmosphere (outside of the building) of the same diameter as the threaded vent fitting installed in the tank must be provided to extend a minimum of 5 ft. above tank top, however, not portion of this vent should extend or terminate more than 12 ft. above this tank. There must be no low portions or sags in the vent pipe which can trap liquid. Protect the open end by suitable means to prevent entry by insects, foreign matter and precipitation.

**NOTE:** The emergency vent line capacity specified on the placard at the top of the tank must be considered in order to maintain the fire safety factors established by NFPA 30 and UL 142. If installation is intended to conform and benefit from the inherent safety advantages of the NFPA 30 and UL 142 installation standards, observance of the value is mandatory. It may be necessary to increase the vent pipe diameter if the run is long.

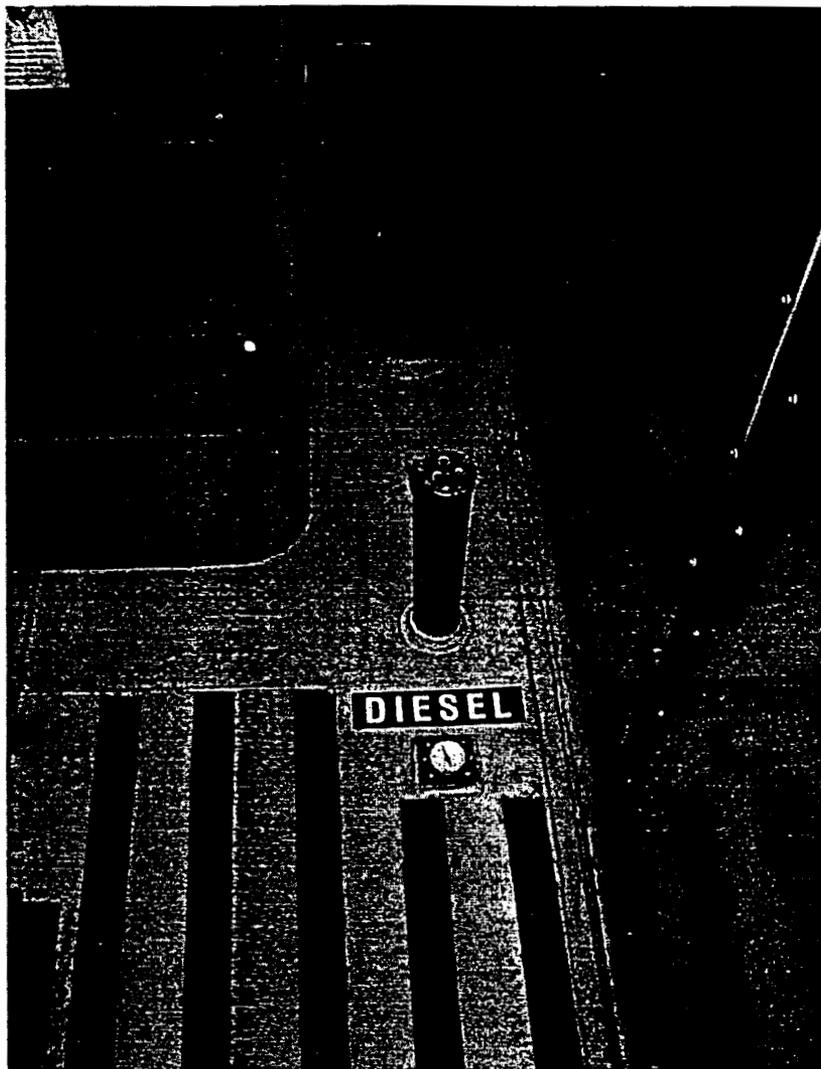
**MAINTENANCE:** Inspect this tank at least every six months for damage, leakage, or rust on both inside and outside of the tank. Promptly repair or replace any significantly damaged or deteriorated tank.

**NOTE:** This is an industrial product, not a consumer product. It must be specified,

- installed, operated and maintained by individuals equipped with the appropriate training and skills. This tank conforms to applicable portions of the following standards: NFPA 30 and NFPA 37, UL 142.
2. Drain water and sediment from day tank sump at least once each year, or more frequently depending on usage and condition of the fuel.
  3. When the main fuel storage tank is located above the level of the day tank, the following option is required; Option 375: Gravity inlet control, consisting of in-line solenoid valve, manual isolation valve. Consider also: #170: 50 PSI construction, #190/191: Overflow basin, #383: Overflow tank, #390: Overflow return pump.
  4. Recommended Options:
    - A. When the main fuel storage tank is located underground, one of the following options is recommended to assure maintenance of day tank pump prime. Option 070: Check valve on pump intake, Option 080, 083: Solenoid valve on pump intake, Option 090: Foot valve.
    - B. Hand pump is recommended for use as a back-up to the motor pump and to prime the motor pump on initial installation. Option 015: 5 GPM (5 strokes/gallon) hand pump.



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Storage tank refueling point  
located inside housing on floor

## **Appendix E**

### **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