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Permit (TA-35 Permit # - NPDES)

SPILL PREVENTION CONTROL AND COUNTERMEASURES PLAN

ATLAS PROJECT
TA-35-125

Los Alamos National Laboratory

Los Alamos, New Mexico

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

Revision 1: November 2001

15965

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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: 11/30/01

Carla Gustafson
Registered Professional Engineer

CARLA M. GUSTAFSON
NEW MEXICO
14702
11-30-01
REGISTERED PROFESSIONAL ENGINEER

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: 11/30/01

David Riker
FMU-77 Facility Manager

Facility Operator Approval:

Approved by: _____ Date: 11/30/01

Jack Shlachter
P-22 Group Leader

1. INTRODUCTION

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

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

This SPCC Plan addresses the aboveground storage tank (AST), the Atlas pulse powered generator, and the associated transfer piping that are part of the Atlas Facility Oil System at TA-35-125. The Plan has been developed to meet regulatory requirements under the jurisdiction of the U.S. Environmental Protection Agency (EPA).

1.1. Facility Description

The Atlas Project is a pulsed power facility designed to perform high energy-density experiments in support of weapon-physics and basic-research programs. The primary component of the facility is a 650-ton pulsed power generator, which has a capacitor bank design consisting of a 24-MJ array of 240-kV Marx modules. Shell Diala AX oil is used as an insulating medium in the generator.

Atlas is currently located in building TA-35-125. Within the building, the Atlas pulsed power generator, the First Article Tank, and miscellaneous drums storing oils are housed in a highbay (room A100). A control room (room C107) and work areas for electrical and machining support are located in the building on the east side of the highbay. Beneath the highbay is a basement used to house a secondary containment system for spill events. Building TA-35-125 is located on the north side of Ten Site Canyon. Ten Site Canyon drains to Mortandad Canyon which is a tributary to the Rio Grande River approximately 12 miles away.

Located outside, six feet south of TA-35-125, is a 40,000-gallon aboveground storage tank (AST) containing Shell Diala AX oil. As part of a closed-loop transfer system, the AST provides storage for the insulating oil used in the pulsed power generator within the highbay.

Atlas is classified under the SPCC regulations as a bulk storage facility. It is not a tank car or tank truck loading and unloading facility.

1.2. Facility Owner & Operator

The Facility Owner of the ATLAS Project is the Physics Division Director. Physics Division Facility Management (P-FM) is the agent of the owning division director responsible for the management and administration of Facility Management Unit (FMU) 77. As such, the 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 the Hydrodynamics & X-Ray Physics Group (P-22). P-22 has accepted, with the approval of the Facility Manager, responsibility for implementation and maintenance of the Atlas Facility SPCC Plan. If for any reason P-22 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, and the Plan will be properly amended to reflect such action.

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

1.3. Spill History

Over the weekend of January 5 to January 8, 2001, a spill of approximately up to 6,700 gallons of Shell Diala AX oil occurred within building TA-35-125. The spill was caused by a faulty gasket on the 12,000 gallon capacity First Article Tank located adjacent to the Atlas pulsed power generator. Oil spread across the floor throughout the highbay. It was retained within the highbay on the east side by small berms placed across the doorways. On the west side of the highbay oil reached the outside of the building through a door and migrated a few feet west across the asphalt surface. Oil also seeped into the basement through various gaps in the highbay floor, damaging several lasers and other equipment within a laser laboratory. Total damage costs for the spill event were estimated at approximately $1.7 million.

Following the spill event, Department of Energy officials initiated a Type B investigation. The initial investigation determined that the only release outside building 35-125 occurred on the west side where oil escaped through a door and migrated a few feet west across the asphalt surface. Contributing causes and deficiencies associated with physical structures, operational activities, and written procedures were also identified in the investigation. At the conclusion of the investigation, multiple Judgments of Need documents identifying required corrective actions were produced.

Corrective actions implemented following the spill event included:

- Gaps in the highbay floor were filled and the entire floor was sealed.
- Berms were placed across all doorways.
- A secondary containment system comprised of drain lines, a manifold pipe system and flexible bladder tanks was established in the basement.
- Types, quantities, and locations of spill control equipment were increased throughout the facility.
- Operational equipment and materials were removed from the basement.
- A stand-alone inspection and maintenance plan for the facility was developed.
- A Hazard Control Plan addressing oil spill prevention, control and countermeasures was developed.
- The P-22 Operations Officer received formal spill response training.
- Spill response training for operational and facility personnel was improved.
- The facility SPCC Plan was revised.

1.4. Potential Spill Predictions

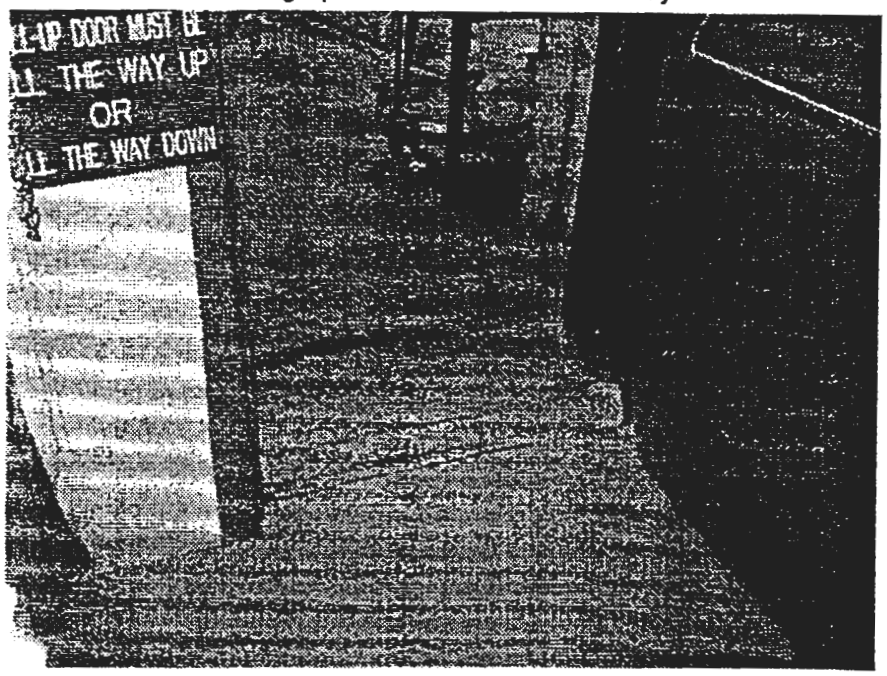
Items within the Atlas facility that possess a spill potential due to equipment failure include the pulsed power generator, the AST, miscellaneous drums of oil, and associated transfer piping and equipment. Predictions of discharge quantities and flow directions for each follow.

Atlas Pulsed Power Generator

Quantity: The pulsed power generator contains a common volume of approximately 156,000 gallons (12 units @ 10,000 gallons plus the transmission line volume). However, due to the configuration of the generator, the maximum credible spill is the contents of one Marx tank and the common volume, or approximately 24,000 gallons.

Direction: The generator is located indoors. Spills would flow across the highbay floor to drains connected to a secondary containment system in the basement. Additionally, flows would be maintained inside the highbay and secondary containment systems by berms across each doorway (see Photograph 1).

Photograph 1 – Berm Across Doorway



Miscellaneous Drums of Oil

Quantity: Approximately 600 gallons of new and recycled Shell Diala AX oil is contained within 55-gallon metal drums stored in various locations in the highbay. The maximum credible spill is the entire contents of a single drum, or 55 gallons.

Direction: Spills could potentially flow across the highbay floor to drains connected to a secondary containment system in the basement. Additionally, flows would be maintained inside the highbay and secondary containment systems by berms across each doorway.

AST

Quantity: Although unlikely, the maximum potential discharge of the AST is 40,000 gallons.

Direction: A release from the AST would flow into the 44,000-gallon concrete secondary containment unit in which it resides. The unit would contain the entire contents of the AST. In the unlikely event that the fire suppression system releases more that 4,000 gallons of fluid at the same time as a total tank failure, an overflow of the secondary containment unit could occur. Such overflow would flow south to a storm drain that discharges into adjacent Ten Site Canyon.

Transfer Piping and Equipment

Quantity: A rupture or leak in the transfer piping between the AST and the pulsed power generator could discharge less than 1,000 gallons.

Direction: Releases outside the building would either flow to the AST secondary containment unit or collect in the immediate area. A release inside the building would remain in the trench in which the transfer piping is located.

2. STORAGE TANKS AND CONTAINMENT STRUCTURES

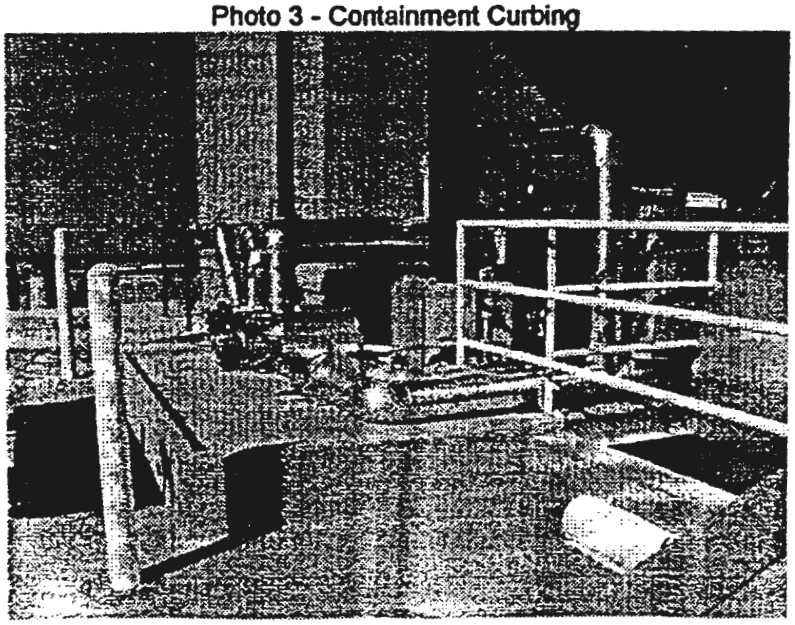
To prevent discharged oil from reaching a navigable water of the U.S., appropriate storage tanks and containment structures, and ancillary equipment and management procedures are in place at the Atlas facility. The following sections address items associated with the storage tanks and containment structures including facility drainage, storage tank descriptions, secondary containment and its drainage, integrity testing, fail-safe engineering, and transfer operations.

2.1. Facility Drainage and Storm Water Considerations

The only storage area at the Atlas facility that is exposed to storm water is the AST and its associated secondary containment unit, transfer pump, and piping. To reduce both exposure and storm water accumulation within the secondary containment unit, a canopy covers the AST and its equipment. A curb also surrounds the equipment and piping to prevent storm water run-on. See Photographs 2 and 3.

Photograph 2 - AST in Secondary Containment and Under Canopy Cover

Photo 3 - Containment Curbing



Storm water drainage from this diked storage area will occur infrequently. There is no drainage outlet or discharge valve within the secondary containment structure, and accumulations are typically left to evaporate. If the secondary containment unit must be drained for either personnel safety or proper equipment operation, a manually operated portable sump pump will be located in the sump pit on the southwest side of the unit to remove accumulations. The pump will be removed when not in use. Discharge operations will be conducted as described in Section 2.4.

2.2. Storage Tank Description

The two oil storage vessels in use at the Atlas facility are the AST located outside the building and pulse powered generator located in the highbay. The AST was designed and constructed according to the Standard Specifications of the American Petroleum Institute (API), and has an interior coating suitable for extended exposure to Shell Diala AX Oil. The tank is seismically restrained in accordance with Uniform Building Code Zone 2B requirements. The process oil system is installed according to NFPA 30 for Class IIIB liquids. Additional information on the AST is included in Appendix C.

The 650-ton pulse powered generator is comprised of 12 capacitor units forming a collective capacitor bank design. Oil is housed within the units as an insulating medium. The units have been tested to ensure functionality and compatibility with their use.

The First Article Tank is currently not being, but may be placed into service if needed as a backup unit for the Marx modules comprising the pulsed power generator. It is not used to store oil.

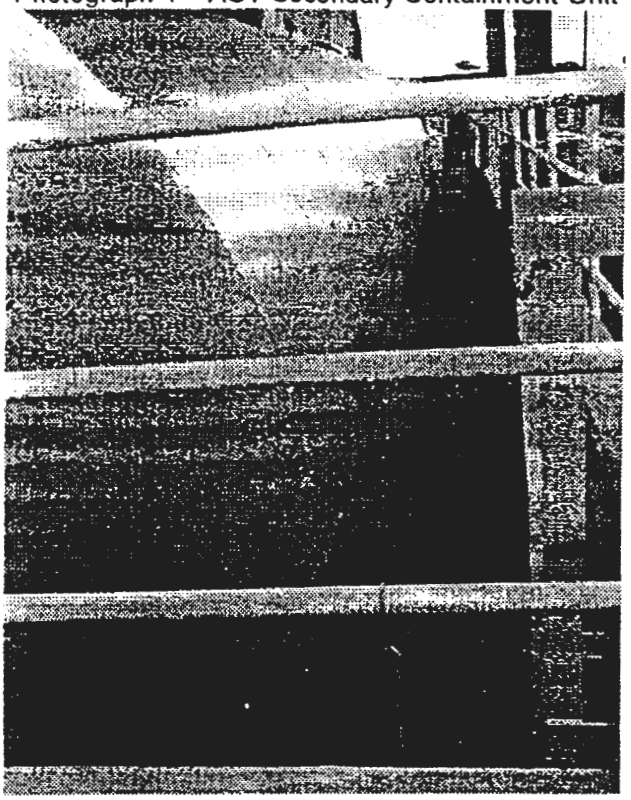
2.3. Secondary Containment

Two separate containment systems are currently in place for the Atlas oil system. One provides containment for the aboveground storage tank located outdoors on the south side of TA-35-125. The second addresses the pulse powered generator and additional oil stored in drums and other containers within the building.

The 40,000-gallon AST is located within a concrete secondary containment unit that is covered by a canopy and equipped with lightning protection and a deluge fire suppression system containing aqueous fill forming foam (AFFF) (see Photograph 4). The containment unit measures 54 long feet by 18 feet wide by six feet deep, providing a storage capacity of approximately 44,000 gallons. This capacity is large enough to contain the entire contents of the tank contents plus an additional 10% freeboard for storm water or fire suppression fluid accumulations. A sump with an oil skimmer is located within the secondary containment unit, but there is no drainage outlet or discharge valve. The concrete containment area is sufficiently impervious to contain oil.

Above ground transfer piping and a transfer pump are located outside between the AST and building 125. The concrete pad in this location is sloped toward the secondary containment unit and a containment curb that drains to the secondary containment unit surrounds the transfer piping (see Photograph 3).

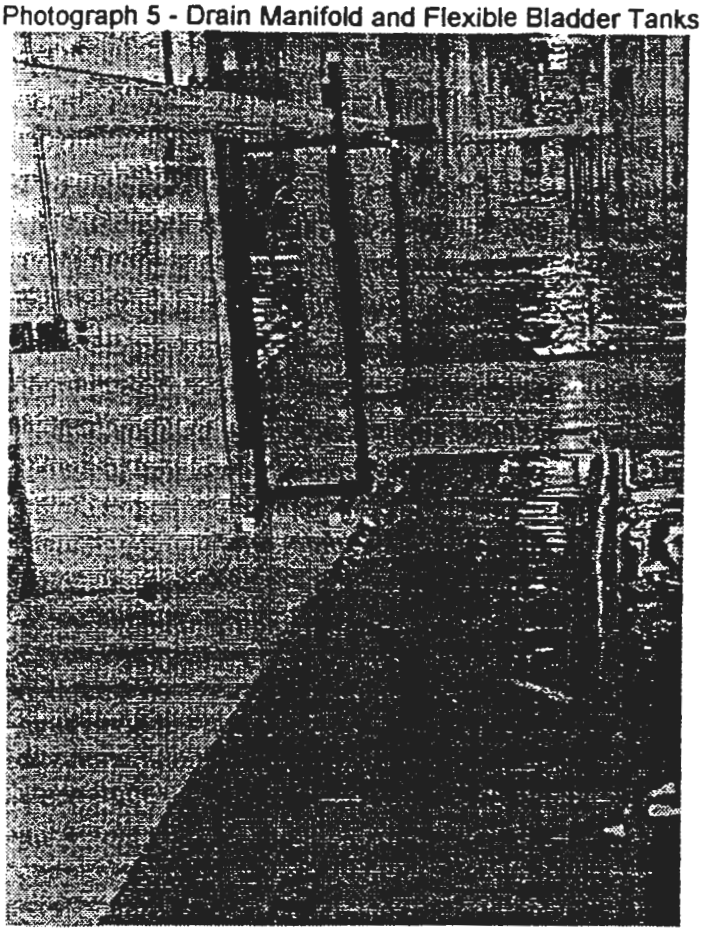
Photograph 4 – AST Secondary Containment Unit



The secondary containment system within the building is located in the basement below the highbay. The entire highbay floor has been sealed and two five-inch diameter and two three-inch diameter floor drains have been installed in the highbay floor. The drains were installed in locations identified as low points by pooled oil during the January 2001 spill event. Pipes from the floor drains lead to a five-inch manifold pipe in the basement. The manifold, which spans the majority of the length of the basement, has 50-gallon spill catchment tanks at each end to contain small spills. If spills exceed the capacity of the two 50-gallon tanks, the oil will gravity flow through the manifold pipe to six 5,000-gallon capacity flexible ATL Petro-Flex bladder tanks via a two-inch flexible hose running to each bladder (see Photograph 5). The bladder tanks are constructed of high-tenacity woven fabrics which are coated and impregnated with specialty synthetic rubber compounds and were manufactured with heat and pressure seams, heavy-duty flange connections, and reinforcements at all corners and openings. They are also resistant to temperature extremes, abrasion, corrosion, and the effects of long-term storage. All piping used in the secondary containment system is CPVC, impervious to the Shell Diala AX Oil.

The volume of the Atlas pulse powered generator (approximately 156,000 gallons) exceeds the capacity of the bladder tank containment system. In the unlikely event that the entire contents of the generator were released to the bladder tank containment system, overflow would be retained in the basement. The basement will function as final secondary containment. There are no outlets from the basement to the environment.

Photograph 5 - Drain Manifold and Flexible Bladder Tanks



2.4. Secondary Containment Drainage Operations

Storm water accumulation may occur within the AST secondary containment unit. If the accumulation must be drained, a manually operated portable sump pump will be placed on the southwest side of the unit. The pump will be removed when it is not in use.

Prior to discharge, accumulations must meet federal and state water quality standards. 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 facility ES&H prior to a discharge.
- Notify ESH-18 at 665-6085 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.)

2.5. Integrity Testing

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. Such testing must be conducted by a certified inspector. API standards 510 and 653 are the primary U.S. industry standards for storage tank inspection and testing.

Visual inspections will be performed by the operating group on a routine basis consistent with the particular site conditions. The time between inspections, however, shall not exceed one month. All storage vessels will be given a formal visual external inspection by a qualified inspector every five years or at the quarter corrosion-rate life of the shell, whichever is less. The time between internal inspections for the AST shall not exceed 20 years. The integrity testing interval for the AST will be primarily derived from the service history of the tank and manufacturer's recommendation. Annually, each Marx tank associated with the pulsed power generator is drained, by transferring oil back to the AST, and then internally inspected for debris collection, rust, mechanic damage to welds, deterioration of the gaskets or other mechanical problems.

Tank inspection history reports form the basis for integrity testing record keeping. Records shall include all examinations and tests, conditions found, thickness measurements, settlement measurements, repairs/alterations, and recommendations. Inspection records are retained in Appendix D of this document in accordance with Section 3.2.

2.6. Fail-Safe Engineering

Oil within the AST must be kept warm for use in the Atlas pulse powered generator. To accomplish this, a heater pump circulates oil from the tank through pipes within the confines of the containment unit and back into the tank. This piping and the heater pump housings are insulated and wrapped with heat tape. Internal heating coils are not used.

The AST is equipped with a liquid level indicator that provides level status to the Atlas operational status panel mounted on the south side of building 125 at the pump controls. As an additional control, at 90% of tank capacity a liquid level alarm is activated, automatically shutting down the transfer pump, closing the valves, and sounding an audible alarm. To ensure proper operation, operational personnel test the liquid level indicator weekly.

If fire protection sprinklers located above the AST are activated, an alarm will be triggered, and operational personnel will manually shut down all pumps will shut down and close all valves.

During filling of the pulse powered generator, voice and radio communication is maintained between the panel operator and personnel on the catwalk monitoring the liquid level.

2.7. Facility Transfer Operations

Oil is transferred through aboveground piping between the Atlas pulse powered generator and the AST for filtration and equipment maintenance and repair. Upon entering the building, transfer piping is located within designated floor trenches. This facility is not designated as a tank car or tank truck loading and unloading facility. Any removal or additional filling of the AST will follow facility specific and Department of Transportation procedures and regulations. Such procedures will be developed during the development of plans for disassembly of the Atlas pulse powered generator.

Two valves are located outside of the secondary containment curbing in a protected area where there is extremely low probability of any physical damage to the piping. The valves are oil system bleed valves, used to bleed air out of the piping system at the pump discharge high point during initial startup. The

valves were opened only during start up, and a portable container was used to catch any product that was released during the air bleed. When all air was removed from the system the valves were closed, the handles removed, the bleed valve discharge piping was plugged with a standard National Pipe Thread plug, and all valves were tagged to communicate equipment status. Should the system require air removal in the future, the disabling will be reversed and a portable container must again be used to catch the controlled release product from the bleeding process.

Transfer piping operation is guided by the following:

- Above ground piping will be drained and capped when not in service or in standby service and marked with origin.
- Pipe supports do not lead to abrasion or corrosion and allow for normal expansion and contraction.
- All piping and equipment in vehicle access areas is clearly marked by appropriate signs, and bollards are in place for protection.
- Regular inspection of the piping and equipment is conducted.
- Trenches, curbing, and sumps are of sufficient capacity to contain normal spills.

3. ADDITIONAL SPCC REQUIREMENTS

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

3.1. Inspections

In addition to the integrity testing of the AST described in Section 2.5, several other types of inspections related to oil spill prevention are performed at the Atlas facility. These inspections are outlined below. Additional information pertaining to all inspections conducted at the Atlas facility is contained in the *Atlas Inspection and Maintenance Plan: Scheduled Inspection and Maintenance Requirements and Procedures*. This document provides a description of the equipment or material to be inspected, outlines inspection criteria, provides inspection forms, and specifies required maintenance activity.

Daily Inspections (on workdays)

Atlas generator walk around: Daily walk arounds are performed to observe changes in the conditions of gaskets and any previously identified leaks. Noteworthy observations are documented in writing on an inspection form, and any deterioration of gasket conditions or worsening of leaks is brought to the attention of the Operations Officer to evaluate the need for response.

Weekly Inspections

Atlas oil transfer and filtering system: Water and oil accumulation in the AST secondary containment unit and the condition of this accumulation is monitored. (Accumulation volumes requiring discharge are managed in accordance with Section 2.4.) Pressure drop across the oil system filters is checked to determine when the filter should be replaced (pressure drop exceeding 10 psi). Exposed oil system pumps, plumbing, and piping are inspected for leaks and pinholes. The oil control center indicator lights are checked for burned out bulbs, and the level meter for the 40,000-gallon AST is checked to determine that there are no unknown losses from the oil system.

Spill control material: Spill control materials in several locations within the Atlas highbay are inventoried to assure that they are adequate and that any used materials were replaced in a timely manner.

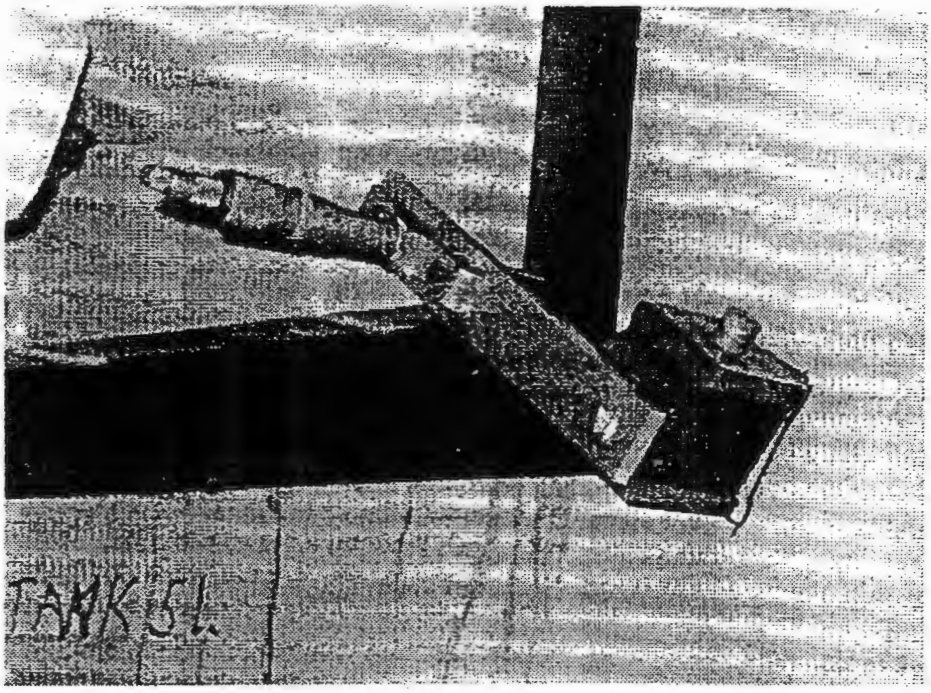
Oil berms: Flexible berms are located at the doors to the Atlas highbay. The joints between these berms and the floor are visually inspected for deterioration.

Housekeeping: Inspections are performed to assure the cleanliness and orderliness of the Atlas facility.

Inspections Occurring Once Every Two Weeks

Marx tank gaskets: Failure of the nylon-reinforced rubber gasket/diaphragm between the Marx tanks on the pulsed power generator and the transmission line tanks could cause a large spill event. Therefore, two types of inspections are performed once every two weeks. These include a visual inspection of the surface condition for micro cracking, pinhole seepage, and material deterioration, and micrometer measurement to detect deflection of the gasket (see Photograph 6). The interval of these inspections may be extended to once per month if warranted by experience.

Photograph 6 - Micrometer Measurement of Marx Tank Gasket



Monthly Inspections

High and low-level oil monitors: The high and low-level float detectors for the oil system on the pulsed power generator are checked for accuracy.

Tri-plate tank attachment ring gaskets: The Tri-plate tanks attachment ring gaskets provide an oil seal between the inside ends of the transmission line tanks and the central attachment ring. Gasket failure could result in an oil spill of approximately 25,000 gallons. The gaskets are inspected for extrusion of the gasket and evidence of oil leaks.

After-shot Inspection

Bottom Insulator inspection: The polyurethane insulator that provides a seal between the lower target chamber vacuum and the oil-filled volume of the transition section is visually inspected for micro cracks, oil leaks, and sagging.

Quarterly Inspection

Tri-plate insulator inspection: Insulators between the transmission line plates are inspected every three months for mechanical damage and dirt accumulation. The inspection process is also combined with routine cleaning of the insulators using a bubble-free filtered oil jet.

Yearly Inspection

Tank inspection: Each Marx tank is drained by transferring oil back to the AST and then inspected for debris collection, rust, mechanical damage to welds, deterioration of the gaskets or other mechanical problems.

Five-Year Inspection

Tank inspection: A formal visual external inspection is conducted by a qualified inspector.

3.2. Record Keeping

The inspections identified in Section 3.1 are documented on the applicable forms found within the *Atlas Inspection and Maintenance Plan: Scheduled Inspection and Maintenance Requirements and Procedures.* These inspection reports identify the date the inspection was performed, noted observations or measurements, and the name or initials of the inspector. Completed inspection reports will be maintained in the SPCC Plan within Appendix A.

Additional records that will be kept as they are generated include spill reports, secondary containment unit storm water discharge records, and training records. In the event of a spill, the spill tracking form in Appendix C will be used to describe the spill, corrective actions taken, and plans for preventing recurrence. Copies of spill reports will also be retained in Appendix C. Storm water discharge records will be retained in Appendix B, and training records will be maintained with the LANL Employee Development System (EDS) and in accordance with LANL's Training Standard LS113-09.0, *Training Documentation*. As applicable, any additional training documentation will be maintained in Appendix D.

All inspection records, spill reports, and other applicable data and documentation will be kept with this Plan and retained for a period of three years. All original records will be kept with the SPCC Plan in the Atlas Control Room. A copy of all SPCC records will be forwarded to the FMU to be kept in their central building records. When the operating group ceases operations and vacates the space, all original records will be transferred to the FMU.

3.3. Security

SPCC Plan requirements dictate that storage facilities should be fenced and locked or secured when the facility is not attended or in operation. There are no fences around the Atlas facility, so security is maintained primarily by restricting access to the facility. The site is located within TA-35, which is accessible only to DOE badge holders, and LANL security personnel visually inspect badges prior to authorizing entrance to the area. During working hours, access to building TA-35-125 and the AST located outside is restricted to authorized personnel. Building TA-35-125 is locked during non-working hours. LANL security personnel also regularly patrol the facility and its surrounding area.

In addition to restrictions on facility access, pumps and valves are locked out and tagged out or disabled by operational personnel when not in operation. Above ground piping is capped or blank flanged when not in service or in standby service for an extended period of time.

Facility lighting is sufficient to facilitate the discovery of a spill. The interior areas of building TA-35-125 housing the Atlas pulse powered generator, oil storage drums, and the building's spill containment system are well illuminated. Outside the building, multiple streetlights are located along the roadway adjacent to the AST and there are lights under the canopy covering the AST and its secondary containment unit.

3.4. Training

40 CFR Part 112.7 (10) states, "Owners or operators are responsible for properly instructing their personnel in the operation and maintenance of equipment to prevent the discharge of oil and applicable pollution control laws, rules and regulations." To fulfill this requirement, formal employee training is conducted at least annually, and more often when needed, to ensure that all site workers have an adequate understanding of the SPCC Plan for the facility and the individual responsibilities of each involved employee. Training topics include:

- goals and objectives of the SPCC program,
- additional applicable pollution control laws, rules, and regulations,
- practices for preventing spills,

- procedures for responding properly and rapidly to spills,
- protocol used to report spills,
- operations and maintenance of equipment,
- spill events or failures,
- malfunctioning components, and
- recently developed precautionary measures.

These and other associated topics may also be covered during routine employee meetings. In addition to the annual training, Atlas operational and facility personnel are required to read Hazard Control Plan (HCP) P-22-2001-04, titled Oil Spill Prevention, Control and Countermeasures. This HCP addresses oil spill control and countermeasures specific to the use of Shell Diala AX oil in the Atlas facility.

Training activities are documented in the LANL Employee Development System (EDS) and in accordance with LANL's Training Standard LS113-09.0, *Training Documentation*. Informal briefings are documented by recording the attendance and maintaining a file of the meeting roster. Training documentation will be maintained in the SPCC Plan within Appendix D.

3.5. Spill Prevention, Response & Reporting

Spill prevention for the Atlas facility is achieved primarily through proper implementation of the SPCC Plan. This effort includes training employees on appropriate spill prevention and work procedures and performing inspections and maintenance activities to minimize the potential for equipment failure. Work is also performed using LANL's five step Integrated Safety Management approach, which evaluates a task and identifies potential hazards such as a spill event. The designated individual for the Atlas facility who is accountable for oil spill prevention and who reports to line management is the P-22 Operations Officer.

Spill response measures include both the proper training of facility personnel and the use of on-site spill controls. Atlas operational and facility site workers are trained in spill response procedures through the SPCC Plan training program and HCP P-22-2001-04, titled Oil Spill Prevention, Control and Countermeasures. The Atlas Operations Officer, John Telford, has also been trained in oil spill management by the National Spill Control School, Texas A&M, Corpus Christi, TX.

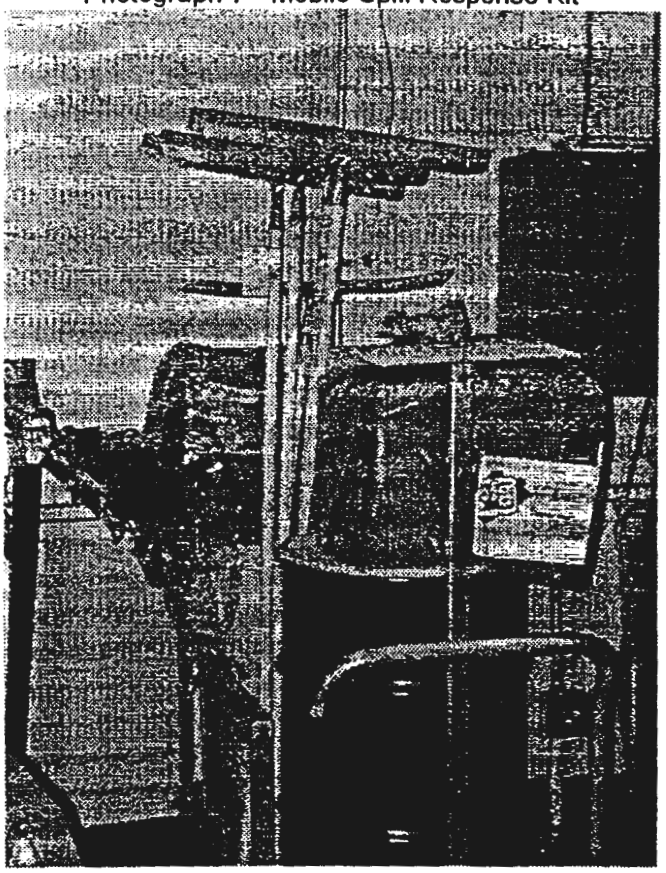
On-site controls which include oil-only wiping cloths, absorbent matting, 8" diameter booms, 4" diameter booms, granulated absorbent, squeegees, wringers, oil-only wet vacuums, portable pumps, pop-up swimming pool catchbasins, plug and patch kits, diversionary dikes, gloves, assorted tools, and personal protective equipment are organized into spill control stations located on the north, south, and west sides of the pulsed power generator and in a mobile unit near the AST (see Photograph 7). Spill control material locations are identified in HCP P-22-2001-04, in postings on the walls of the highbay near emergency evacuation signs, and as part of site specific training. At a minimum, each spill control station is equipped with:

- a 30-55 gallon container of loose absorbent,
- a package of brown oil-only wiping towels,
- a large roll of oil-only wiping towels,
- several booms,
- squeegees, and
- brooms.

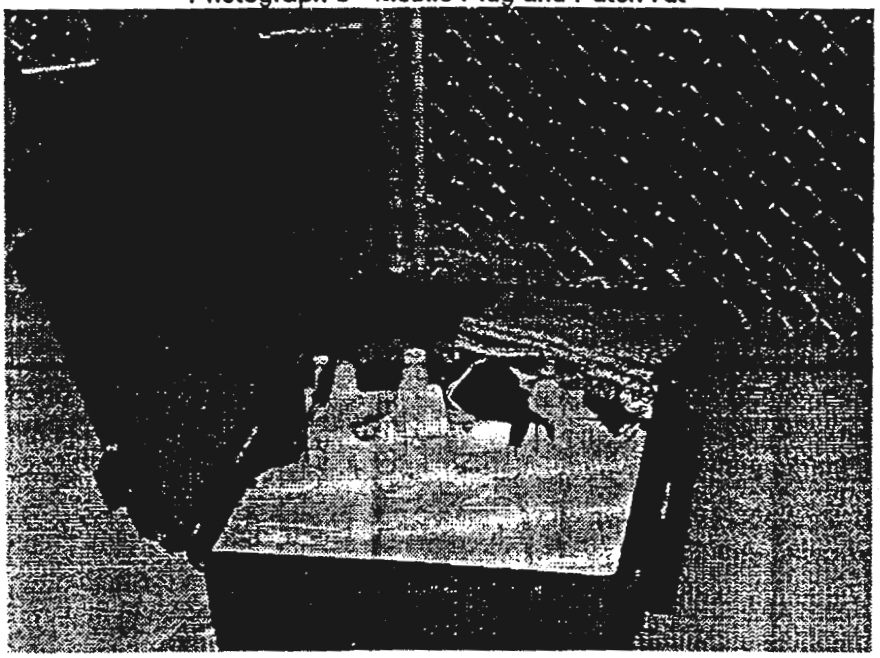
In addition to the minimum equipment, the north side station contains a vacuum cleaner designed specifically to pick up oil without generating an oil mist, the west side station contains a small self-inflating portable containment pool, and the south side station contains a plug and patch kit (see

Photograph 8). This kit contains soft pine plugs and wedges of differing sizes and geometries, a variety of rubber patches, and assorted tools.

Photograph 7 - Mobile Spill Response Kit



Photograph 8 - Mobile Plug and Patch Kit



General response measures for multiple spill scenarios are described below. Additional guidelines can be found in HCP P-22-2001-04, titled Oil Spill Prevention, Control and Countermeasures.

Small Spills (under one quart): Material will be wiped up with brown oil-only absorbent wipes. As wipes become saturated with oil, a wringer station is used to remove oil from the wipe so that the wipe can be reused. If the wipe is no longer usable it is discarded. All waste materials associated with a spill will be disposed of in accordance with LANL, state and federal regulations.

Medium Spills (up to 25 gallons): The initial spill response activity is to stop the flow of oil from the spill. If possible, the wet vacuum cleaner is then used to pick up the bulk of the liquid. This method allows the spilled oil to be reused or recycled. The spill area can then be cleaned with oil-only absorbent wipes, granular absorbent, or other applicable methods.

Large Spills (exceeding 25 gallons): Such spills will most likely require utilization of the secondary containment system in the basement. Rubber squeegees will be used to push standing oil into the floor drains. Pools of oil may be recovered with portable pumps or with the wet vacuum cleaner. Booms will also be used to prevent the spread of oil to non-affected areas.

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 Operations Officer 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**.

In the event of any spill exceeding five gallons, the following Atlas facility personnel will be notified:

Name	Title	Work Phone	Pager	Home	Cell
John Telford	P-22 Operations Officer	5-4229	996-4044	672-0299	699-1009
Jack Shlachter	P-22 Group Leader	5-1888	104-8781		
Dave Scudder		5-1892			
Peter Turchi		5-0906			
24-hr on-call FMD	Facility Manager Designee		104-4444		

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.

3.6. Plan Amendment

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

In addition, in accordance with 40 CFR 112.5(b), a complete review and evaluation of this SPCC Plan will be conducted at least once every three years by the operating group and/or Facility Manager, and by

ESH-18. As a result of this review and evaluation, the SPCC Plan will be amended within six months of the review to include more effective prevention and control technology if:

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

Changes to inspection forms 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

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

Appendix D

Training Records

Appendix E

Materials and Construction Information

1. Tank Holiday Testing
2. Acceptance Verification of Tank
3. Specifications Section 15714 Rev. 2, Process Oil Storage System

Appendix F

Group and Facility Contacts

Facility Owner/Operator and Contacts

Facility Owner
Physics Division Facility Management (FMU 77)
University of California (UC)
Los Alamos National Laboratory

Facility Owner Contacts

Name	*Phone*	*Pager*	*Title*
David Riker	667-6555		Facility Manager
Richard Gutierrez	665-8609	104-3753	Facility Coordinator
Stephanie Archuleta	667-4779	104-2997	ES&H Team Leader
On call FMD		104-4444	Facility Manager Designee
Susan Seestrom	667-4117		Physics Division Director

Facility Operator
Hydrodynamics & X-Ray Physics Group (P-22)
University of California (UC)
Los Alamos National Laboratory

Facility Operator Contacts

Name	*Phone*	*Pager*	*Title*
Jack Shlachter	665-1888	104-8781	P-22 Group Leader
John Telford	665-4229	996-4044	P-22 Operations Officer