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SPILL PREVENTION CONTROL AND COUNTERMEASURES PLAN

POWER & STEAM PLANT TA-3-22

Los Alamos National Laboratory

Los Alamos, New Mexico

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

Revision 1: February 2002

15987

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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: _____ Date: 2/27/02

Paul Parker
Registered Professional Engineer
Facility Engineer and Branch Manager
JCNNM Utilities, Electric and Steam Branch, Los Alamos National Laboratory

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 Approval:

Approved by: _____ Date: 2/27/02

David Padilla
FMU-80 Facility Manager

Facility Operator Approval:

Approved by: _____ Date: 2/27/02

Gary Blauert
JCNNM Director of Institutional Operations

SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN REVIEW PAGE

In accordance with 40 CFR Part 112.5(b), a review and evaluation of this SPCC Plan is conducted at least once every three 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 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.

Review Dates	Signature	Name	Title	Amended & Stamped (yes/no)
2/27/02		David A. Padilla	FMU 60 Facility Manager	Original

1. INTRODUCTION

The Spill Prevention Control and Countermeasure (SPCC) Plan is a requirement of the Oil Pollution Prevention regulation, 40 CFR Part 112. Its intention is to prevent oil related spills from polluting navigable waters of the U.S. through the implementation of adequate prevention and response measures. This Plan has been developed to meet regulatory requirements under the jurisdiction of the United States Environmental Protection Agency (EPA) and surface water protection requirements established by the New Mexico Environment Department (NMED). 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.

1.1. Definitions

See the latest edition of 40 CFR Part 112.2 or check the following web address; http://www.access.gpo.gov/nara/cfr/waisidx_00/40cfr112_00.html.

1.2. Facility Description

The TA-3 Power Plant facility is a steam power plant that provides electrical power and steam to the Laboratory. Natural gas is the primary fuel supply for the power plant, with #2 Fuel Oil (also called diesel) used for backup fuel and emergency standby steam generation.

The JCNNM Utilities Department, Electric and Steam Branch operate the plant for the Laboratory under the management of the Laboratory's Facility Management Unit #80. The facility is in operation 24 hours a day, 7 days a week with three, eight-hour shifts per day. There are approximately 14 operations and maintenance staff members for the facility, with additional supervisors, management, and engineering personnel occupying offices within the facility.

The facility boundaries cover an estimated seven acres on Diamond Drive, south of East Jemez Road, in Los Alamos. Most of the industrial activity is inside the building SM-22. Activities related to SPCC locations include the storage and handling of #2 fuel oil in above ground fuel storage tanks, fuel pump house, fueling station, drum storage and underground pipelines. In addition, the facility has chemical storage, material handling, loading and unloading of chemicals, and five transformers.

The TA-3 power Plant has three dual fired boilers, each rated at 120,000 pounds mass per hour (pph) steam flow at 420 ipsg and 750^{O} F.

There are three turbine generators with a total capacity of 20,000 kW. Units No. 1 and No. 2 were installed in 1951 and each has a 5,000 kW capacity. No. 1 and No. 2 turbines are extraction type turbines and are capable of producing heating and process steam at 100,000 pph, 135 psig, and 565^{O} F. No. 3 turbine is a straight condensing type turbine with a 10,000 kw capacity. The turbines are normally shut down and used for peaking electrical power generation.

Heating and process steam is normally supplied from the extraction turbines or from a steam header common to all three boilers. Steam pressure is normally reduced from 400 psig to 100 psig through a steam Pressure Reducing Valve (PRV). Downstream of the PRV, the heating steam temperature is reduced from 750^{O} F to approximately 500^{O} F by a de-superheater.

When the turbines are used for electric generation, cooling water for the condensers and plant auxiliaries is circulated through the cooling towers. Makeup water for the cooling tower is supplied primarily from effluent of the TA-46 Sanitary Wastewater System Consolidation (SWSC) plant, or from the potable water system as needed.

In the event of a power outage, a 500 kW #2 fuel oil generator is used, which is located in the SM-22 plant basement. The #2 fuel oil generator is used to start the plant from a cold start-up (black start).

The 2 large #2 fuel oil ASTs (AST #26 =150,000 gallon capacity and AST #779 =228,000 capacity) are located on the northeast corner of the property. Fuel is transferred into Bldg. 22 by underground piping via the pump house. A 250-galloon AST is temporarily located south of the main transformer pad. The tank was relocated as a result of a water main rupture on January 25, 2002, which caused the secondary containment to collapse. Fuel is transferred into Bldg. 22 by above ground piping. The tank itself was not harmed and no fuel was lost.

Future facility plans include installation of a 1.25 Mega Watt emergency diesel generator.

The TA-3-22 Power Plant is classified under the SPCC regulations as a bulk storage facility. It is not a tank car or tank truck loading and unloading facility.

1.3. Facility Drainage

The facility has very little vegetation, and drainage from the facility that is not contained within AST secondary containment flows overland into an ephemeral stream leading to Sandia Canyon. Sandia Canyon is a tributary to the Rio Grande, which is located several miles away. There is one culvert that catches water from between site buildings and discharges it to the east, between AST # 779 and the water cooling tower. No watercourses or arroyos run through the facility.

1.4. Facility Owner & Operator

The Facility owner of the TA-3 -22 Power Plant is the Facility Waste Operations (FWO) - Utilities and Infrastructure (UI) Division. FWO-UI is the agent of the owning division director responsible for the management and administration of FMU 80. As such, the FWO-UI Facility Manager is responsible for safely operating the facilities and for providing responsive and reliable facilities and services to support tenants' operational responsibilities.

The facility tenant operator is currently JCNNM. JCNNM has accepted, with the approval of the Facility Manager, responsibility for implementation and maintenance of the TA-3-22 Power Plant SPCC Plan. If for any reason JCNNM will not continue to manage the SPCC Plan, a memorandum of understanding will be developed between the operating tenant group/division and the Facility Manager to establish roles and responsibilities associated with the Plan. In addition, the Plan will be properly amended to reflect such action.

Operating Group and facility contacts are listed in Appendix E and will be updated as necessary.

1.5. Spill History

On February 14, 2002, a small spill of #2 fuel oil was found leaking from a fuel line located in the basement and on the east side of Building 3-22. Fuel was found dripping from the overhead line due to a line shift caused by soil disturbance from a water main break on January 25, 2002. The estimated 3 gallons that had leaked from the pipe were contained, and spill absorbent was spread on top of the oil. The oil and absorbent were picked up and the line was repaired.

A leak in the underground piping between Building TA-3 -22 and the pump house was discovered in early 1990. The line was partially corroded and approximately 300 gallons was spilled. The line was replaced and wrapped in polyurethane and cathodic protection was installed.

1.6. Potential Spills

Items within the TA-3-22 Power Plant that possess a spill potential due to equipment failure include the ASTs and their associated transfer piping and equipment. Predictions of discharge quantities and flow directions for each follow. Potential spills and a prediction of their discharge quantity and direction include:

- A rupture or leak in AST #26 and associated underground piping could discharge a maximum of 150,000 gallons #2 fuel oil into the AST #26 containment area.

- A rupture or leak in AST #779 and underground piping could discharge a maximum of 228,000 gallons #2 fuel oil into the AST #779 containment area.
- A rupture or leak in the 250-gallon AST and aboveground piping could discharge a maximum of 300 gallons #2 fuel oil into the containment area for this tank. Due to the new temporary location a releases from the aboveground piping would possibly flow down the hill and into a drainage into Sandia Canyon.
- A rupture or leak in any or all of the drums used to store oil and lubricants in the Drum Storage Area could discharge less than 1,000 gallons into the concrete curb containment surrounding the Drum Storage Area.
- Since AST #779 is larger than AST#26, Over filling AST 779 past the designated red line could cause AST#26 to overflow through the top vents. The amount spilled would be 39,000 gallons.

2. ABOVEGROUND STORAGE TANKS AND SECONDARY CONTAINMENT

TA-3-22 contains three ASTs. AST #26 and #779 are cylindrical tanks with a nominal capacity of 150,000 and 228,000 gallons respectively. In addition, there is a third 250-gallon tank. The tanks are used only for storage of #2 fuel oil and are constructed of commonly accepted metal alloys used for manufacturing #2 fuel oil storage tanks and are compatible with #2 fuel oil storage. Cathodically protected underground piping connects the storage tanks, pump house, transfer area and Power Plant boilers. Secondary containment is provided each for the ASTs as described below. There are no buried or partially buried tanks at the facility.

AST #26

AST #26 has a capacity volume of approximately 150,000 gallons of #2 fuel oil. The tank is surrounded by an earthen berm, providing secondary containment capacity of approximately 165,166 gallons. The secondary containment is capable of containing the entire contents of the tank plus sufficient freeboard to allow for precipitation. (see Photograph 1).

Photograph 1. AST #26

AST #779

AST #779 has a capacity volume of approximately 228,000 gallons #2 fuel oil. The tank is surrounded by an earthen berm, providing secondary containment capacity of approximately 365,215 gallons. The secondary containment is capable of containing the entire contents of the tank plus sufficient freeboard to allow for precipitation. (see Photograph 2). AST #779 is the facility's newest tank and is equipped with an epoxy coating on the inside of the tank (on the bottom and up the sides about 18 inches) and a cathodic protection system for protection of the bottom of the tank.

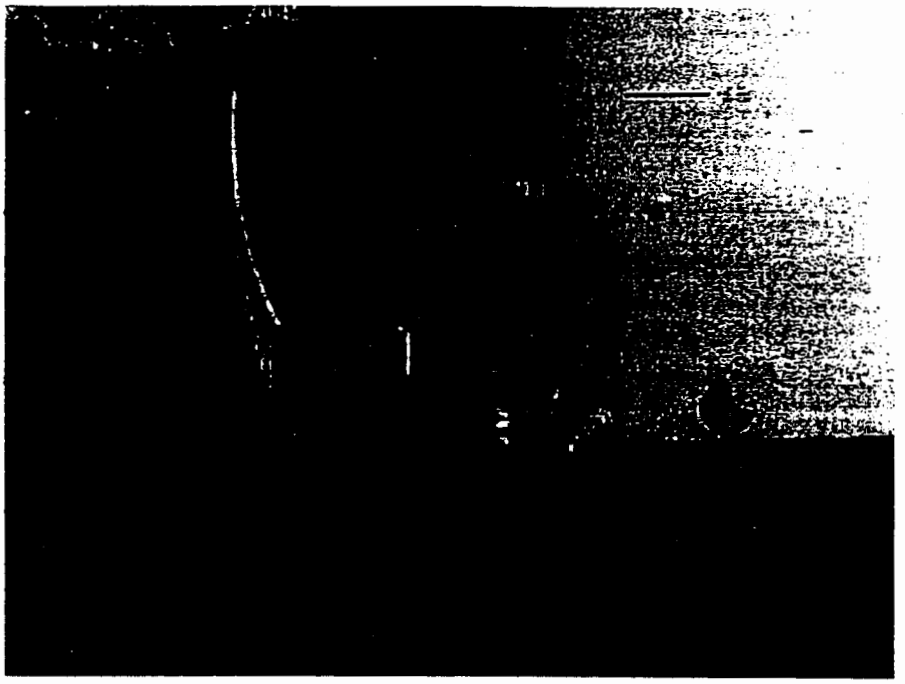

Photo 2. AST #779

250 gallon AST

The 250-gallon AST is surrounded by the 951-gallon plastic lined metal secondary containment unit (See Photo 3). The secondary containment is capable of containing the entire contents of the tank plus sufficient freeboard to allow for precipitation (see Photograph 2).

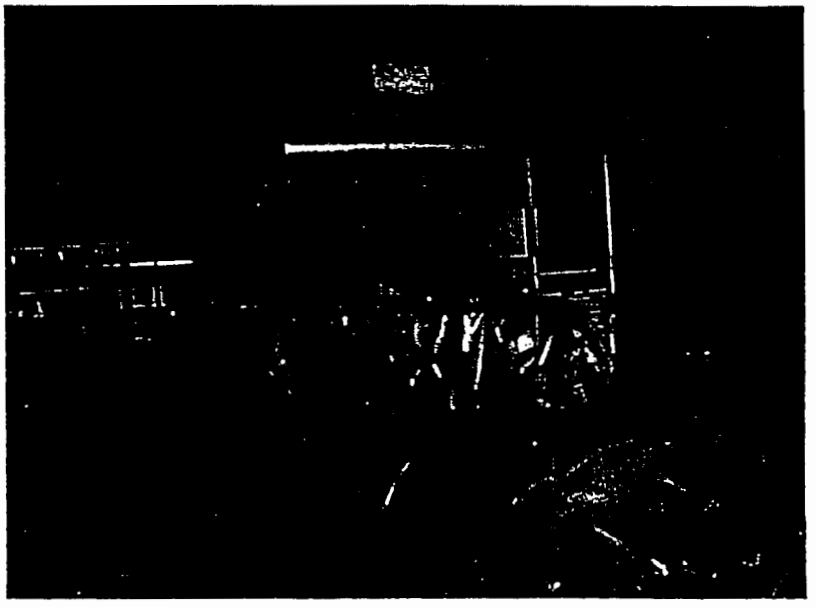

Photo 3. 250-gallon AST

Transfer Piping (Aboveground) and Equipment

No additional containment is provided for transfer piping and equipment. Releases outside the building would either flow to AST #26 secondary containment unit or collect in the immediate area. The AST

secondary containment is capable of holding the 1,000-gallons or less that would spill plus sufficient freeboard for precipitation.

Transfer Piping (Underground)

It is possible that a rupture in the underground lines between AST 26 and 779 could discharge both contents of each tank.

Drum Storage Area

The Drum Storage Area is located south of building 3-22 and contains oils and lubricants used at the TA-3 Power Plant. The area is contained by a concrete curb with a capacity of 890 gallons and also has a roof covering to prevent precipitation from entering the storage/containment area.

2.1. Secondary Containment Drainage Operations

Storm Water run-on into the SPCC area is minimized by both an asphalt curb located up-gradient that diverts run-on away from the AST and the transfer area, and by the grading of the area near the AST. Although the run-on is minimized, storm water and snowmelt may still accumulate in the bermed containment area around the ASTs. In addition, storm water runoff from the fuel transfer area is directed to the AST #26 containment berm. The containment berms have adequate capacity to contain a total AST breach plus sufficient freeboard to allow for precipitation.

Storm water accumulations in the bermed areas are usually small and are allowed to evaporate, and in the case of AST #26, infiltrate. There is no discharge valve or line from the containment area to remove an accidental spill or large accumulations of storm water. If required, the containment area may be emptied by portable equipment (e.g. pumps and hoses) supplied by the emergency response team or other group and removed from the area after use.

In addition, storm water and snow occasionally accumulate in the covered containment area around the drums. Usually the accumulations are small and evaporate fairly quickly but may occasionally need to be drained.

In the event that secondary containment drainage is necessary, accumulations must meet federal and state water quality standards prior to discharge. To ensure compliance with these standards, the following steps will be used for secondary containment unit discharge operations:

- Visually inspect accumulation to ensure that the water does not possess an oil sheen, odor, or other constituents that could result in a harmful discharge
- Notify JCNNM Environmental Branch prior to a discharge at 667-0104.
- Notify ESH-18 at 665-4752 to obtain authorization for release and for testing of contaminates and pH, if necessary
- Remove the pump after the drainage operation is complete
- Properly record each drainage operation; include the time, date and employee who performed the operation. (Records will be kept in Appendix B of this document in accordance with Section 3.2.)

2.2. Integrity Testing and Inspections

40 CFR Part 112, Section 7(2)(vi) states, "Aboveground tanks should be subject to periodic integrity testing, taking into account tank design and using such techniques as hydrostatic testing, visual inspection or a system of non-destructive shell thickness 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.

In accordance with API 653, a formal visual external inspection shall be performed by a qualified inspector at least every five years. Either an in-service ultrasonic thickness measurement shall be made at intervals not to exceed every five years, or an internal inspection of the tank shall be made at intervals not to exceed 20

years. Records of integrity testing shall include all examinations and tests, conditions found, thickness measurements, settlement measurements, repairs/alterations, and recommendations. Inspection records are retained in Appendix B of this document in accordance with Section 3.1.

Testing was last completed in March 1997, following the guidelines of 40 CFR 112 and API Standard 653 for AST #26. Integrity testing for AST #779 was conducted in 1998 in accordance with API 650. Test records are provided in Appendix A. Pneumatic and hydrostatic testing of the underground piping was performed in 1992, at the time the line was replaced.

In addition to the integrity testing of the AST, walk around inspections and spill control material inventories to be performed are outlined below:

> Walk Around Inspections: Formal walk-around inspections are visual inspections conducted by the ~~JCNNM Environmental Branch and a TA-3-22 building manager or his~~ designee. These inspections are conducted at least annually. The inspections are conducted to observe the conditions of the tank shells, secondary containment, tank #2 fuel oil levels, foundations and supports, piping, pumps, valves, oil, ground wires, sumps, gauges, leaking or bulging drums, access to drum areas, proper drum labeling and support rack condition, water accumulations in secondary containment areas, and general good housekeeping practices. The inspections are recorded and retained in Appendix A in accordance with Section 3.1. Any leaks or potential problems shall be brought to the attention of the Spill Coordinator and the Building Manager to evaluate the need for response and make any necessary corrections. Additionally, the tanks are visually inspected as part of the annual SWPP Plan compliance evaluations. The tank levels are checked and recorded at least monthly as described in Section 2.3. Finally, accurate and up-to-date drawings of the ASTs and the secondary containment units are maintained by the facility.
>
> Spill control material Inventory: Spill control material stores shall be inventoried annually to assure that the proper materials are available in sufficient quantity and of sufficient quality to minimize the spread of oil products in the case of a spill prior to the arrival of response teams.

Power plant operations staff also makes general operator observations. Each day, staff walks around the SPCC area as part of their routine operations and preventive maintenance program to check the plant equipment and facility grounds. During these checks, potential problems and maintenance needs at the Fuel Tanks and Transfer Area are identified, including spills or leaks, the conditions and level of water contained in berms, obvious problems with tanks or containment structures, and general safety condition at the facility. Records of these inspections are not kept unless a problem is found. Potential problems are brought to the attention of the Spill Coordinator and the Building Manager for evaluation and correction.

2.3. Fail Safe Engineering

Inventory controls used to help detect potential leaks include a monthly measurement (visual inspection) of the liquid level inside the tank and inventory reconciliation. The monthly tank levels are adjusted for the daily temperature to calculate the volume and to determine if a loss is indicated. Inventory reconciliation includes accurate measurement of the deliveries into the tank, use from the tank, and the remaining inventory. The inventory of the tanks takes into account fluid expansion or contraction from fluid temperature changes. If consistent losses are indicated, an investigation is conducted to determine if the loss is due to accounting errors or tank leakage. Records of monthly measurements will be recorded and retained in Appendix A in accordance with section 3.1. Plans are currently being discussed to include automatic pressure sensors to monitor the levels of the tank.

Internal heating coils are not used. Visible oil leaks will be promptly corrected. Leaks and corrective actions will be recorded in Appendix C.

2.4. Facility Transfer Operations

Cathodically protected, polyurethane-wrapped underground piping connects the storage tanks, pump house, transfer area and Power Plant boilers. Pneumatic and hydrostatic testing of the underground piping was performed in 1992, at the time the line was replaced. Because of the water main break on January 25, 2002,

part of the piping cathodic protection near SM-22 was damaged. This damage, however, will be repaired as soon as is practicable.

At TA-3-22 Power Plant, transfer piping operation is guided by the following:

- Above ground piping is capped when not in service or in standby service and marked with origin
- All piping and equipment in vehicle access areas shall be clearly marked by appropriate signs, or entering vehicles are verbally warned as to the location of piping and equipment, and bollards are in place for protection
- Regular inspection of the piping and equipment is conducted
- Regular Pressure Testing of pipes that do not have secondary containment
- Trenches, curbing, sumps, and additional secondary containment are of sufficient capacity to contain normal spills
- Utility Operating Instruction (UOI) #66-20-170 Fuel Oil delivery and Reloading onto Trucks/Tankers Steam Plant TA-3

2.5. Facility Loading/Unloading

The #2 fuel oil in the TA-3-22 ASTs is stored as backup fuel and is seldom used. However, on occasion it may be necessary to re-fill these tanks if the fuel is burned. In such events, #2 fuel oil for the ASTs will be delivered by tank trucks and off loaded at a fuel transfer area into the above ground storage tanks. Asphalt curbing surrounds the transfer area and directs any oil released during unloading into the secondary containment of the AST #26, which is sufficient to contain the contents of the largest vehicle compartment. In addition, facility loading and unloading will be guided by the following:

- DOT procedures for loading/unloading tank cars and tank trucks will be followed
- Early vehicle departure will be prevented via warning signs, physical barriers, or interlocked warning lights
- Vehicles will be examined for leakage at all outlets prior to departure

3. SPCC PLAN REQUIREMENTS

The FM is accountable for SPCC requirements applicable to his or her facility and has responsibility for developing, implementing, enforcing, and maintaining the SPCC Plan requirements. The FM may delegate these duties to a qualified individual. The Operating Group's responsibilities include ensuring that record keeping, Plan amendments, training, spill response and reporting, and inspections are properly completed and submitted to the FM. The complete SPCC Plan shall be located in the TA-3-22 Power Plant Building.

3.1. Inspections, Record Keeping and Plan Amendments

Written inspection procedures, including liquid level measurement procedures, are included in Sections 2.2 and 2.3. Inspection records state when inspections were done, who conducted the inspection, what areas were inspected, what problems were found, what steps were taken to correct problems, and who was notified about any problems found. The inspection will be signed by the appropriate supervisor or inspector. A sample inspection form is included in Appendix A. The following inspections shall be completed:

Inspections and maintenance activities include general operator observations and walk-around inspections. Formal documented walk-around inspections are conducted by JCNNM HENV at least semi-annually.

Daily Inspections (on workdays)

Power Plant Operator walk-around: The on-shift Power Plant Operator conducts walk-arounds each day as part of their routine operations and preventive maintenance program to check the plant equipment and facility grounds. During these checks, potential problems and maintenance needs at the ASTs are identified, including spills or leaks, the conditions and level of water contained in berms, obvious problems with tanks, valves, plugs, fittings, or containment structures, and general safety condition at the facility. Potential problems are brought to the attention of the Facility Manager, Building Manager, Foreman, and spill coordinator for further action.

Monthly Inspections

ASTs #26 and 779 shall be measured monthly to monitor the fuel level, and this is the only method used to monitor the liquid level inside the tank. No other monitoring devices are online at these fuel storage and transfer areas. Administrative procedures have been put in place to minimize chances of a release during transfer. Both ASTs volumes shall be measured before and after fuel oil operations and record levels in the operators daily log book.

Annual Inspections

Annual inspections for underground piping containing a regulated substance shall be done as required in NMED UST Regulations.

Five-Year Inspection

Tank inspection: A formal visual external inspection is conducted by a qualified inspector per requirements in API 653.

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. If the spill causes a change in design, construction, operation, or maintenance, this Plan will be amended as necessary. A spill tracking form is included in Appendix C, and copies of spill reports will be retained in Appendix C.

Signed inspection records, signed monthly tank liquid level measurements, signed integrity testing records, spill reports, and other applicable data and documentation will be kept with the Plan and retained for a period of three years.

3.2. Security

For security, the TA-3 Power Plant is fully fenced and the main entrance gate is locked between 5 pm and 7 am. Control pumps and starter controls are accessible only to authorized personnel at all times. Master flow and drain valves of tanks are locked closed. The transfer lines are capped and the valve is locked during periods of non-use. Lighting at the facility is adequate to detect night spills and to deter vandals.

3.3. Training

Facility owners and operators are responsible for properly instructing their personnel in the operation and maintenance of equipment to prevent the discharge of oil. Employee training programs instill in personnel, at all levels of responsibility, a complete understanding of the following:

- operations and maintenance of equipment
- the SPCC program
- procedures for operator observation inspections
- site safety hazards
- practices for preventing spills
- procedures for responding properly and rapidly to spills
- protocol used to report spills
- spill events or failures, malfunctioning components, and recently developed precautionary measures
- additional applicable pollution control laws, rules, and regulations

Employee training is conducted at least annually, and more often when needed, to ensure adequate understanding of the goals and objectives of the SPCC program and the individual responsibilities of each involved employee. Topics may also be covered during routine employee meetings. Training activities are documented by the Building Manager, and/or in Appendix D of the SPCC Plan. In addition, JCNNM Utilities also uses Utility Operating Instruction (UOI) #60-10-040 Worker Qualification and Training to track employee training. Informal briefings are documented by recording the attendance and maintaining the meeting roster in Appendix D.

3.4. Spill Response, Control, and Reporting

To achieve effective spill response, employees receive training in response procedures. Personnel involved with facility operations are instructed on safety precautions, initial spill response procedures, and how to use available spill cleanup materials. The building manager is the designated person responsible for oil spill prevention at the facility, including training programs and spill control equipment. In addition to annual training, periodic spill prevention briefings will be conducted as necessary to inform operating personnel of know spill events or failures, malfunctioning components, recently developed precautionary measures, or other SPCC-related issues.

Spill control equipment is available inside building TA 3-22 on the main floor. The spill kits contain adequate universal sorbent or spill control pillows to handle minor spills at the tank and the transfer Area. Spill Kits also contain goggles, gloves, bags, ties, scoop and labels. In the event of a spill, power plant personnel will notify the FMU 80 Facility Manager and will provide the FM with a copy of the completed spill report. The facility's approach to spill clean-up is to first contain the spill by securing the spill source and deploying spill containment materials, including sorbent pillows, socks, sheets, and granules. In most cases, the AST secondary containment will contain the spill. The operator involved in the spill or in the vicinity responds to small spills. For incidental releases, absorbents are used to pick-up free liquids and the contaminated absorbents are properly disposed. Clean-up residues are managed as hazardous or solid waste, as appropriate and as determined by the facility waste coordinator and environmental coordinator.

Small Spills on Asphalt and Concrete: Contain the spill with flow inhibitors such as spill booms, pillows, pads, etc. If necessary, absorbents such as "Oil Sponge" will be placed on any remaining liquid. Personnel will contact EM&R. Once activated by EM&R, the JCNNM Emergency Response Recovery Team(ERRT) will clean up the spill and contact the JCNNM Environmental Branch Spill Coordinator to manage the waste. The JCNNM Environmental Branch Spill Coordinator will determine if the spill meets criteria for bioremediation, and if it does the Spill Coordinator will provide oversight to the JCNNM-ERRT during the bioremediation process. All waste materials associated with a spill will be disposed of in accordance with LANL, state and federal regulations.

UOI #66-20-055 is used to give personnel parameters for determining and making an appropriate response to any spill or unplanned release of oil, chemicals or other substances at TA3 Power Plant

Larger spills require that an Environmental Coordinator be contacted to respond to the spill, securing the spill area and contacting the Laboratory's EM&R Team. 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. They may also be notified if the Environmental Coordinator determines that the situation warrants such action. 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 24-hour on-call Facility Manager Designee (FMD) must also be notified at **104-4444**. *If fire or explosion is present, or if the potential for such exists, the situation must be reported by dialing **911 or activating a fire pull box.***

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 C 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.

In the event of any spill exceeding five gallons, the following TA-3-22 Power Plant personnel will be notified by the on-shift facility operator:

Name	Title	Work	Pager	Home	Cell
Luke Jacobs	Building Foreman	667-4842			
Robert Montano	Building Manager	665-7055	104-3567	771-0693	699-1244
Joe Ortiz	Spill Coordinator	667-4842		471-2954	
Paul Parker	Facility Engineer/Branch Manager	665-5434	104-5146	829-3727	
Jerome Gonzales	FWO-UI Facility Representative	665-2612	996-0963	583-2210	
24-hr on-call FMD Mell Smithour	Utility Inspector	665-3153	104-5997	662-2643	

3.5. 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 or the spill contact list, the addition of records to the Plan, or development of a memorandum of understanding between the operating group/division and the FMU modifying the distribution of responsibilities do not require certification by a Professional Engineer. All other amendments to the SPCC Plan shall not be effective to satisfy the regulatory requirements governing the document unless they have been certified by a Professional Engineer.

Appendix A

Inspection Reports and Test Records

Los Alamos

Los Alamos National Laboratory

Los Alamos, New Mexico 87545

WALK-AROUND INSPECTION FORM

ABOVEGROUND TANKS ASSOCIATED PIPING AT TA-3-22 POWER PLANT

General Site Information

Inspection Date:		Inspector:	
Technical Area:		Structure #:	
Tank Contents:		Capacity Tank:	
Adequate lighting:	Yes ❑ No ❑	Is facility fenced?	Yes ❑ No ❑

Storage Unit Condition

Describe general condition of tank and support structure, valves, and/or piping (signs of rust, leakage, tank residing in water, cracks in foundation, no labels,etc.):			
Any change in tank content's volume?	Yes ❑	No ❑	
Grounding Wires:	Adequate ❑	Inadequate ❑	N/A ❑
Level Gauge:	Adequate ❑	Inadequate ❑	N/A ❑
Liquid Level Alarm System:	Adequate ❑	Inadequate ❑	N/A ❑
Foundation Condition:	Good ❑	Poor ❑	N/A ❑
Flanges, Valves, Nozzles and Piping:	Good ❑	Poor ❑	N/A ❑
Ladders or Stairs:	Good ❑	Poor ❑	N/A ❑
Transfer Pump:	Good ❑	Poor ❑	N/A ❑

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 ❑	Unlocked ❑	No valve ❑
Sump? (if yes, describe in comments below):	Yes ❑	No ❑	
Containment liner (for earthen berms):	Good ❑	Poor ❑	No liner ❑
Storm Water Accumulation in Containment Unit:	Yes ❑	No ❑	
Oil accumulation in dike or collection sump:	Yes ❑	No ❑	

Comments:

Items Requiring Corrective Actions:

Corrective actions taken (give dates):

Inspector's signature: **Date:**

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TANK IN-SERVICE INTEGRITY INSPECTION CHECKLIST
Based on API Standard 653

INSPECTOR SIGNATURE: _____ DATE: _____

1.1 FOUNDATION

- ☐ Measure foundation bottom elevation and check to see if level.

1.1.1 *Concrete Ring*

- ☐ Inspect for broken concrete, spalling and cracks, particularly under backup bars used in welding butt welded annular rings under the shell.
- ☐ Inspect drain openings in ring, back of water draw basins and top surface of ring for indications of bottom leakage.
- ☐ Inspect for cavities under foundation and vegetation against bottom of tank.
- ☐ Check that runoff rainwater from the shell drains away from tank.
- ☐ Check for settlement around perimeter of tank.

1.1.2 Asphalt

- ☐ Check for settling of tank into asphalt base that would direct runoff rain water under the tank instead of away from it.
- ☐ Look for area where leaching of oil has left rock filler exposed, which indicates hydrocarbon leakage.

1.1.3 Oiled Dirt or Sand

- ☐ Check for settlement into the base that would direct runoff rain water under the tank rather than away from it.

1.1.4 Rock

- ☐ Presence of crushed rock under the steel bottom usually results in severe underside corrosion. Make a note to do additional bottom plate examination (ultrasonic, hammer testing or turning of coupons) when the tank is out of service.

1.1.5 Site Drainage

- ☐ Check site for drainage away from the tank and associated piping and manifolds.
- ☐ Check operating condition of dike drains.

1.1.6 Housekeeping

- ☐ Inspect the area for buildup of trash, vegetation, and other inflammables buildup.

Foundation Inspection Notes:

1.2 SHELLS

1.2.1 External Visual Inspection

- ❑ Visually inspect for paint failures, pitting, and corrosion.
- ❑ Clean off the bottom angle area and inspect for corrosion and thinning on plate and weld.
- ❑ Inspect the bottom-to-foundation seal, if any.

Shell Inspection Notes:

1.3 SHELL APPURTENANCES

1.3.1 Manways and Nozzles

- ❑ Inspect for cracks or signs of leakage, on weld joints at nozzles, manways, and reinforcing plates. Inspect for shell plate dimpling around nozzles, caused by excessive pipe deflection. Inspect for flange leaks and leaks around bolts. Inspect sealing of insulation around manways and nozzles. Check for inadequate manway flange and cover thickness on mixer manways.

1.3.2 Tank Piping

- ❑ Inspect manifold piping, flanges, and valves for leaks. Inspect fire fighting system components. Check for anchored piping that would be hazardous to the tank shell or bottom connections during earth movement. Check for adequate thermal pressure relief of piping to the tank. Check operation of regulators for tanks with purge gas systems. Check sample connections for leaks and for proper valve operation. Check for damage and test the accuracy of temperature indicators. Check welds on shell-mounted davit clips above valves 6 inches and larger.

1.3.3 Auto Gauge System

- ❑ Inspect autogauge tape guide and lower sheave of housing (floating swings) for leaks.
- ❑ Inspect auto gauge head for damage.
- ❑ Bump the checker on auto gauge head for proper movement of tap.
- ❑ Identify size and construction material of auto gauge tape guide (floating roof tanks).
- ❑ Compare actual product level to the reading on the auto gauge (maximum variation is 2 inches).
- ❑ Inspect condition of board and legibility of board-type auto gauges.
- ❑ Test freedom of movement of marker and float.

1.3.4 Shell-Mounted Sample Station

- ❑ Inspect sample lines for function of valves and plugging of lines, including drain or return to tank line.
- ❑ Check circulation pump for leaks and operating problems.
- ❑ Test bracing and supports of sample system lines and equipment.

1.3.5 Heater (Shell Manway Mounted)

- ❑ Inspect condensate drain for presence of oil indicating leakage.

1.3.6 Mixer

- ❑ Inspect for proper mounting flange and support.
- ❑ Inspect for leakage.
- ❑ Inspect condition of power lines and connections to mixer.

1.3.7 Swing Line: Winch Operation

- ❑ Raise, then lower the swing line with the winch, and check for cable tightness to confirm that swing line lowered properly.
- ❑ Check that the indicator moves in the proper direction: Floating swing line indicators show a lower level as cable is wound up on the winch. Non-floating swings line indicators show the opposite.

1.3.8 Swing Line: External Guide System

- ❑ Check for leaks at threaded and flanged joints.

1.3.9 Swing Line: Identify Ballast Varying Need

- ❑ Check for significant difference in stock specific gravity.

1.3.10 Swing Lines: Cable Material and Condition

- ❑ For non-stainless steel cable, check for corrosion over entire length.
- ❑ All cable: check for wear or fraying.

1.3.11 Swing Line: Product Sample Comparison

- ❑ Check for water or gravity differences that would indicate a leaking swing joint.

1.3.12 Swing Line: Target

- ❑ Target should indicate direction of swing opening (up or down) and height above bottom where suction will be lost with swing on bottom support.

Shell Appurtenances Inspection Notes:

1.4 ROOFS

1.4.1 Deck Plate Internal Corrosion

- ❑ For safety, before accessing the roof, check with ultrasonic instrument or lightly use a ball peen hammer to test the deck plate near the edge of the roof for thinning (Corrosion normally attacks the deck plate at the edge of a fixed roof and at the rafters in the center of the roof first.)

1.4.2 Deck Plate External Corrosion

- ❑ Visually inspect for paint failure, holes, pitting, and corrosion product on the roof deck.

1.4.3 Roof Deck Drainage

- ❑ Look for indication of standing water. (Significant sagging of roof deck indicates potential rafter failure.)

1.4.5 Gas Test Internal Floating Roof

- ❑ Test for explosive gas on top of the internal floating roof. Readings could indicate a leaking roof, leaking seal system, or inadequate ventilation of the area above the internal floating roof.

1.4.6 Roof Insulation

- ❑ Visually inspect for cracks or leaks in the insulation weather coat where runoff rain water could penetrate the insulation.
- ❑ Inspect for wet insulation under the weather coat.
- ❑ Remove small test sections of insulation and check roof deck for corrosion and holes near the edge of the insulated area.

Roof Inspection Notes:

1.5 ROOF APPURTENANCES

1.5.1 Sample Hatch

- ❑ Inspect condition and functioning of sample hatch cover.
- ❑ On tanks governed by Air Quality Monitoring District rules, check for the condition of seal inside hatch cover.
- ❑ Check for corrosion and plugging on thief and gauge hatch cover.
- ❑ Where sample hatch is used to reel gauge stock level, check for marker and tab stating hold off distance.
- ❑ Check for reinforcing pad where sample hatch pipe penetrates the roof deck.
- ❑ Test operation of system.
- ❑ On ultra clean stocks such as JP4, check for presence and condition of protective coating or liner inside sample hatch (preventing rust from pipe getting into sample).

1.5.2 Gauge Well

- ❑ Inspect visible portion of the gauge well for thinning, size of slots, and cover condition.
- ❑ Check for a hold off distance marker and tab with hold off distance (legible).
- ❑ If accessible, check the distance from the gauge well pipe to the tank shell at different levels.
- ❑ If tank has a gauge well washer, check valve for leakage and for presence of a bull plug or blind flange.

1.5.3 Fixed Roof Scaffold Support

- ❑ Inspect scaffold support for corrosion, wear, and structural soundness.

1.5.4 Auto Gauge: Inspection Hatch and Guides (Fixed Roof)

- ❑ Check the hatch for corrosion and missing bolts.
- ❑ Look for corrosion on the tape guide's and float guide's wire anchors.

1.5.5 Autogauge: Float Well Cover

- ❑ Inspect for corrosion.
- ❑ Check tape cable for wear or fraying caused by rubbing on the cover.

1.5.6 Sample Hatch (Internal Floating Roof)

- ❑ Check overall conditions.
- ❑ When equipped with a fabric seal, check for automatic sealing after sampling.
- ❑ When equipped with a recoil reel opening device, check for proper operation.

1.5.7 Roof-Mounted Vents (Internal Floating Roof)

- ❑ Check condition of screens, locking and pivot pins.

1.5.8 Gauging Platform Drip Ring

- ❑ On fixed roof tanks with drip rings under the gauging platform or sampling area, inspect for plugged drain return to the tank.

1.5.9 Emergency Roof Drains

- ❑ Inspect vapor plugs for emergency drain: that seal fabric discs are slightly smaller than the pipe ID and that fabric seal are above the liquid level.

1.5.10 Removable Roof Leg Racks

- ❑ Check for leg racks on roof.

1.5.11 Vacuum Breakers

- ❑ Report size, numbers and type of vacuum breakers. Inspect vacuum breakers. If high legs are set, check for setting of mechanical vacuum breaker in high leg position.

1.5.12 Rim Vents

- ❑ Check condition of the screen on the rim vent cover.
- ❑ Check for plating off or removal of rim vents where jurisdictional rules do not permit removal.

1.5.13 Pontoon Inspection Hatches

- ❑ Open pontoon inspection hatch covers and visually check inside for pontoon leakage.
- ❑ Test for explosive gas (an indicator of vapor space leaks).
- ❑ If pontoon hatches are equipped with locked down covers, check for vent tubes. Check that vent tubes are not plugged up. Inspect lock down devices for condition and operation.

Roof Appurtenances Inspection Notes:

1.6 ACCESSWAYS

1.6.1 Handrails

- ❑ Identify and report type (steel pipe, galvanized pipe square tube, angle) and size of handrails. Inspect for pitting and holes, paint failure.
- ❑ Inspect attachment welds.
- ❑ Identify cold joints and sharp edges. Inspect the handrails and midrails.
- ❑ Inspect safety drop bar (or safety chain) for corrosion, functioning, and length.
- ❑ Inspect the handrail between the rolling ladder and the gauging platform for a hazardous opening when the floating roof is at its lowest level.

1.6.2 Platform Frame

- ❑ Inspect frame for corrosion and paint failure.
- ❑ Inspect the attachment of frame to supports and supports to tank: for corrosion and weld failure.
- ❑ Check reinforcing pads where supports are attached to shell or roof.
- ❑ Inspect the surface that deck plate or grating rests on, for thinning and holes.
- ❑ Check that flat-surface to flat-surface junctures are seal welded.

1.6.3 Deck Plate and Grating

- ❑ Inspect deck plate for corrosion-caused thinning or holes (not drain holes) and paint failure.
- ❑ Inspect plate-to-frame weld for rust scale buildup.
- ❑ Inspect grating for corrosion-caused thinning of bars and failure of welds.
- ❑ Check grating tie down clips. Where grating has been retrofitted to replace plate, measure the rise of the step below and above the grating surface and compare with other risers on the stairway.

1.6.4 Stairway Stringers

- ❑ Inspect spiral stairway stringers for corrosion, paint failure, and weld failure. Inspect attachment of stairway treads to stringer.
- ❑ Inspect stairway supports to shell welds and reinforcing pads.
- ❑ Inspect steel support attachment to concrete base for corrosion.

1.6.5 Rolling Ladder

- ❑ Inspect rolling ladder stringers for corrosion.
- ❑ Identify and inspect ladder fixed rungs (square bar, round bar. angles) for weld attachment to stringers and corrosion, particularly where angle rungs are welded to stringers.
- ❑ Check for wear and corrosion where rolling ladder attaches to gauging platform.
- ❑ Inspect pivot bar for wear and secureness.
- ❑ Inspect operation of self-leveling stairway treads.
- ❑ Inspect for corrosion and wear on moving parts.
- ❑ Inspect rolling ladder wheels for freedom of movement, flat spots, and wear on axle.
- ❑ Inspect alignment of rolling ladder with roof rack.
- ❑ Inspect top surface of rolling ladder track for wear by wheels to assure at least 18 inches of unworn track (track long enough).
- ❑ Inspect rolling ladder track welds for corrosion.
- ❑ Inspect track supports on roof for reinforcing pads seal welded to deck plate.
- ❑ Check by dimensioning, the maximum angle of the rolling ladder when the roof is on low legs. Maximum angle: _____
- ❑ If rolling ladder track extends to within five feet of the edge of the roof on the far side, check for a handrail on the top of the shell.

Accessways Inspection Notes:

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How is this done ?

WALK-AROUND INSPECTION FORM

ABOVEGROUND TANKS AND ASSOCIATED PIPING

General Site Information

Technical Area (T) =	03	Inspection date:	5/98
Structure # (S) =	779	Inspector:	D. Plante/Benchmark
Location Type (L) =	AST	Tank temperature:	N/A
FSP Location Identification # (T+S+L) =	03-779-AST	Tank contents:	Diesel Fuel Oil No. 2-D
Water content (for oil tanks):	None	Tank inventory (gauge or gallons):	Empty
Adequate lighting:	Yes ✓ No ☐	Is facility fenced?	Yes ✓ No ☐

Storage Unit Condition

Describe general condition of tank and support structure (signs of rust, leakage, tank residing in water, cracks in foundation, no labels,etc.):	Tank is in new condition.		
Tank contents label:	Adequate ☐	Inadequate ✓	
Grounding wires:	Adequate ✓	Inadequate ☐	N/A ☐
Level gauge:	Adequate ✓	Inadequate ☐	N/A ☐
Liquid level alarm system:	Adequate ☐	Inadequate ☐	N/A ✓
Foundation condition:	Good ✓	Poor ☐	N/A ☐
Flanges, nozzles and piping:	Good ✓	Poor ☐	N/A ☐
Ladders or stairs:	Good ✓	Poor ☐	N/A ☐
Transfer pump:	Good ✓	Poor ☐	N/A ☐

Secondary Containment Condition

Describe general condition of containment unit (storm water accumulation, presence of oil or other material, signs of damage, leaks, cracks, erosion, etc.):	The secondary containment berm is in good condition with no evidence of erosion. There was no evidence of the presence of diesel fuel. A liner is to be installed.		
Storm water discharge valve:	Locked ☐	Unlocked ☐	No valve ✓
Is there a Sump? (if yes, describe in comments section below):	Yes ☐	No ✓	
Containment liner (for earthen berms):	Good ☐	Poor ☐	No liner ✓
Oil accumulation in dike or collection sump:	Yes ☐	No ✓	

Comments:

Items Requiring Corrective Actions: Tank needs labeling. Containment liner needs to be installed

Corrective actions taken (give dates):

Inspector's signature: Daniel Plante **Date:** 5/98

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FMU SPCC PLAN
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FIELD DATA SHEETS

Date: 5/15	Inspector's Name and Signature: [signature]

Superscripts refer to SPCC DS-1 Page-4, FSP Abbreviation List

1	Technical Area (T) =	03
2	Structure # (S) =	779
3	Location Type (L) =	AST
4	FSP Location Identification # (T+S+L) =	03-779-AST

Storage Unit Descriptions

5	Type of storage unit[1]:	Aboveground Storage Tank
6	Material stored in unit[2]:	Diesel Fuel Oil No. 2-D
7	List Capacity (gallons) of Storage Unit (CSU):	228,000
8	Describe piping associated with this location:	Aboveground ☐ Belowground ✓ No piping ☐

Secondary Containment Descriptions

9	Type of secondary containment[3]:	Earthen Diking Berm (EDB)
10	Secondary containment capacity (gallons) (SCC):	248,520
11	Estimate (ft^2) of the drainage area (DA) contributing to secondary containment storm water accumulation:	8,700
12	Is the (SCC) > (CSU) + (1.875 x (DA))? Note: 1.875 is a storm water conversion factor for a 25-yr/24-hr rainfall event:	YES ✓ NO ☐

Action Item #1 *(Secondary Containment)* ***If answer on line 14 is No, describe as a deficiency and refer to Chapter 3 of the SPCC Plan for requirements.***

The plastic (Poly-Flex HDPE) berm liner still needs to be installed as part of the installation of this new tank system.

Date Deficiency Noted: 5/15	Inspector's Name and Signature: [signature]
Date Action Item Completed:	Inspector's Name and Signature:

Spill Controls & Spill Removal

13	Has the system been integrity tested?	YES ☐	NO ✓	N/A ☐	If yes, when:

Action Item #2 *(Integrity Testing)* *If answer on line 15 is No, describe as a deficiency refer to Chapter 3 of the SPCC Plan for requirements.*

Integrity testing of ASTs must be completed as required by 40 CFR 112.7 and API Standard 653.

Date Deficiency Noted: 5/19	Inspector's Name and Signature:
Date Action Item Completed:	Inspector's Name and Signature:

14	Is there a method of level indication for the AST?	YES ✓	NO ☐	N/A
15	Is there a liquid level alarm system for the AST?	YES ☐	NO ✓	N/A

Action Item #3 *(Monitoring)* *If answer on line 16 or 17 is No, describe as a deficiency and refer to Chapter 3 of the SPCC Plan for requirements. Check N/A if location is not an aboveground storage tank.*

Administrative procedures have been put in place to minimize a release during transfer.

Date Deficiency Noted:	Inspector's Name and Signature:
Date Action Item Completed:	Inspector's Name and Signature:

16	Is spill control equipment available at this location[4]? 1) Spill Control Kit (SPC) 2) Cathodic Pipe Protection (CPP) 3)	YES ✓ NO ☐ **If yes, identify which types by using the GSIP Abbreviation List on Page 4.**

Action Item #4 *(Spill Control)* *If answer on line 16 is No, describe as a deficiency.*

None

Date Deficiency Noted:	Inspector's Name and Signature:
Date Action Item Completed:	Inspector's Name and Signature:

Storm Water Considerations

17	Are methods for removing storm water or spills from secondary containment areas available[5]? 1) Evaporation (EVP) 2) 3)	YES ✓ NO ☐ If yes, identify which methods by using the GSIP Abbreviation List on Page 4.
18	Is there a storm water discharge valve and lock?	Locked ☐ Unlocked ☐ No discharge valve ✓
19	Estimate the distance (ft) to closest storm water culverts or catch basins?	~ 300 feet
20	Would a spill be isolated from these storm water culverts or catch basins?	YES ✓ NO ☐
21	Name of canyon eventually receiving storm water or spill run-off:	Sandia Canyon

Action Item #5 *(Storm Water)* ***If answer on lines 17 or 20 is No, describe as a deficiency. If line 18 is answered "unlocked" or "no discharge valve", describe as a deficiency.***

There is no storm water discharge valve for this bermed secondary containment. The area has sufficient containment capacity.

Covering or diversion BMPs are not appropriate for this location.

Date Deficiency Noted:	Inspector's Name and Signature:
Date Action Item Completed:	Inspector's Name and Signature:

Other Administrative Controls

22	Is there an Inspection & Maintenance Program in place at this FSP Location?	YES ✓ NO ☐
23	Are aboveground storage tanks and transfer areas properly labeled?	YES ✓ NO ☐
24	Has an appropriate recordkeeping system (documenting past inspections, testing, spill events, etc.) been implemented at this FSP Location?	YES ✓ NO ☐
25	Is security at this location adequate? (e.g., lighting, fencing, locked gates and valves)	YES ✓ NO ☐

Action Item #6 *(Administrative Controls)* ***If answer on lines 22 through 25 is No, describe as a deficiency. Refer to Chapter 3 of SPCC Plan for requirements.***

None

Date Deficiency Noted:	Inspector's Name and Signature:
Date Action Item Completed:	Inspector's Name and Signature:

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WALK-AROUND INSPECTION FORM

ABOVEGROUND TANKS AND ASSOCIATED PIPING

General Site Information

Technical Area (T) =	03	Inspection date:	11/97
Structure # (S) =	26	Inspector:	D. Plante/ Benchmark
Location Type (L) =	AST	Tank temperature:	
FSP Location Identification # (T+S+L) =	03-26-AST	Tank contents:	No. 2 Diesel Fuel
Water content (for oil tanks):	Minor condensate	Tank inventory (gauge or gallons):	
Adequate lighting:	Yes ✓ No ☐	Is facility fenced?	Yes ✓ No ☐

Storage Unit Condition

Describe general condition of tank and support structure (signs of rust, leakage, tank residing in water, cracks in foundation, no labels,etc.):	No signs of leakage, minor pitting on exterior tank surface. Good Condition.		
Tank contents label:	Adequate ✓	Inadequate ☐	
Grounding wires:	Adequate ✓	Inadequate ☐	N/A ☐
Level gauge:	Adequate ☐	Inadequate ✓	N/A ☐
Liquid level alarm system:	Adequate ☐	Inadequate ☐	N/A ✓
Foundation condition:	Good ✓	Poor ☐	N/A ☐
Flanges, nozzles and piping:	Good ✓	Poor ☐	N/A ☐
Ladders or stairs:	Good ✓	Poor ☐	N/A ☐
Transfer pump:	Good ☐	Poor ✓	N/A ☐

Secondary Containment Condition

Describe general condition of containment unit (storm water accumulation, presence of oil or other material, signs of damage, leaks, cracks, erosion, etc.):	The secondary containment berm is in good conditon, no evidence of erosion. No evidence of leakage		
Storm water discharge valve:	Locked ☐	Unlocked ☐	No valve ✓
Is there a Sump? (if yes, describe in comments section below):	Yes ☐	No ✓	
Containment liner (for earthen berms):	Good ☐	Poor ☐	No liner ✓
Oil accumulation in dike or collection sump:	Yes ☐	No ✓	

Comments: No discharge drain exists. Installation of a liner was recommended in 1991 but has not been completed.

Items Requiring Corrective Actions:

Corrective actions taken (give dates):

Inspector's signature: David Plante **Date:** 11/97

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FMU SPCC PLAN
-FSP-
FIELD DATA SHEETS

Date: 11/97	Inspector's Name and Signature: Daniel Pacheco

Superscripts refer to SPCC DS-1 Page-4, FSP Abbreviation List

1	Technical Area (T) =	03
2	Structure # (S) =	26
3	Location Type (L) =	AST
4	FSP Location Identification # (T+S+L) =	03-26-AST

Storage Unit Descriptions

5	Type of storage unit[1]:	Aboveground Storage Tank
6	Material stored in unit[2]:	Diesel Fuel Oil No. 2-D
7	List Capacity (gallons) of Storage Unit (CSU):	150,000 gallons
8	Describe piping associated with this location:	Aboveground ☐ Belowground ✓ No piping ☐

Secondary Containment Descriptions

9	Type of secondary containment[3]:	Earthen Diking Berm (EDB)
10	Secondary containment capacity (gallons) (SCC):	206,000 gallons
11	Estimate (ft^2) of the drainage area (DA) contributing to secondary containment storm water accumulation:	9,300 SF
12	Is the (SCC) > (CSU) + (1.875 x (DA))? Note: 1.875 is a storm water conversion factor for a 25-yr/24-hr rainfall event:	YES ✓ NO ☐

Action Item #1 *(Secondary Containment)* ***If answer on line 14 is No, describe as a deficiency and refer to Chapter 3 of the SPCC Plan for requirements.***

The plastic (Poly-Flex HDPE) berm liner recommended for installation in 1991 should be completed.

Date Deficiency Noted: 11/97	Inspector's Name and Signature: Daniel Pacheco
Date Action Item Completed:	Inspector's Name and Signature:

Spill Controls & Spill Removal

13	Has the system been integrity tested?	YES ✓ NO ☐ N/A ☐ If yes, when:

Action Item #2 *(Integrity Testing)* ***If answer on line 15 is No, describe as a deficiency refer to Chapter 3 of the SPCC Plan for requirements.***

Integrity testing was conducted in March, 1997. The tank was in good condition

Date Deficiency Noted:	Inspector's Name and Signature:
Date Action Item Completed:	Inspector's Name and Signature:

14	Is there a method of level indication for the AST?	YES ☐ NO ✓ N/A
15	Is there a liquid level alarm system for the AST?	YES ☐ NO ✓ N/A

Action Item #3 *(Monitoring)* ***If answer on line 16 or 17 is No, describe as a deficiency and refer to Chapter 3 of the SPCC Plan for requirements. Check N/A if location is not an aboveground storage tank.***

Administrative procedures have been put in place to minimize a release during transfer.

Date Deficiency Noted:	Inspector's Name and Signature:
Date Action Item Completed:	Inspector's Name and Signature:

16	Is spill control equipment available at this location[4]? 1) Spill Control Kits (SPC) 2) Cathodic Pipe Protection (CPP) 3)	YES ✓ NO ☐ **If yes, identify which types by using the GSIP Abbreviation List on Page 4.**

Action Item #4 *(Spill Control)* ***If answer on line 16 is No, describe as a deficiency.***

None

Date Deficiency Noted:	Inspector's Name and Signature:
Date Action Item Completed:	Inspector's Name and Signature:

Storm Water Considerations

17	Are methods for removing storm water or spills from secondary containment areas available[5]? 1) 2) 3)	YES ✓ NO ☐ If yes, identify which methods by using the GSIP Abbreviation List on Page 4.
18	Is there a storm water discharge valve and lock?	Locked ☐ Unlocked ☐ No discharge valve ✓
19	Estimate the distance (ft) to closest storm water culverts or catch basins?	~300 feet
20	Would a spill be isolated from these storm water culverts or catch basins?	YES ✓ NO ☐
21	Name of canyon eventually receiving storm water or spill run-off:	Sandia Canyon

Action Item #5 *(Storm Water)* ***If answer on lines 17 or 20 is No, describe as a deficiency. If line 18 is answered "unlocked" or "no discharge valve", describe as a deficiency.***

There is no storm water discharge valve for this bermed secondary containment. The area has sufficient containment capacity.

Covering or diversion BMPs are not appropriate for this location.

Date Deficiency Noted:	Inspector's Name and Signature:
Date Action Item Completed:	Inspector's Name and Signature:

Other Administrative Controls

22	Is there an Inspection & Maintenance Program in place at this FSP Location?	YES ✓ NO ☐
23	Are aboveground storage tanks and transfer areas properly labeled?	YES ✓ NO ☐
24	Has an appropriate recordkeeping system (documenting past inspections, testing, spill events, etc.) been implemented at this FSP Location?	YES ✓ NO ☐
25	Is security at this location adequate? (e.g., lighting, fencing, locked gates and valves)	YES ✓ NO ☐

Action Item #6 *(Administrative Controls)* ***If answer on lines 22 through 25 is No, describe as a deficiency. Refer to Chapter 3 of SPCC Plan for requirements.***

None

Date Deficiency Noted:	Inspector's Name and Signature:
Date Action Item Completed:	Inspector's Name and Signature:

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WALK-AROUND INSPECTION FORM
ABOVEGROUND TANK AND ASSOCIATED PIPING

General Site Information

Technical Area (T) =	03	Inspection date:	12/23/93
Structure # (S) =	26	Inspector:	S. Veenis/SFE
Location Type (L) =	AST	Tank temperature:	42°
~~GSIP Location Identification #~~ (T+S+L) =	03-26-AST	Tank contents:	Diesel Fuel Oil No. 2-D
Water content (for oil tanks):	Minor condensate	Tank inventory (gauge or gallons):	107,670 gallons
Adequate lighting:	Yes ✓ No ☐	Is facility fenced?	Yes ✓ No ☐

Storage Unit Condition

Describe general condition (signs of rust, leaking or deterioration):	No signs of leakage, minor pitting on exterior tank surface, general condition is good.
Tank contents labels:	Adequate ✓ Inadequate ☐
Grounding wires:	Adequate ✓ Inadequate ☐
Level gauge:	Adequate ☐ Inadequate ✓
Liquid level alarm system:	Adequate ☐ Inadequate ✓
Foundation seal:	Good ✓ Poor ☐ N/A ☐
Flanges, nozzles and piping:	Good ✓ Poor ☐ N/A ☐
Ladders or stairs:	Good ✓ Poor ☐ N/A ☐
Transfer pump:	Good ☐ Poor ✓ N/A ☐

Secondary Containment Condition

Describe general condition (storm water accumulation, presence of oil, signs of erosion, crack,. leaks, gopher holes, weed growth, etc.):	The secondary containment berm is in good condition with no evidence of erosion. There was no evidence of the presence of diesel fuel.
Storm water discharge valve:	Locked ☐ Unlocked ☐ No valve ✓
Is there a Sump? (if yes, describe in comments section below):	Yes ☐ No ✓
Containment liner (for earthen berms):	Good ☐ Poor ☐ No liner ✓
Oil accumulation in dike or collection sump:	Yes ☐ No ✓

Comments: No discharge drain exists. Installation of a liner was recommended in 1991 but has not been completed. Minor leakage in pump house (3-57).

Items requiring corrective actions:
A liquid level gauge or liquid level alarm system should be installed.

Corrective actions taken (give dates):

Inspectors signature: Steve Veenis

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

WALK-AROUND INSPECTION FORM
ABOVEGROUND TANK AND ASSOCIATED PIPING

General Site Information

Technical Area (T) =	03	Inspection date:	12/23/93
Structure # (S) =	27	Inspector:	S. Veenis/SFE
Location Type (L) =	AST	Tank temperature:	42°
GSIP Location Identification # (T+S+L) =	03-27-AST	Tank contents:	Diesel Fuel Oil No. 2-D
Water content (for oil tanks):	Minor condensate	Tank inventory (gauge or gallons):	107,065 gallons
Adequate lighting:	Yes ✓ No ☐	Is facility fenced?	Yes ✓ No ☐

Storage Unit Condition

Describe general condition (signs of rust, leaking or deterioration):	No signs of leakage, minor pitting on exterior tank surface, general condition is good.
Tank contents labels:	Adequate ✓ Inadequate ☐
Grounding wires:	Adequate ✓ Inadequate ☐
Level gauge:	Adequate ☐ Inadequate ✓
Liquid level alarm system:	Adequate ☐ Inadequate ✓
Foundation seal:	Good ✓ Poor ☐ N/A ☐
Flanges, nozzles and piping:	Good ✓ Poor ☐ N/A ☐
Ladders or stairs:	Good ✓ Poor ☐ N/A ☐
Transfer pump:	Good ✓ Poor ☐ N/A ☐

Secondary Containment Condition

Describe general condition (storm water accumulation, presence of oil, signs of erosion, crack,. leaks, gopher holes, weed growth, etc.):	The secondary containment berm is in good condition with no evidence of erosion. There was no evidence of the presence of diesel fuel.
Storm water discharge valve:	Locked ☐ Unlocked ☐ No valve ✓
Is there a Sump? (if yes, describe in comments section below):	Yes ☐ No ✓
Containment liner (for earthen berms):	Good ☐ Poor ☐ No liner ✓
Oil accumulation in dike or collection sump:	Yes ☐ No ✓

Comments: No discharge drain exists. Installation was recommended in 1991 but has not been completed. Minor leakage around fuel return valve. Minor leakage in pump house (3-57)

Items requiring corrective actions:
A liquid level gauge or liquid level alarm system should be installed.

Corrective actions taken (give dates):

Inspectors signature: Steve Veenis

JOHNSON CONTROLS WORLD SERVICES INC.

LOS ALAMOS, NEW MEXICO

UNDERGROUND OIL LINE REPLACEMENT

TA-03-22/57

PROJECT IDENTIFICATION NO. 12702

WORK ORDER NO. WS00200

PNEUMATIC LEAK TESTING PROCEDURE FOR UNDERGROUND FUEL LINES

PREPARED: William L. Cor — DATE: 12-18-92

WILLIAM L. COR, P.E.
SENIOR MECHANICAL ENGINEER
JCI/EDMS

APPROVED: Kelly Bryan — DATE: 12/18/92

JCI/JQAP

APPROVED: Mark A. Scoggin — DATE: 12-18-92

LANL/ENG-DO/UPO

DICK CARR 6676 ISE, [illegible]
BROGGER. 1041332, 52612 E-8
PERRY 73751, 1041520
MEL. 7477,

CSP:50-04-003.
ISSUED: 06-01-
EFFECTIVE: 06-

PIPING TEST AND INSPECTION

WORK ORDER DATA

WORK ORDER No WS00557 LAB JOB No WS00557

WORK ORDER TITLE Fuel Oil Line Replacement

LOCATION TA 3 BUILDING 22

TEST DATA

DATE OF TEST 12/23/92 TIME TEST STARTED 12:30 TIME TEST COMPLETED ___

IDENTIFICATION OF ITEM(s) TESTED All Underground Piping

TYPE OF TEST Air / 24 hr. Recorder

TEST PRESSURE 200 PSI UNITS: FEET OF WATER
INCH. OF MERCURY
PSIG N/A

OTHER (specify) 24 hour Record

TEST MEDIAN: GAS ✓ (specify type of gas) Nitrogen

LIQUID ___ (specify type of liquid) ___

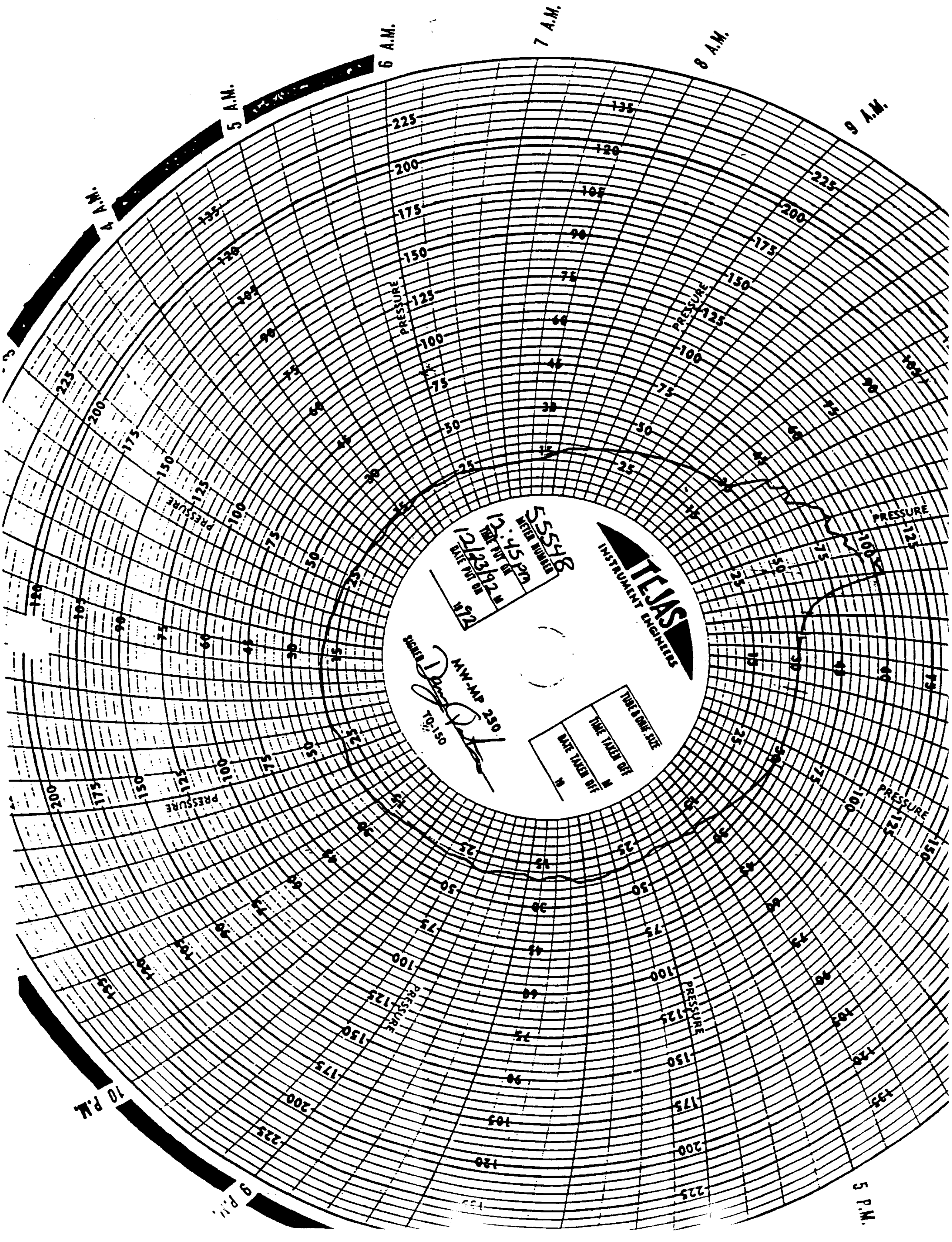
SIGN-OFF

FOREMAN ___ DATE ___/___/

LANL FIELD REPRESENTATIVE Mick L. Carr/Engineering DATE 12/24/

CONSTRUCTION SUPERVISOR Terry Trujillo DATE 12/24/

12/24/92 12:50 RM.
TRANSMITTER PRESSURE GUAGE - 200.3 PSI
PRESSURE GUAGE - 199.2 PSI
RECORDER IS MATCHING AT 200 PSI.


TEJAS
INSTRUMENT ENGINEERS
METER NUMBER 55548
TIME PUT ON 12:45pm
DATE PUT ON 12/23/92
TUBE & ORIF. SIZE
TIME TAKEN OFF
DATE TAKEN OFF
SIGNED
MW-MP 250
TQ-150
PRESSURE
4 A.M.
5 A.M.
6 A.M.
7 A.M.
8 A.M.
9 A.M.
5 P.M.
10 P.M.

December 18, 1992

CALIBRATION TEST (Using Ametek dead weight tester)
By: David Doyle
TRANSMATION FLEXI-TESTER
Serial No.#B 70608
W/ 0-1000 PSIG Module
Serial No.#B 97062

Desired Operating Pressure = 200 PSIG

Test Pressure	Meter Reading	
Actual	Test #1	Test #2
50.0	50.1	50.1
100.0	100.2	100.0
150.0	150.1	150.0
200.0	200.1	199.9
250.0	250.0	249.9

CSP:50-04-003.1
ISSUED: 06-01-8
EFFECTIVE: 06-0

PIPING TEST AND INSPECTION

WORK ORDER DATA

WORK ORDER No WS00557 JCI WO# LAB JOB No WS00557

WORK ORDER TITLE Replace Fuel oil Lines

LOCATION TA 3 BUILDING 22 Power Plant

TEST DATA

DATE OF TEST 10/14/92 TIME TEST STARTED 8:30 AM TIME TEST COMPLETED 1:00

IDENTIFICATION OF ITEM(s) TESTED All Piping and related Fitting and valves inside The plant

TYPE OF TEST Hydro static

TEST PRESSURE 200 psi UNITS: FEET OF WATER ___
INCH. OF MERCURY ___
PSIG ___

OTHER (specify) ___

TEST MEDIAN: GAS ___ (specify type of gas) ___

LIQUID ✓ (specify type of liquid) Potable Water

SIGN-OFF

FOREMAN [signature] DATE 12/14/9

witnessed Final Pressure = 200 psig and witnessed no leaks @ ≈ 1:00PM

LANL FIELD REPRESENTATIVE [signature] DATE 12/14/9

CONSTRUCTION SUPERVISOR [signature] DATE 12/14/9

Los Alamos
NATIONAL LABORATORY

ENG-09 STANDARDS & CALIBRATION
Mail Stop D478, Phone 667-4864

Calibration Certificate

PRESSURE GAUGE *File No. 12469*
H. O. Trerice Co.

Certified: December 11, 1992
Expires: December 11, 1993

This instrument was calibrated in a controlled environment using equipment traceable to national standards. Under normal operating conditions, this item is expected to remain within the stated uncertainty for the duration of the calibration interval.

Calibration Results

Instrument Received	*Instrument Returned*
[X] In Tolerance	*[X] In Tolerance*
[ ] Out of Tolerance	*[ ] Limited*

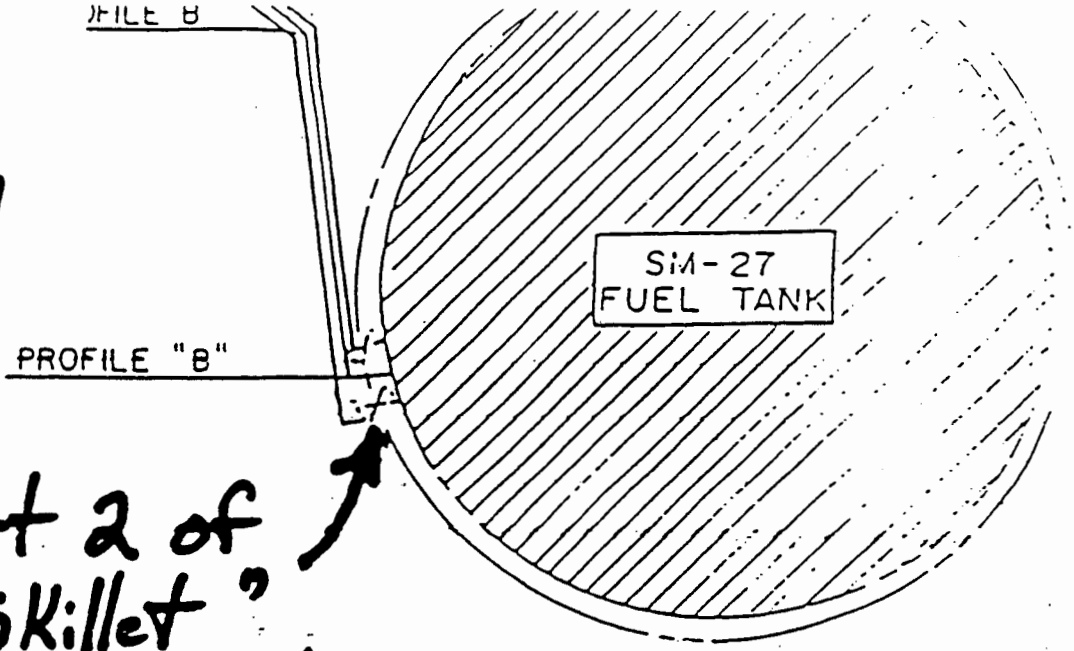
Uncertainty: +/- 3 psi.

Calibrated by: Michael A. Salazar

Reviewed by: Benino N. Casados

Copy to: Ronald L. Quartieri, JCI, Mail Stop A199
ENG-09 File

...y piping
...n Pneumatic
...with Inserted
...' Blinds
...equired



Insert 2 of 3" "Skillet" Blinds at Existing Tank Valves (For Test Sections 2 & 3)

NO.		DWN	DES	REL	REQ GRP	REQ PROJ	REC	APP

JOHNSON CONTROLS WORLD SERVICES INC.

UNDERGROUND OIL LINE REPLACEMENT

PNEUMATIC PRESSURE TEST (2nd Alternate)

BLDG. 22 TA-3

DRAWN	E SENA
DESIGN	A ESPINOZA
CHECKED	A ENGLISH
RELEASED	
DATE	7-20-9[illegible]

SUBMITTED A ESPINOZA

RECOMMENDED L. NOWLAND

APPROVED GARY BLAUERT

Los Alamos — Los Alamos National Laboratory, Los Alamos, New Mexico 87545

SHEET C-2 OF

CLASSIFICATION UNCLASSIFIED DM. VIGIL DATE 7/11/91

PROJECT IDENTIFICATION NO. 12702

DRAWING NO. W500557 C46237

REV.

PNEUMATIC LEAK TESTING PROCEDURE FOR UNDERGROUND FUEL LINES

I. GENERAL

A. SCOPE

THIS PROCEDURE IS TO BE USED AS A STANDARD FOR THE INITAL PNEUMATIC PRESSURE TESTING OF THE UNDERGROUND PORTIONS OF THE NEW FUEL OIL PIPING NEAR THE STEAM PLANT AT TA-3.

APPLICATION OF THIS PROCEDURE IS LIMITED TO INITIAL TESTING OF THE NEW UNDERGROUND LINES. PERIODIC PRESSURE TESTING OF THE SAME PIPING HEREAFTER SHALL BE IN ACCORDANCE WITH "LEAK TESTING PROCEDURE FOR UNDERGROUND FUEL LINES", LEAK TESTING DESIGN, P.I. NO. 13581, W.O. NO. WS00506.

B. REFERENCE DRAWINGS

LANL DWG. NO. C46237 (16 SHEETS).

TEST MARKUP OF ABOVE DRAWING, SHEET C2, FIRST ALTERNATE AND SECOND ALTERNATE (ATTACHED).

C. STANDARDS

1. TESTING PRINCIPLES AND PROCEDURES SHALL BE IN ACCORDANCE WITH CHAPTER V, SECTION 345.5 OF ASME/ANSI B31.3 (LATEST EDITION). ANY CONFLICTS WHICH MAY ARISE CONCERNING THIS PRESSURE TEST PROCEDURE AND B31.3 SHALL BE RESOLVED IN FAVOR OF THE LATTER.

2. INSTRUMENTS USED IN TESTING SHALL HAVE BEEN CALIBRATED BY AN APPROVED TEST AGENCY WITHIN THE LAST SIX MONTHES, OR AS RECOMMENDED BY INDUSTRY STANDARDS. THE CALIBRATION DOCUMENT SHALL LIST EACH INSTRUMENT BY MANUFACTURER, TYPE, SERIAL NUMBER (IF ANY), AND LAST DATE OF CALIBRATION.

3. ALL PNEUMATIC PRESSURE TESTING SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT SITE SAFETY AND ENVIRONMENTAL PROCEDURES (E.G., LOCKOUT/TAGOUT, CONFINED SPACE).

II. MATERIALS

A. MATERIALS REQUIRED IN PLACE

1. FIRST ALTERNATE: THE UNDERGROUND PIPING MUST BE FITTED WITH A FLANGE AND BOLTED BLIND AT EVERY POINT WHERE THE PIPING RISES ABOVEGROUND. ALL BALL VALVES SHALL BE REMOVED FROM THE TESTED SECTION TO AVOID THE POSSIBILITY OF LEAKAGE THROUGH THE VALVE STEMS.

   SECOND ALTERNATE: THE UNDERGROUND PIPING AND PUMPHOUSE PIPING MAY BE PNEUMATICALLY TESTED TOGETHER, INCLUDING EQUIPMENT AND VALVES, PROVIDED THAT THE TANKS AND ONE OF THE PUMP CIRCUITS ARE ISOLATED WITH "SKILLET" BLINDS. THE ABOVEGROUND PIPING PREVIOUSLY HYDROTESTED IN SM-22 SHALL ALSO BE ISOLATED FROM THE PNEUMATIC TEST WITH INSERTED "SKILLET" BLINDS.

2. THE UNDERGROUND PIPING MAY BE COVERED WITH SOIL OR FILL FOR TEMPERATURE INSULATION PURPOSES, BUT EVERY WELDED JOINT SHALL BE ACCESSABLE IN THE EVENT A LEAK IS DETECTED OR SUSPECTED.

3. IF SEVERAL SECTIONS OF UNDERGROUND PIPING ARE TO BE TESTED AT THE SAME TIME, THEN THE INDIVIDUAL SECTIONS SHALL BE TAPPED AND INTERCONNECTED WITH A MINIMUM 1" SIZED ABOVEGROUND THREADED STEEL PIPING AND MINIMUM 150 CLASS FITTINGS.

B. MATERIALS REQUIRED FOR PNEUMATIC PRESSURE TEST

THE PRESSURE TESTING TECHNICIANS SHALL PROVIDE THE FOLLOWING EQUIPMENT, AS APPROPRIATE TO THE FIELD CONDITIONS, IN ORDER TO PERFORM EACH PRESSURE TEST:

1. COMPRESSED NITROGEN BOTTLES OR OTHER SOURCE OF INERT GAS FOR PIPING PRESSURIZATION.

2. DUAL STRIP CHART OR CIRCULAR RECORDING DEVICE WITH MARKED INCREMENTS REPRESENTING A MAXIMUM OF 5 PSI EACH, MINIMUM TOTAL RANGE OF 0 TO 200 PSIG AND MINIMUM 24/48 HOUR UNINTERUPTED MONITORING.

3. CALIBRATED STATIC PRESSURE SENSOR, WITH MINIMUM 0 TO 240 PSIG RANGE, INCREMENTS WITHIN 1/4 PSI; OR DEAD WEIGHT PRESSURE TESTER, CALIBRATED TO WITHIN 1/4 PSI.

4. PRESSURE RELIEF DEVICE, HAVING A SET PRESSURE NOT HIGHER THAN 220 PSIG, PER B31.3. THE DEVICE SHALL BE A MINIMUM 1" SIZE WITH RELEIVING CAPACITY OF 400 CFT/HR.

5. CALIBRATED AMBIENT TEMPERATURE GAUGE AND BAROMETER, AS APPROPRIATE.

6. BLIND FLANGES OR "SKILLET" BLINDS, AS REQUIRED.

7. PRY BARS, WRENCHES, OTHER TOOLS, SPECIAL FITTINGS, SOLVENTS AND CLEANERS, AS REQUIRED.

III. EXECUTION

A. PRIOR TO PNEUMATIC TESTING THE TECHNICIANS SHALL PERFORM THE FOLLOWING IN SEQUENCE:

1. COMPLY WITH ALL SITE SAFETY, SECURITY AND ENVIRONMENTAL PROCEDURES, INCLUDING LOCKOUT/TAGOUT,CONFINED SPACE ENTRY, OR HAZARDOUS MATERIAL OPERATIONS, AS APPROPRIATE.

2. DISABLE, BLOCK AND RELIEVE ALL PRESSURE SOURCES AND RESIDUAL PRESSURES IN THE LINE TO BE TESTED.

3. VISUALLY EXAMINE ALL THREADED, BOLTED AND OTHER MECHANICAL JOINTS FOR ALIGNMENT, GASKET SEATING, UNIFORM TORQUE AND THREAD COMPOUND (REQUIRED PER SECTION 341.4.1 OF B31.3, WITH WRITTEN CERTIFICATION).

4. EQUIPMENT WHICH IS NOT TO BE TESTED SHALL BE EITHER DISCONNECTED FROM THE PIPING OR ISOLATED BY BLINDS OR OTHER MEANS DURING THE TEST.

B. THE PRESSURE TEST SHALL BE DIVIDED INTO TWO PERIODS OF 24 HOURS EACH. DURING THE FIRST 24 HOUR PERIOD THE TECHNICIANS SHALL PERFORM THE FOLLOWING IN SEQUENCE:

1. INSTALL PRESSURE RELIEF DEVICE AND GRADUALLY PRESSURIZE LINE(S) TO 25 PSIG. MAKE PRELIMINARY CHECK FOR MAJOR LEAKS, USING SOAP BUBBLES, SOUND DETECTION OR OTHER MEANS.

2. IF LEAKS ARE FOUND AT THIS POINT THEN MARK AND DOCUMENT EACH ONE. DEPRESSURIZE LINE(S) AND INTERRUPT TESTING TO EFFECT REPAIRS. RETURN SYSTEM TO PRETEST CONDITIONS ABOVE BEFORE RESUMING PRESSURIZATION. IF REPAIRS ARE SUBSTANTIAL OR LENGTHY THEN RESTART THE INITIAL 24 HOUR PERIOD AS APPROPRIATE.

3. IF NO MAJOR LEAKS ARE DETECTED OR THE LEAKS DETECTED AND REPAIRED THEN INCREASE THE PRESSURE IN THE LINE(S) BY 25 PSI INCREMENTS, HOLDING THE PRESSURE AT EACH INCREMENT TO EQUALIZE PIPING STRAINS (10 MINUTES MINIMUM). CONTINUE INCREASING LINE PRESSURE, INTERUPTING UPON DETECTION OF ADDITIONAL LEAKS, UNTIL THE TEST PRESSURE OF 200 PSIG IS ATTAINED.

4. HOLD THE LINE PRESSURE AT 200 PSIG FOR THE REMAINDER OF THE FIRST 24 HOUR PERIOD TO ALLOW THE SYSTEM TO STABILIZE.

C. DURING THE SECOND 24 HOUR TEST PERIOD THE TECHNICIANS SHALL PERFORM THE FOLLOWING IN SEQUENCE:

1. REMOVE THE SOURCE OF NITROGEN OR OTHER INERT GAS AND TAKE READING FROM DEAD WEIGHT TESTER OR CALIBRATED GAUGE. RECORD AND WITNESS INITIAL TIME, AMBIENT/INTERNAL TEMPERATURES, BAROMETRIC PRESSURE, LOCATION AND DEAD WEIGHT PRESSURE TO THE NEAREST 1/4 PSIG.

2. ACTIVATE DUAL PRESSURE RECORDING DEVICE. MEASURE AND RECORD AMBIENT CONDITIONS EVERY HOUR FOR THE TEST PERIOD.

3. AT THE COMPLETION OF THE 24 HOUR PERIOD DEACTIVATE THE PRESSURE RECORDING DEVICE AND TAKE READING FROM DEAD WEIGHT TESTER OR CALIBRATED PRESSURE GAUGE. RECORD AND WITNESS FINAL TIME, AMBIENT/INTERNAL TEMPERATURES, BAROMETRIC PRESSURE, LOCATION AND DEAD WEIGHT PRESSURE TO THE NEAREST 1/4 PSIG.

4. GRADUALLY RELEASE THE LINE PRESSURE TO ATMOSPHERIC CONDITIONS. REMOVE SAFETY DEVICES AND TEMPORARY PIPING/BLINDS, ETC.

D. ACCEPTANCE CRITERIA

1. BETWEEN START AND FINISH OF THE 24 HOUR TEST PERIOD, THE FINAL DEAD WEIGHT PRESSURE SHALL BE WITHIN 1 PER CENT (2.0 PSIG) OF THE INITIAL DEAD WEIGHT PRESSURE.

2. IF REPAIRS OR ADDITIONS ARE MADE FOLLOWING THE LEAK TEST, THE AFFECTED PIPING SHALL BE RETESTED, EXCEPT THAT MINOR REPAIRS OR ADDITIONS THE UTILITIES ENGINEER MAY WAIVE RETEST REQUIREMENTS WHEN B31.3 PRECAUTIONARY MEASURES ARE TAKEN TO ASSURE SOUND CONSTRUCTION (PER SECTION 345.2.6).

E. WHEN TESTING HAS BEEN COMPLETED, THE TECHNICIAN(S) SHALL PREPARE FIVE COPIES OF A FORMAL WRITTEN REPORT FOR EVALUATION AND APPROVAL BY THE UTILITIES INSPECTOR. A SKETCH OR MARKED-UP CONSTRUCTION DRAWING SHALL BE INCLUDED WITH THE REPORT IDENTIFYING READING LOCATIONS BY NUMBER OR LETTER. CHART DATA AND WITNESSED READINGS SHALL BE INCLUDED FOR EACH TEST, WITH RECOMMENDATIONS FOR REPAIRS OR FURTHER INVESTIGATION IF ANY UNDERGROUND PIPING SECTION CANNOT MAINTAIN THE REQUIRED TEST PRESSURE.

THESE RECORDS NEED NOT BE RETAINED AFTER COMPLETION OF THE TEST IF A CERTIFICATION BY THE INSPECTOR THAT THE PIPING HAS SATISFACTORILY PASSED PRESSURE TESTING AS REQUIRED BY B31.3 IS RETAINED (PER SECTION 345.2.7).

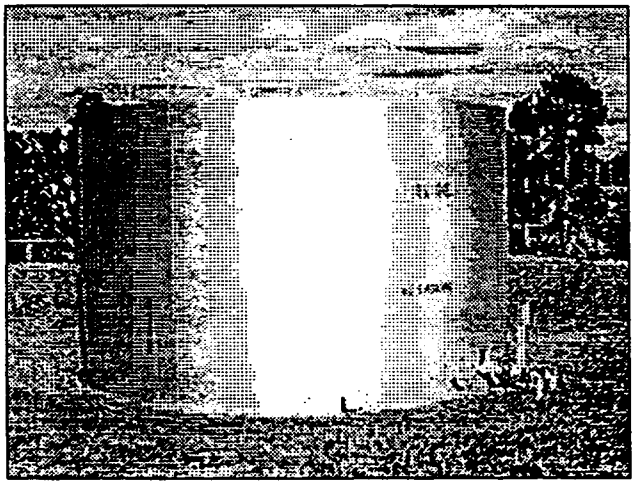
Above Ground Storage Tank

Records for

Inservice Inspection

Using

API 653 and 40 CFR 112



TA 03 SM-22 Power Plant

Structure ID: 26-AST

150,000 Gal. Diesel Fuel

Inservice Inspection of Tank Shell to API 653

[illegible]	03	Structure ID	26-AST	Lead Inspector	Kelly Bingham
Update	2/11/97	Update By	KLB	Inspection date	2/11/97

[illegible]

There are some areas of paint failure, with minor evidence of pitting, or corrosion.

[illegible] the bottom angle and inspect for corrosion and thinning on plate and weld?

There is some minor corrosion and some paint failure on the bottom angle.

Inspect the bottom to foundation seal for any [illegible]

N/A

Visually inspect the floating roof for grooving, corrosion, pitting, and coating failures?

N/A

Inspect external surface for grooves and seam leaks?

There is no evidence of leakage, and the seams are welded.

Locate leaks by sketch or photo?

N/A

Inspect rivets for corrosion loss and wear?

N/A

Inspect vertical seams to see if they have been full fillet lap welded to increase joint efficency.

The welds are butt welded and show a full cross section.

Record the vertical seams, rivet pattern, size, pitch length and notes whether lap or butt riveted.

Seam locations are recordedon the UT inspection report.

Inspect windgirder and handrail for corrosion damage.

No corrosion is evident.

Check support welds to shell for pitting, especially on shell plates

N/A

Note whether supports have reinforcing pads welded to shell

N/A

Inspect for cracks and signs of leakage on weld joints at nozzles, manway, and reinforcing pad

There are no cracks or other signs of leakage.

Inspect for shell plate dimpling around nozzles caused by excessive pipe deflection

There is no dimpling

Inspect for flange and gasket leakage around piping

There is no evidence of leakage.

Inspect for insulation around manway nozzles

There is no insulation.

Check for adequate manway flange and cover thickness on tanker manways

The thickness is adequate.

Inspect manifold piping, flanges, and valves for leaks

There is no leakage of the manifold piping system.

Inspect fire fighting system components

N/A

Check for anchored piping which would be a hazard due to the tank shell or bottom connection during earth movement

There is underground piping that may be a problem in the advent of an earth quake.

Check for adequate thermal pressure relief of piping to the tank

The tank is vented to atmosphere.

Check the operation of regulators for tanks with purge gas systems

N/A

Check sample connections for leaks and proper valve operation

There is no signs of leakage.

Check for damage and check the accuracy of temperature indicators

There are no temperature indicators.

Look for areas where leaching of oil has left rock filler exposed, which indicates hydrocarbon leakage.

There is no evidence of leaching or leaks.

Check for settlement into the base which could direct rain water under the tank and away from it.

This is a concern because the tank is lower than the ring, and rain water could seep under the tank

Presence of crushed rock under the steel bottom usually results in severe undercutting. If present, further out of service testing should be done.

This is an area of concern. The fill that is visable is gravel, and it is known that the out of service tank (27-AST) did leak.

Check site for drainage away from the tank and associated piping and manifolds.

The drainage is minimal and should be reviewed.

Check operating condition of dike drains.

There are no dike drains.

Inspect the area for buildup of trash, vegetation, and other inflammable buildup.

there is no trash.

Check welds on shell mounted davit clips above valve [illegible] and larger.

N/A

Inspect autogage tape guide and lower sheave housing (floating wings) for leaks.

N/A

Inspect autogage head for damage.

N/A

Bump the checker on the autogage head for proper movement of tape.

N/A

Identify size and construction material of autogage tape guide.

N/A

Inservice Inspection of Tank Foundations to API 653

Tank:	03	Structure ID:	26-AST	Lead Inspector:	Kelly Bingham
Update:	2/11/97	Updated By:	KLB	Inspection Date:	2/11/97
Readings:	Required			Tank ID:	7

Thickness Readings:

Where required, thickness readings are shown on the cross drawings of the roof and location of the ultrasonic thickness readings.

What is the condition of the concrete ring?

The concrete ring is in good condition.

Inspect Drain openings and surface of the ring for indications of leakage:

There are no drains in the ring, and there is no evidence of leakage.

Inspect for cavities under foundation and vegetation against bottom of tank:

There were no cavities or vegetation observed against the bottom of the tank.

Check that runoff rainwater from the shell drains away from the tank:

This is a concern because the tank is lower than the perimiter ring, and therefore rain/snow water can seep under the tank.

Check for settlement around the perimeter of the tank:

The tank may have settled because it is lower than the ring. It does appear to be level.

Check for settlement of tank into asphalt base which would direct run off rain water under the tank instead of away from it:

N/A

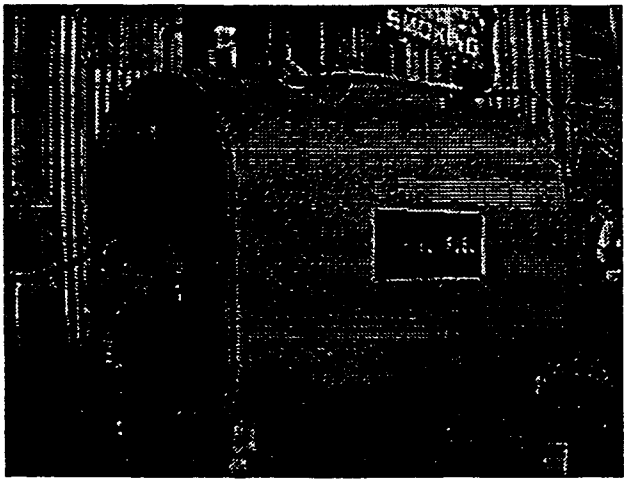
Above Ground Storage Tank

Records for

Inservice Inspection

Using

API 653 and 40 CFR 112



TA 03 SM-22 Power Plant

Structure ID: 22B -AST

250 Gal. Diesel Fuel

Inservice Inspection of Tank Shell to API 653

3	22B -AST		Kelly Bingham
	2/11/97	KLB	2/11/97

There is no evidence of paint failure, pitting or corrosion.

This tank is a horizontal tank with no bottom angle.

N/A

N/A

There is no evidence of seam leaks.

N/A

There are no rivits.

The joints are butt welded and show a full cross section.

The seam locations are shown of the UT inspection diagrams.

N/A

There is no evidence of pitting.

Note whether supports have reinforcing pads welded to shell.

There are no reinforcing pads.

Inspect for cracks and signs of leakage on weld joints at nozzles, manways, and reinforcing pla

There are no craks or signs of leakage.

Inspect for shell plate dimpling around nozzles, caused by excessive pipe deflection.

There is no dimpling.

Inspect for flange leaks and leaks around bolting.

N/A

Inspect sealing of insulation around manways and nozzles?

There is no insulation.

Check for inadequate manway flange and cover thickness on mixer manways?

There is no Manway.

Inspect manifold piping, flanges, and valves for leaks.

There is no evidence of leakage.

Inspect fire fighting system components.

N/A

Check for anchored piping which would be hazardous to the tank shell or bottom connections during earth movement?

N/A

Check for adequate thermal pressure relief of piping to the tank.

This tank is vented to the atmosphere.

Check the operation of regulators for tanks with purge gas systems.

N/A

Check sample connections for leaks and proper valve operation.

N/A

Check for damage and check the accuracy of temperature indicators.

N/A

[illegible] welds on shell mounted davit clips above valves 6" and larger?

N/A

[illegible] autogage tape guide and lower sheave housing (floating swings) for leaks?

N/A

[illegible] autogage head for damage

N/A

[illegible] autogage head for proper movement of tape?

N/A

Report size and construction material of autogage tape guide.

N/A

Inservice Inspection of Tank Foundations to API 653

TA	03	Structure_ID	22B-AST	Lead Inspector	Kelly Bingham
Update	2/11/97	Update By	KLB	Inspection_date	2/11/97
Levelness	N/A			Tank ID #	5

Levelness Readings:

When required, levelness readings are shown on the same drawing as the grid and locations of the ultrasonic thickness readings.

What is the condition of the concrete ring?

This tank is on steel legs.

Inspect Drain openings and surface of the ring for indications of leakage

N/A

Inspect for cavities under foundation and vegetation against bottom of tank

The tank stand sets on a concrete pad.

Check that runoff rainwater from the shell drains away from the tank

Rain water will drain away from the tank.

Check for settlement around the perimeter of the tank

N/A

Check for settlement of tank into asphalt base which would direct run off rain water under the tank instead of away from it

N/A

Look for areas where leaching of oil has left rock filler exposed, which indicates hydrocarbon leakage.

N/A

Check for settlement into the base which could direct rain water under the tank rather than away from it.

N/A

Presence of crushed rock under the steel bottom usually results in severe underside corrosion. If present, further out of service testing should be done.

N/A

Check site for drainage away from the tank and associated piping and manifolds.

Drainage is good.

Check operating condition of dike drains.

There is no dike or secondary containment.

Inspect the area for buildup of trash, vegetation, and other inflammables buildup.

There is no trash in the area.

Appendix B

Storm Water Discharge Records

SECONDARY CONTAINMENT
STORMWATER DISCHARGE RECORD

LOCATION: TA-_____ Bldg._____

DESCRIPTION OF TANK:_____

USER GROUP:_____ **CONTACT PERSON:**_____

PHONE:_____ **PAGER:**_____

***DATE AND TIME OF DISCHARGE:**_____

***DURATION OF DISCHARGE:**_____

***VOLUME OF DISCHARGE:**_____

DESCRIPTION OF CONTAINMENT:_____

_____

_____

ESH-18 CONTACT OR DESIGNEE:_____

SAMPLES TAKEN: YES NO (*If Yes, complete sampling form*)

DISCHARGED RECOMMENDED: YES NO (*Complete comment section below*)

COMMENTS:_____

_____

_____

_____

_____

_____

*Information to be completed by User Group

Complete the discharge record and return to Robin Reynolds, ESH-18, MS K497

REVIEWED BY:_____ **DATE:**_____

Appendix C

Spill Records

Spill Tracking Form

Date	Spill Location	What Spilled	Quantity Spilled	Corrective Action Taken	Plans to Prevent Recurrence
Oct. 1, 1991	NE side of SM-22	No.2 oil	Approx. 200 gallons	Contaminated soil removed and disposed	Underground piping abandoned. New pipe relocated wrapped and cathodic protection installed

Appendix D

Training Records

UTILITIES OPERATING INSTRUCTION

Johnson Controls Northern New Mexico Los Alamos Support Services Subcontract

Date First Issued: 4/05/91	Number: 66-20-055
Revision #1: 10/30/00	Page: 1 OF 3
Safety: Safety-related	Status: PERMANENT

SUBJECT	SPILL RESPONSE - STEAM PLANT TA-3
FILING INSTR:	REPLACES UOI #66-20-055 OF 2/24/92
PURPOSE/SCOPE	To give personnel parameters for determining and making an appropriate response to any spill or unplanned release of oil, chemicals or other substances, at Steam Plant TA-3.
REFERENCE INSTRUCTIONS:	JCNNM HSE Manual, Environmental Section, E-20, Spill Reporting & Response Procedure JCNNM HSE Manual, Environmental Section, E-3, Drum Storage, Handling, Labeling and Disposal UOI #60-10-050, Utilities Chemical Hygiene Plan
ATTACHMENTS:	Attachment 1 - Spill Response Contact Telephone Numbers
APPENDICES:	Appendix A - Acidic Substances Appendix B - Caustic Substances Appendix C - Boiler Water Chemicals & Tower Chemicals Appendix D - Fuel Oil
AFFECTED PERSONNEL:	UPPS OPERATORS, UESB WATER TREATMENT SPECIALIST

BRIEFING

Written:	Original signed by D. Angeli	Date: 10-30-00
Review:	Original signed by J. Ortiz/ R. Montano	Date: 10-31-00
Review:	Original signed by G. Blauert	Date: 11/02/00
Approved:	Original signed by J. Forte	Date: 11/30/00

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FREQUENCY: BIENNIAL

GENERAL:

1. It is critical to the health and safety of all personnel and to the impact on the environment that chemical spills be reported promptly. Failure to report a spill could result in disciplinary action, up to, and including, dismissal.

INSTRUCTIONS/ PROCEDURES

2. When a spill is first discovered, isolate the spill area and keep unnecessary personnel away.

   NOTE: Unnecessary personnel shall be defined as anyone not involved in the spill control and clean up.

3. Notify the following personnel (refer to Attachment 1: Spill Response Contact Telephone Numbers):

   a. LANL Emergency Management and Response Office (EM&R) at 667-6211

   b. Plant Supervisor

   c. Area Spill Coordinator

   d. JCNNM Environmental Protection (HENV)

   e. FWO-UI

4. If possible, without coming in contact with the substance, determine the following:

   a. Identity of substance,

   b. Source of the spill or leak,

   c. Quantity of spill (1 gallon or less, or more than 1 gallon), and

   d. Spill boundaries (inside a containment berm or escaping into the environment via a floor drain or vent).

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5. If the source of the spill or leak is obvious and there is no danger of personal injury, personnel should take appropriate measures to stop or contain the flow.

6. Refer to the proper Appendix, depending upon the substance involved, as follows:

   a. Appendix A: Acidic Substances for:
   Sulfuric Acid

   b. Appendix B: Caustic Substances for:
   Sodium Hydroxide

   c. Appendix C: Boiler Water Chemicals and Tower Chemicals for:

      1) Nalco #1720, Oxygen Scavenger

      2) Nalco #1741, Phosphate and Polymer

      3) Nalco #8735, Ph Stabilizer (caustic soda)

      4) Nalco #1820, Tri-actamine Inhibitor

      5) Nalco #7408, Chlorine Oxygen Sca

      6) Nalco #2508, Plus-Polyglycol

      7) Nalco # Sta. Br. Ex ST20, Microorganism Control Chemical

      8) Nalco #7384, Corrosion Inhibitor

   d. Appendix D: Fuel Oil for:

      Fuel Oil

66-20-055
ATTACHMENT 1

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SPILL RESPONSE CONTACT TELEPHONE NUMBERS

OFFICE/TITLE	NAME	PHONE NUMBER
EMERGENCY MEDICAL RESPONSE		9-911 (24 HR.)
LANL EMERGENCY MANAGEMENT & RESPONSE OFFICE (EM&R)		7-6211 (24 HR.)
PLANT SUPERVISOR	ROBERT MONTANO	7-4842 (WORK) 867-4798 (HOME)
AREA SPILL COORDINATOR	JOE ORTIZ	7-4842 (WORK) 471-2954 (HOME) 104-5555 (PAGER)
JCNNM ENVIRONMENTAL PROTECTION (HENV)		7-0103 (WORK) AFTER HOURS: CALL 7-6191 AND ASK FOR ON-CALL HENV PERSONNEL
FWO-UI	CHARLES TRUJILLO	7-0491 (WORK) 996-1084 (PAGER)

UTILITIES OPERATING INSTRUCTION

Johnson Controls Northern New Mexico Los Alamos Support Services Subcontract

Safety: Safety-related Status: PERMANENT

SUBJECT:	ACIDIC SUBSTANCES
FILING INSTR:	REPLACES UOI 66-20-055.A OF 5/31/91
PURPOSE/SCOPE:	Provides steps for safe and proper control and clean-up of spills involving acidic substances at Steam Plant TA-3.
REFERENCE FORMS:	LANL Form 1461, Spill Report located at: http://intranet.jci.lanl.gov/crypt/fcab/esh/procs/E-20.pdf
ACTION:	ALL TA-3 SHIFT PERSONNEL, SUPERVISORS AND UTILITIES DEPARTMENT BRANCH MANAGERS
BRIEFING FREQUENCY:	BIENNIAL

SAFETY NOTE:

1. The following protective equipment must be work prior to commencing any work to control or clean-up an acid spill:
   a. Rubber gloves
   b. Rubber jacket
   c. Rubber pants
   d. Rubber boots
   e. Splash proof chemical face shield

Written:	Original signed by D. Angeli	Date: 10-30-00
Review:	Original signed by J. Ortiz/ R. Montano	Date: 10-31-00
Review:	Original signed by G. Blauert	Date: 11-02-00
Approved:	Original signed by J. Forte	Date: 11-30-00

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NOTE: The above equipment is issued to individual personnel.

PROCEDURES/
INSTRUCTIONS:

2. Search the area for signs of injured or incapacitated persons. If none are found, go directly to Step 5.

3. Move victims to a safe area and call for Emergency Medical Assistance, 9-911.

4 Administer first aid. Refer to the MSDS corresponding to the substance involved for information on the proper first aid procedures.

NOTE: The following steps must be taken quickly in order to limit any potential damage. If the need to administer first aid is necessary, get the help of a second person to either administer the first aid or perform the following steps.

5. Direct supervisory and emergency response personnel to the spill site and assist.

6. As safely as possible, attempt to stop the acid leak at its source.

7. Ventilate the area.

8. Obtain a container of Sodium Carbonate Anhydrous (soda ash) from its storage area on the main floor, along the East wall of the plant.

9. Using a scoop, spread the soda ash in a circle around the outer edge of the spill, then continue to spread the soda ash toward the center of the spill until the acid has been completely absorbed.

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10. Being cautious not to create dust, scoop up the acid-laden soda ash.

11. Place the sweepings into a clean can with a clamp-down lid.

12. Place the can into chemical containment for chemical disposal.

13. Contact HENV immediately to file a LANL Form 1461, Spill Report, and any other forms required by HENV.

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UTILITIES OPERATING INSTRUCTION

Johnson Controls Northern New Mexico Los Alamos Support Services Subcontract

Date First Issued: 5/31/91	Number: 66-20-055.B
Revision #1: 10/30/00	Page: 1 OF 3
Safety: Safety-related	Status: PERMANENT

SUBJECT:	CAUSTIC SUBSTANCES
FILING INSTR:	REPLACES UOI #66-20-055.B OF 5/31/91
PURPOSE/SCOPE:	Provides steps for safe and proper control and clean-up of spills involving caustic substances at Steam Plant TA-3.
REFERENCE FORMS:	LANL Form 1461, Spill Report located at: http://intranet.jci.lanl.gov/crypt/fcab/esh/procs/E-20.pdf
ACTION:	ALL TA-3 SHIFT PERSONNEL, SUPERVISORS AND UTILITIES DEPARTMENT BRANCH MANAGERS
BRIEFING FREQUENCY:	BIENNIAL

SAFETY NOTE:

1. The following protective equipment must be worn prior to commencing any work to control or clean-up an acid spill:

   f. Rubber gloves

   g. Rubber jacket

   h. Rubber pants

   i. Rubber boots

   j. Splash proof chemical face shield

Written:	Original signed by D. Angeli	Date: 10-30-00
Review:	Original signed by J. Ortiz/ R. Montano	Date: 10-31-00
Review:	Original signed by G. Blauert	Date: 11-02-00
Approved:	Original signed by J. Forte	Date: 11-30-00

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NOTE: The above equipment is issued to individual personnel.

PROCEDURES/
INSTRUCTIONS:

3. Search the area for signs of injured or incapacitated persons. If none are found, go directly to Step 5.

3. Move victims to a safe area and call for Emergency Medical Assistance, 9-911.

5 Administer first aid. Refer to the MSDS corresponding to the substance involved for information on the proper first aid procedures.

NOTE: The following steps must be taken quickly in order to limit any potential damage. If the need to administer first aid is necessary, get the help of a second person to either administer the first aid or perform the following steps.

6. Direct supervisory and emergency response personnel to the spill site and assist.

6. As safely as possible, attempt to stop the caustic leak at its source.

7. Ventilate the area.

8. Obtain a container of Sodium Dihydrogen Phosphate (SDP) from its storage area on the main floor, along the East wall of the plant.

9. Using a scoop, spread the SDP in a circle around the outer edge of the spill, then continue to spread the SDP toward the center of the spill until the caustic has been completely absorbed.

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12. Being cautious not to create dust, scoop up the caustic-laden SDP.

11. Place the sweepings into a non-leaking can with a clamp down lid.

12. Place the can into chemical containment for proper disposal.

13. Contact HENV immediately to file a LANL Form 1461, Spill Report, and any other forms required by HENV.

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UTILITIES OPERATING INSTRUCTION

Johnson Controls Northern New Mexico Los Alamos Support Services Subcontract

Date First Issued: 5/31/91	Number: 66-20-055.D
Revision #1: 10/30/00	Page: 1 OF 1
Safety: Safety-related	Status: PERMANENT

SUBJECT: FUEL OIL

FILING INSTR: REPLACES UOI 66-20-055.E OF 5/31/91

PURPOSE/SCOPE: Provides steps for safe and proper control and clean up of spills involving fuel oil at Steam Plant TA-3.

REFERENCE FORMS/ LANL Form 1641, Spill Report located at: http://intranet.jci.lanl.gov/crypt/fcab/esh/procs/E-20.pdf

ACTION: ALL STEAM PLANT TA-3 SHIFT PERSONNEL, SUPERVISORS, AND UTILITIES BRANCH HEADS

BRIEFING FREQ: BIENNIAL

PROCEDURE/ INSTRUCTIONS:

1. If the leak developed during the loading or unloading of fuel oil from a truck or tanker, take the following steps:
   a. Remove the truck from the fuel oil system.
   b. Isolate the leak if possible by closing valves on sections of the fuel oil lines near the leak.
2. Follow the Emergency Response Plan.
3. File LANL Form 1461, Spill Report, with HENV as soon as possible.

Written:	Original signed by D. Angeli	Date: 10-30-00
Review:	Original signed by J. Ortiz/ R. Montano	Date: 10-31-00
Review:	Original signed by G. Blauert	Date: 11-02-00
Approved:	Original signed by J. Forte	Date: 11-30-00

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UTILITIES OPERATING INSTRUCTION

Johnson Controls Northern New Mexico Los Alamos Support Services Subcontract

Date First Issued: 4/12/91	Number: 66-20-170
Revision #1: 5/3/99	Page: 1 OF 7
Safety: Safety-related	Status: Permanent

SUBJECT: FUEL OIL DELIVERY AND RELOADING ONTO TRUCKS/TANKERS - STEAM PLANT TA-3

FILING INSTR: REPLACES REVISION #0 OF 4/12/91

PURPOSE/SCOPE: To provide a procedure for the safe handling of #2 Fuel Oil to and from the two external storage tanks located Northeast of SM-22.

REFERENCE FORMS/ CHECKLISTS: Checklist 66-20-170.1, Fuel Oil Delivery

Checklist 66-20-170.2, Fuel Oil Reloading Onto Trucks/Tankers

DIAGRAMS: Fuel Oil Delivery Valve & Piping Diagram - TA-3 Steam Plant

ACTION: ALL TA-3 SHIFT PERSONNEL, SUPERVISORS, AND UTILITIES BRANCH HEADS

BRIEFING FREQ: ANNUAL

SAFETY NOTE:

1. #2 Fuel Oil (Diesel) is flammable and accidental ignition will result in a fire and/or explosion. Caution should be taken at all times when working with or near this substance. No matches or smoking is permitted at the unloading point.

2. In the event of a leak, refer to 66-20-055, Steam Plant TA-3 Spill Response, Appendix E - Fuel Oil.

GENERAL:

3. The following definitions apply to this procedure:

Written: Original signed by Jennifer Wurges	Date: 5/4/99
Review: Original signed by Robert Montano	Date: 5/5/99
Review: Original signed by Gary Blauert	Date:5/11/99
Approved: Original signed by Jerry Forte	Date: 5/12/99

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a. Deliveries: transference of fuel oil from a truck or tanker to one or both of the fuel storage tanks.

b. Reloading: transference of fuel oil from one or both of the fuel storage tanks to a truck or tanker.

4. Deliveries of fuel oil shall only be scheduled during normal working hours (7:30 a.m. to 2:00 p.m.) unless prior arrangements have been made otherwise.

PROCEDURE: DELIVERIES OF FUEL OIL

5. Obtain a copy of Form 66-20-170.1, Fuel Oil Delivery Checklist, for completion during this procedure. A diagram, Fuel Oil Delivery Valve & Piping Diagram - TA-3 Steam Plant, is attached for reference purposes.

6. Check the fluid levels in the fuel oil storage tanks (TANK SM-26 and TANK SM-779) to ensure that the tanks will not be filled beyond capacity (maximum fill is 90% of capacity). If there is not sufficient capacity in the tanks, stop the procedure immediately and contact the UPPS Supervisor.

7. Have the tanker backed into the containment berm at the Fuel Oil Unloading Dock. Inspect tanker for leaks.

FUEL OIL TRANSFER FROM TANKER TRUCK TO EAST STORAGE TANK SM-779

8. Follow the following steps for fuel oil transfer from tanker truck to east storage tank SM-779:

a. Fully close valves FO-9 through FO-16.

b. Fully open valve FO-20.

c. Ensure valves FO-33 and FO-30 are fully closed.

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d. Fully open valves FO-31, FO-29, FO-34 and FO-32.

e. Ensure valves FO-28 and FO-46 are closed.

f. Ensure valve FO-51 is fully closed.

g. Fully open valves FO-50 and FO-52.

h. If using the unloading pump. fully open valve FO-48. If using the truck PTO, ensure valve FO-48 is fully closed and fully open valve FO-49.

i. Go to Step 10.

FUEL OIL TRANSFER FROM TANKER TRUCK TO WEST STORAGE TANK SM-26

9. Follow the following steps for fuel oil transfer from tanker truck to west storage tank SM-26:

a. Fully close valves FO-20 and FO-24.

b. Fully open valves FO-13, FO-14 and FO-16.

c. Ensure valve FO-15 is fully closed.

d. Ensure valves FO-33 and FO-30 are fully closed.

e. Fully open valves FO-31, FO-29, FO-34 and FO-32.

f. Ensure valves FO-28 and FO-46 are closed.

g. Ensure valve FO-51 is fully closed.

h. Fully open valves FO-50 and FO-52.

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i. If using the unloading pump, fully open valve FO-48. If using the truck PTO, ensure valves FO-48 and FO-47 are fully closed, and fully open valve FO-49.

j. Go to Step 10.

10. Connect the tank's drain hose to the fuel oil inlet line.

11. Fully open valve FO-47.

12. Start fuel oil unloading pump and then have the driver open the tanker drain valve.

13. If the tanker has an unloading pump (PTO), open valve FO-49 and close valve FO-48. This will allow the PTO to send the oil, by-passing the fuel oil pump.

14. Obtain a copy of the bill of lading from the tanker driver and turn in to the UPPS Supervisor along with completed Form 66-20-170.1.

RELOADING ONTO TRUCKS/TANKERS

15. Obtain a copy of Form 66-20-170.2, Fuel Oil Reloading Onto Trucks/Tankers Checklist, for completion during this procedure.

16. Have the tanker backed into the containment berm at the unloading dock.

17. Connect the fuel inlet line to the tanker's inlet valve and open the valve fully.

FUEL OIL TRANSFER FROM STORAGE TANKS SM-26 AND SM-779 TO TANKER TRUCK

18. To fill tanker truck from SM-26 and SM-779 storage tanks:

a. Utilizing Pump #1:

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1) Ensure valves FO-9, FO-10, FO-12 and FO-24 are open.

2) Ensure valves FO-11 and FO-23 are closed.

3) Ensure valves FO-28, FO-26, FO-37 and FO-39 are closed.

4) Ensure valves FO-25 and FO-27 are open.

5) Ensure that valve FO-35 is open.

6) Ensure that valves FO-41 and FO-36 are closed.

7) Ensure that valve FO-46 is open.

8) Ensure that valves FO-29, FO-30 and FO-31 are closed.

9) Ensure that valve FO-33 is closed.

10) Ensure that valves FO-32 and FO-34 are open.

11) Ensure that valve FO-51 is closed.

12) Ensure that valves FO-50 and FO-52 are open.

13) Ensure that valve FO-48 is closed.

14) Ensure that valve FO-49 is open.

b. Utilizing Pump #2:

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1) Ensure valves FO-9, FO-10, FO-12 and FO-24 are open.

2) Ensure valve FO-11 is closed.

3) Ensure valves FO-28 and FO-26 are closed.

4) Ensure valves FO-25 and FO-27 are open.

5) Ensure that valve FO-35 is closed.

6) Ensure that valve FO-36 is open.

7) Ensure that valves FO-38 and FO-40 are closed.

8) Ensure that valve FO-42 is open.

9) Ensure that valve FO-43 is closed.

10) Ensure that valves FO-41 and FO-46 are open.

11) Ensure that valves FO-29, FO-30 and FO-31 are closed.

12) Ensure that valve FO-33 is closed.

13) Ensure that valves FO-32 and FO-34 are open.

14) Ensure that valve FO-51 is closed.

15) Ensure that valves FO-50 and FO-52 are open.

16) Ensure that valve FO-48 is closed.

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17) Ensure that valve FO-49 is open.

19. When the tanker is 3/4 full, shut off the pump and have the tanker operator close the inlet valve on the tanker.

20. Fully close valve FO-49 at the unloading dock.

21. Fully open valves FO-29 and FO-31at the unloading dock.

22. Close valve FO-46.

23. Start the unloading pump and empty the line from the tanker's inlet valve back to the storage tank. This will prevent the fuel oil remaining in the line from spilling as the line is disconnected from the tanker.

24. Turn the unloading pump off.

25. Disconnect the tanker from the inlet line.

26. Prepare an acknowledgement of delivery and a delivery receipt showing the amount of oil shipped and the destination (Form 66-20-170.2).

27. Notify the receiving party when the transport leaves the plant site.

28. Turn in completed Form 66-20-170.2 to the UPPS Supervisor.

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JOHNSON CONTROLS NORTHERN NEW MEXICO
TA-3-22 OPERATING INSTRUCTIONS

Form 66-20-170.1 FUEL OIL DELIVERY CHECKLIST

DATE:_____

INITIALS	TIME		
_____	_____	1.	Check the fluid levels in the fuel oil storage tanks (TANK SM-26 and TANK SM-779) to ensure that the tanks will not be filled beyond capacity.
_____	_____		If there is not sufficient capacity in the tanks, stop the procedure immediately and contact the plant supervisor.
_____	_____	2.	Have the tanker backed into the containment berm at the Fuel Oil Unloading Dock.

NOTE: Use the East or West tank valve alignment to complete the following tasks.

_____	_____	3.	Follow the following steps for fuel oil transfer from tanker truck to east storage tank SM-779:
_____	_____		a. Fully close valves FO-9 through FO-16.
_____	_____		b. Fully open valve FO-20.
_____	_____		c. Ensure valves FO-33 and FO-30 are fully closed.
_____	_____		d. Fully open valves FO-31, FO-29, FO-34 and FO-32.
_____	_____		e. Ensure valves FO-28 and FO-46 are closed.
_____	_____		f. Ensure valve FO-51 is fully closed.
_____	_____		g. Fully open valves FO-50 and FO-52.
_____	_____		h. If using the unloading pump fully open valve FO-48. If using the truck PTO fully close valve FO-48 and fully open valve FO-49.
_____	_____		i. Go to Step 5.
_____	_____	4.	Follow the following steps for fuel oil transfer from tanker truck to west storage tank SM-26:

a. Fully close valves FO-20 and FO-24.
b. Fully open valves FO-13, FO-14 and FO-16.
c. Ensure valve FO-15 is fully closed.
d. Ensure valves FO-33 and FO-30 are fully closed.
e. Fully open valves FO-31, FO-29, FO-34 and FO-32.
f. Ensure valves FO-28 and FO-46 are closed.
g. Ensure valve FO-51 is fully closed.
h. Fully open valves FO-50 and FO-52.
i. Fully open valve FO-48.

5. Connect the tank's drain valve to the fuel oil inlet line.

6. Fully open valve FO-47.

7. Start fuel oil unloading pump and then have the driver open the tanker drain valve.

8. If the tanker has an unloading pump (PTO), open valve FO-49 and close valve FO-48. This will allow the PTO to send the oil, by-passing the fuel oil pump.

9. Disconnect the tanker's drain valve from the fuel oil inlet line.

10. Ensure that valve FO-52 is closed.

11. Fully close valves FO-47 and FO-49 at the fuel unloading dock.

12. Fully close valves FO-34, FO-32, FO-29 and FO-31 at the fuel house.

13. Ensure that valves FO-30, FO-33 and FO-51 are closed.

_____ _____ 14. Obtain a copy of the bill of lading from the tanker driver and turn in to the Plant Supervisor along with completed Form 66-20-170.1.

JOHNSON CONTROLS NORTHERN NEW MEXICO

TA-3 STEAM PLANT FUEL OIL DELIVERY RECEIPT

DATE: _____ FUEL OIL DELIVERED: _____ GAL.

DESTINATION: _____

SHIPPED VIA: _____ DRIVER: _____

X_____ TA-3 LOADER'S SIGNATURE

JOHNSON CONTROLS NORTHERN NEW MEXICO
TA-3-22 OPERATING PROCEDURES

FUEL OIL RELOADING ONTO TRUCKS/TANKERS CHECKLIST

DATE:_____

INITIALS	TIME		
_____	_____	1.	Have the tanker backed into the containment berm at the unloading dock.
_____	_____	2.	Connect the fuel oil inlet line to the tanker's inlet valve.
_____	_____	3.	Open the inlet valve fully.
_____	_____	4.	Fully close valve FO-51 at the unloading dock.
_____	_____	5.	Fully open valves FO-52, FO-49 and FO-50 at the unloading dock.
_____	_____	6.	Close fully valves FO-43 and FO-45 at the fuel house.
_____	_____	7.	Close fully valves FO-29, FO-31 and FO-28 at the fuel house.
_____	_____	8.	If using Pump #1, open valves FO-46, FO-34 and FO-32. If using Pump #2, open valves FO-41, FO-46, FO-32 and FO-34.
_____	_____	9.	Start selected pump from the control panel in the fuel house.
_____	_____	10.	When the tanker is 3/4 full, shut off the pump and have the tanker operator close the inlet valve on the tanker.
_____	_____	12.	Fully close valve FO-49 at the fuel unloading dock.
_____	_____	13.	Fully close valves FO-34, FO-32, FO-29 and FO-31 at the fuel house.
_____	_____	14.	Ensure that valves FO-30, FO-33 and FO-51 are closed.

_____ _____ 15. Obtain a copy of the bill of lading from the tanker driver and turn in to the Plant Supervisor along with completed Form 66-20-170.1.

_____ _____ 16. Start the unloading pump and empty the line from the tanker's inlet valve back to the storage tank. This will prevent the fuel oil remaining in the line from spilling as the line is disconnected from the tanker.

_____ _____ 17. If the truck is not PTO equipped, turn the unloading pump off.

_____ _____ 18. Disconnect the tanker from the inlet line.

_____ _____ 19. Note the amount of oil shipped and the destination:

Fuel Oil: _____ gal.

Destination: _____

_____ _____ 20. Complete the acknowledgement of receipt below and have the driver sign where marked.

_____ _____ 21. Complete the delivery receipt on the next page, detach, and give to the driver.

_____ _____ 22. Notify the receiving party when the transport leaves the plant site.

ACKNOWLEDGEMENT OF RECEIPT

DATE: _____ FUEL OIL RECEIVED: _____ GAL.

SHIPPED OUT VIA: _____

X_____ DRIVER'S SIGNATURE

Appendix E

Group and Facility Contacts

Facility Owner/Operator and Contacts

Facility Owner
FWO-UI
University of California (UC)
Los Alamos National Laboratory
Los Alamos, NM 87545

Facility Owner Contacts

Name	*Phone*	*Pager*	*Title*
David Padilla	667-2408	996-4583	Facility Manager
Jerome Gonzales	665-2612	996-0963	Facility Coordinator
On call Mell Smithour	665-3153	104-5997	Utility Inspector

Facility Operator
Johnson Controls Northern New Mexico
Electric and Steam Utilities
Los Alamos National Laboratory

Facility Operator Contacts

Name	*Phone*	*Pager*	*Title*
Gary Blauert	665-7055	104-8781	Institutional Director
Robert Montaño	667-3657	104-5146	Building Manager

Appendix F

Certification of the Applicability of the Substantial Harm Criteria

CERTIFICATION OF THE APPLICABILITY OF THE SUBSTANTIAL HARM CRITERIA

Facility Name: TA-3-22 Power Plant

Facility Address: Los Alamos National Laboratory

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 2?

   Yes ____ No ✓

5. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and has the facility experienced a 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.

David R. Padilla
Name (please type or print)

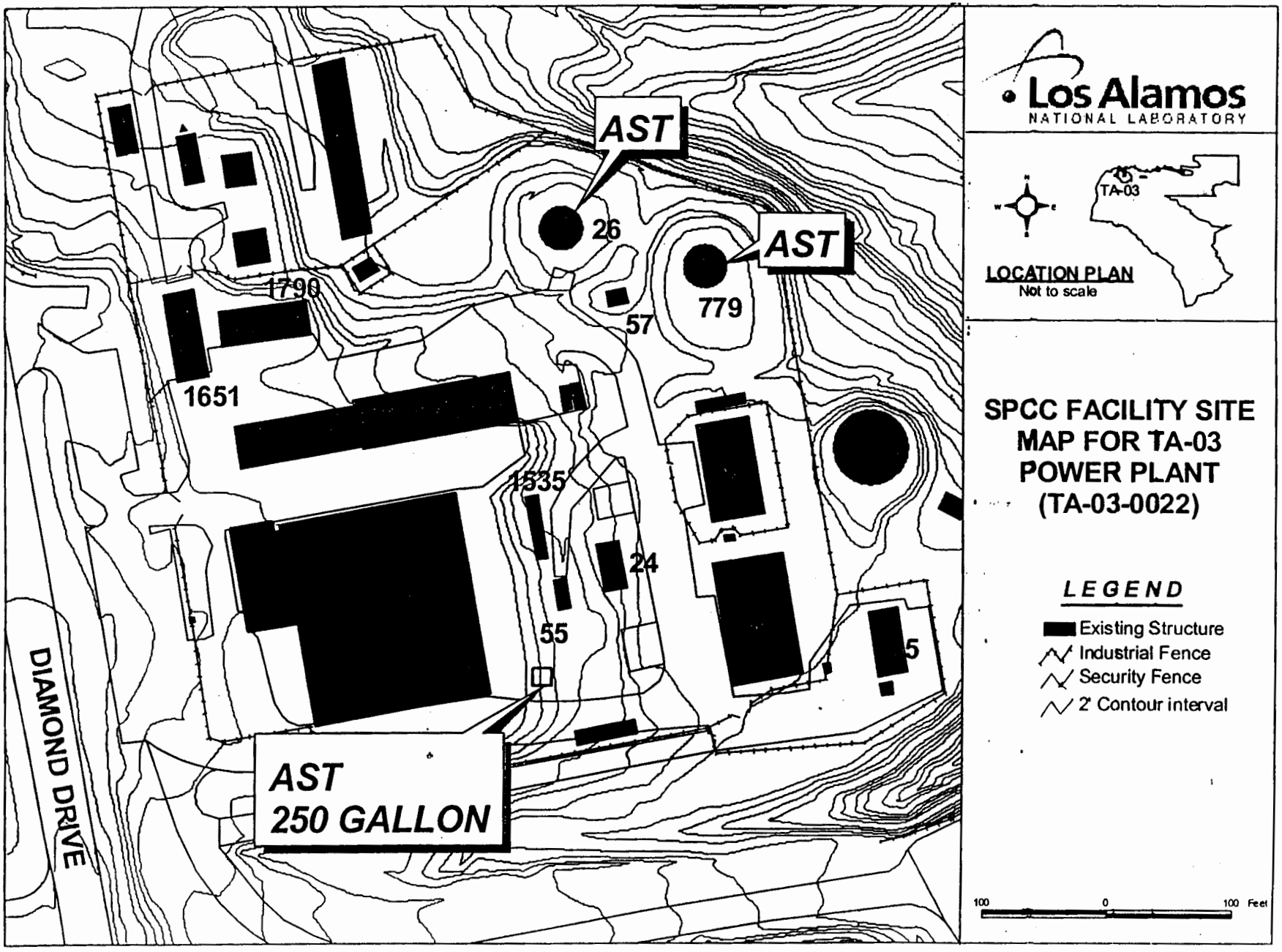
FMU 80 Facility Manager
Title

Signature

2/27/02
Date

Appendix G

SPCC Facility Site Maps


AST
26
AST
779
57
1790
1651
1535
24
55
5
AST
250 GALLON
DIAMOND DRIVE
Los Alamos
NATIONAL LABORATORY
TA-03
LOCATION PLAN
Not to scale
SPCC FACILITY SITE
MAP FOR TA-03
POWER PLANT
(TA-03-0022)
LEGEND
Existing Structure
Industrial Fence
Security Fence
2' Contour interval
100
0
100 Feet