SPILL PREVENTION CONTROL AND COUNTERMEASURES PLAN

TA-3-73
ASPHALT BATCH PLANT

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
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### Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>API</td>
<td>American Petroleum Institute</td>
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<tr>
<td>AST</td>
<td>Aboveground storage tank</td>
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<tr>
<td>CFR</td>
<td>Code of Federal Regulations</td>
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<tr>
<td>EDS</td>
<td>Employee Development System</td>
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<td>EM&amp;R</td>
<td>Emergency Management &amp; Response</td>
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<td>EPA</td>
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<td>ERRT</td>
<td>Emergency Response Recovery Team</td>
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<td>ES&amp;H</td>
<td>Environment, Safety, and Health</td>
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<td>ESH-18</td>
<td>LANL Water Quality &amp; Hydrology Group</td>
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<td>Facility Manager</td>
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<td>FMU</td>
<td>Facility Management Unit</td>
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<td>Johnson Controls Northern New Mexico</td>
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<td>MOI</td>
<td>Maintenance Operating Instruction</td>
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<td>NPDES</td>
<td>National Pollutant Discharge Elimination System</td>
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<td>Physics Division Facility Management</td>
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<td>Spill Prevention Control and Countermeasure</td>
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<td>Storm Water Pollution Prevention Plan</td>
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<td>Technical Area 3-73</td>
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<td>United States</td>
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<td>Utilities and Infrastructure</td>
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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:  

Levi Trujillo  
Registered Professional Engineer  
Project Manager  
JCNNM Construction Dept. Los Alamos National Laboratory  

Date: 02-26-02
Management Approval

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

Facility Owner Approval:

Approved by: David Padilla
FWO-UI Facility Manager

Date: 2/26/02

Facility Operator Approval:

Approved by: Larry McKnight
JCNNM Central Maintenance Manager

Date: 3/22/02
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.

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<th>Title</th>
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<tr>
<td>2/26/02</td>
<td>[Signature]</td>
<td>[Name] Facility Manager, [Title]</td>
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1. INTRODUCTION

The Spill Prevention Control and Countermeasure (SPCC) Plan is a requirement of the Oil Pollution Prevention Regulation, 40 Code of Federal Regulations (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.

This SPCC Plan addresses the following Aboveground Storage Tanks (AST's)
- One 10,000-gallon aboveground tank containing asphalt 85-100.
- One empty 7,400-gallon reclamite tank.
- One empty 200-gallon aboveground tank that previously contained diesel fuel.
- One empty 140-gallon aboveground tank that previously contained kerosene.
- One oil drum storage area.

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 Technical Area 3-73 (TA-3-73) Asphalt Batch Plant is located within Los Alamos National Laboratory (LANL), between Sandia Canyon and Los Alamos Canyon, at the junction of Diamond Drive and East Jemez Roads. The Plant itself is used for the manufacture of asphalt bituminous materials. The areas surrounding the plant are used for seasonal bulk storage of aggregates.

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

1.2. Facility Owner & Operator

The Facility Owner of the TA-3-73 Asphalt Batch Plant is the Facility Waste Operations - Utilities and Infrastructures (FWO-UI) FMU 80 Facility Director. FWO-UI is the agent of the owning division director responsible for the management and administration of FMU 80. As such, the FM is responsible for safely operating the facilities and for providing responsive and reliable facilities and services to support tenants' operational responsibilities.

The Plant is operated (for LANL) by the Johnson Controls Northern New Mexico (JCNNM) Control Maintenance Department, Roads and Asphalt Branch. It is under the management of LANL's FMU-80. A map in Appendix G shows the TA-03 Asphalt Batch Plant, storm water drainage areas, direction of storm water flow, GSIP locations, and other areas of concern.

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

1.3. Spill History

There have been no known reportable spills or releases of hazardous materials to the environment from October 1, 1989 through the present date, as documented in the Storm Water Pollution Prevention Plan for Asphalt Batch Plant and Road Facility (October 2001).
1.4. Potential Spill Predictions

Items within the Asphalt Batch Plant that possess a spill potential include the 10,000-gallon aboveground storage tank (AST) and miscellaneous drums of oil. Predictions of discharge quantities and flow directions for each follow.

10,000-Gallon AST

Quantity: The maximum capacity of AST No. 1968 is 10,000 gallons. A total of 6,000 gallons of asphalt 85-100 is typically stored in the tank. The tank has heating coils built in to heat the oil to 280 degrees Fahrenheit. In order for oil to be removed from the tank, it must be heated. When the oil is at ambient temperature, it turns solid; therefore, it is highly unlikely that the entire volume of the tank could be discharged as a liquid.

Direction: Due to the solid nature of the oil when unheated, it is not anticipated that any oil would travel to the lowest point of the secondary containment approximately 40 feet away. Any spills would flow to the south towards the lowest point of the secondary containment where the locked drain valve is located. Flows would be held within this area (see Photograph 1).

Photograph 1 – 10,000-Gallon AST Containing Asphalt 85-100
Oil Drum Storage Area

Quantity: Approximately 165 gallons (three 55-gallon drums) of gear oil, hydraulic oil, and Texatherm heating oil could be released should all three drums rupture. The drums are mounted on drum stands, have tap valves installed, and are in asphalt-bermed secondary containment with 463-gallons.

Direction: Any spills would be held by the asphalt secondary containment (see Photograph 2).

Photograph 2 – Three 55-Gallon Drums Containing Gear Oil, Hydraulic Oil, and Texatherm Heating Oil
50-Gallon Texatherm Heating Oil Tank

Quantity: The 50-gallon Texatherm oil fuel tank is located immediately south of TA-03-73-1968 (see Photograph 3). The tank is used to supply the heating coils in the hot mix plant for the 10,000-gallon AST through interior heating coils. A corrugated metal roof covers the tank and its associated piping and manifolds.

Direction: Should a rupture occur, the heating oil would flow south toward the lowest point of the secondary containment and would be contained at the locked valve (see Photograph 4).

Photograph 3 – 50-Gallon Texatherm Oil Fuel Tank

Photograph 4 – Secondary Containment for 50-Gallon Texatherm Tank
2. STORAGE TANKS AND CONTAINMENT STRUCTURES

To prevent discharged oil from reaching a navigable water of the U.S., appropriate storage tanks, containment structures, ancillary equipment, and management procedures are in place at the TA-3-73 Asphalt Batch Plant. 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, and transfer operations.

2.1. Facility Drainage and Storm Water Considerations

Storm water and snowmelt accumulations in the earthen basin in the southwest corner of the site are allowed to evaporate or infiltrate. The discharge valve for the basin is locked at all times. LIR 402-860-02.0, Locking and Tagging Equipment, Machinery and Systems, is followed for this system. The asphalt-berm containment is located outside and above the earthen secondary containment berm of the Asphalt Batch Plant. If the containment were to be exceeded, flow would enter the earthen secondary containment. Surface water flow does not impact the asphalt secondary containment.

Storm water accumulations and discharges from the SPCC secondary containment areas follow procedures that minimize the potential for pollution, as documented in the Storm Water Pollution Prevention Plan for Asphalt Batch Plant and Road Facility (October 2001), and the JCNNM Health and Safety Manual procedure, Storm Water Discharges from Secondary Containment. These procedures include notification, inspection, and approval prior to discharge.

Discharge operations will be conducted as described in Section 2.4.

2.2. Storage Tank Description

TA-03-1969 - 7,400-Gallon Reclamite AST No. 1969 (Empty and Not Used)

The 7,400-gallon reclamite tank is situated just west of building 03-225. Reclamite has been used in the past 9 years at the Asphalt Batch Plant. However, it is no longer used and site personnel indicate that the tank has been empty for several years. The tank is surrounded by an asphalt berm with a drainage trench on the south side. This trench directs flow down a steep embankment, where it is contained in a large dirt basin.

If the tank were to be used, it would be deficient in several areas. It is recommended that the tank be removed if no future use is planned.

TA-03-73A - 200-Gallon Diesel AST and
TA-03-73B - 140-Gallon Kerosene/Diesel AST (Empty and Not Used)

The 200-gallon diesel tank and the 140-gallon kerosene/diesel tank are located in the southeast portion of the Asphalt Batch Plant. The tanks are no longer used and have not contained fuel for over two years, and are scheduled to be hauled away for salvage. The tanks are made from commonly accepted metal and steel alloys used for manufacturing fuel storage tanks. The secondary containment structure for the tanks is an earth-berm containment.
TA-03-1968 - 50-Gallon Texatherm Oil Fuel Tank (Hot Mix Plant)

The 50-gallon Texatherm oil fuel tank is located in the southeast portion of the Asphalt Batch Plant and immediately south of TA-03-73-1968. The tank is used to supply the oil that is circulated through the heat coils of the 10,000-gallon AST No. 1968. A corrugated metal roof covers the tank and its associated piping and manifolds.

TA-03-73D - Drum Storage

Three 55-gallon drums are stored southeast of structure 71 in the western portion of the Asphalt Batch Plant. Three drums of gear oil, hydraulic oil, and Texatherm heating oil are used to supply the Asphalt Batch Plant for maintenance. The drums are mounted on drum stands and have tap valves installed. The drums are also within an asphalt-bermed secondary containment pad. The containment has a valve that should be locked or have the handle removed.

2.3. Secondary Containment

The earthen secondary containment area in Photograph 4 is used for the Asphalt Batch Plant and is large enough to contain oil from all areas mentioned above. The volume of this secondary containment system is approximately 11,000 gallons in the sump area alone. 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. The area to the north and west of the sump (the lowest point of the secondary) is slightly sloped toward the sump and would also contain any oil without impact to storm water run-off or run-on. An earthen berm is kept in place east of TA-3-73 to prevent storm water run-on from entering the site.

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 JCNM Environment, Safety, and Health (ES&H) prior to a discharge.
- Notify LANL Water Quality & Hydrology Group (ESH-18) at 665-4752 to obtain authorization for release and for testing of contaminants 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. American Petroleum Institute (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.

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. Facility Transfer Operations

Asphalt oil 85-100 is transferred from a truck tanker that arrives onsite on an as-needed basis. The oil is transferred using a pump, hose, and heater that shall be accessible to only authorized personnel. The tanker oil manifest record is checked by the Asphalt Batch Plant operator for verification prior to unloading. The oil is pumped into a flex hose with a heater, piped into the Asphalt Batch Plant through insulated piping, and back into the top of the AST. 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.

2.7. Fall-Safe Engineering

The level of liquid in the AST's is determined by periodic observation. There is no liquid level alarm system or other devices.
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 TA-3-73 Asphalt Batch Plant.

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 Asphalt Batch Plant. These inspections are outlined below. Additional information pertaining to all inspections conducted at the Asphalt Batch Plant is contained in the Multi-Sector Storm Water Pollution Prevention Plan for TA-3-73 Asphalt Batch Plant and Road Facility: This document provides a description of the area to be inspected, outlines inspection criteria, and provides inspection forms.

Weekly Inspections

TA-3-73-1968 Asphalt 85-100 Tank: To monitor the quantity used, the tank levels are checked prior to starting and at the completion of the manufacture of asphalt. This inspection also provides a means of inventory for the oil. The oil level is checked at least once a week by the Asphalt Batch Plant operator and recorded in the daily logbook.

Spill control material: Spill-control materials are located in Building TA-3-2138 just west of the Asphalt Batch Plant. Materials are replaced on an as-needed basis.

Monthly Inspections

Asphalt Batch Plant and Roads Facility: The entire facility is inspected on a monthly basis under the Storm Water Pollution Prevention Plan (SWPPP). An inspection report is completed and sent to ESH-18 the facility owner and operator. This report documents any item of non-compliance in accordance with the National Pollutant Discharge Elimination System (NPDES) permit.

Quarterly Inspections

Asphalt Batch Plant and Roads Facility: The entire facility is inspected on a quarterly basis by ESH-18 under the SWPPP. An inspection report is completed and sent to the facility owner and operator. It documents any item of non-compliance in accordance with the NPDES permit.

Annual Inspection

Formal documented walk-around inspections of the AST are performed at least annually. Formal inspections are recorded on the Walk-Around Inspection Form (Appendix A). Inspections are performed by the JCNNM Environmental Branch (HENV) and the JCNNM Roads superintendent or his designee.

Five-Year Inspections

Tank inspection: A formal visual external inspection is conducted by a qualified inspector per API 653 requirements every 5 years.

3.2. Record Keeping

Additional records that will be kept as they are generated include spill reports, secondary containment-unit storm-water discharge records, Asphalt 85-100 Oil Tank Inventory, and training records. In the event of a spill, the spill-tracking form in Appendix C will be used to describe the spill, the 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 JCNNM Environmental Branch Office. 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

The TA-03-73 Asphalt Batch Plant is fully fenced for security, and the main entrance gate is locked during non-working hours. Protection Technologies of Los Alamos (PTLA) routinely patrols the facility during non-working hours. Facility lighting is adequate for this facility and is sufficient to facilitate the discovery of a spill.

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 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.

Operations personnel who handle asphalt operations are trained in requirements and instruction for the operation of the Asphalt Batch Plant and other yard activities of the Roads Section at least annually under Maintenance Operating Instruction (MOI) Number 41-20-001(Appendix D) updated May 7, 1999. The topics covered at annual training and the names of personnel present during training are maintained by the JCNNM personnel at the facility. Informal training is conducted during daily briefings to remind personnel to inspect the SPCC location for maintenance needs and spill issues. Personnel who respond to spills are trained in the Laboratory’s procedures for waste generation and disposal. LIR 420-100-02.0, *Hazardous Waste Operations and Emergency Response Training Requirements*, are followed.

Training documentation will be maintained in the SPCC Plan within Appendix D.

3.5. Spill Prevention, Response & Reporting

Spill prevention for the Asphalt Batch Plant 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 Asphalt Batch Plant who is accountable for oil spill prevention and who reports to line management is the Operator of the Asphalt Batch Plant.

Onsite controls, which include oil-only wiping cloths, oil sponges, absorbent matting, 4-inch diameter booms, granulated absorbent, portable pumps, plug and patch kits, gloves, assorted tools, and personal protective equipment are located in storage Building 2138 to the west of the Asphalt Batch Plant (see Photograph 5).

Photograph 5 - Spill Kit

General response measures for gear oil, Texatherm oil fuel, and diesel fuel scenarios are described below. Additional guidelines can be found in the draft final procedure, Bioremediation of Hydrocarbon Spills at LANL.

**Spills on Asphalt, Concrete and Soil:** 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 the LANL Emergency Management & Response (EM&R) Office. 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. 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.

**Spills from Asphalt 85-100 Oil:** Due to the solid nature of Asphalt 85-100 oil when it is exposed to ambient temperature, a rupture or spill from this tank would best be contained by placing gravel aggregate on the material, picking it up as a solid, and treating it as a New Mexico Special Waste.
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 the event of any spill, the following TA-3 Asphalt Batch Plant personnel will be notified by the on call FMD:

<table>
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<th>Name</th>
<th>Title</th>
<th>Work Phone</th>
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<tr>
<td>James Trujillo</td>
<td>Operator and Teamster Supervisor</td>
<td>667-6111</td>
<td>104-7499</td>
<td>834-7563</td>
<td>699-3610</td>
</tr>
<tr>
<td>Benito Martinez</td>
<td>Laborer Supervisor</td>
<td>667-6111</td>
<td>N/A</td>
<td>351-1096</td>
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<td>Larry McKnight</td>
<td>JCNNM Central Maintenance Mgr.</td>
<td>367-5658</td>
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<td>Dave Padilla</td>
<td>FMU-80 Facility Manager</td>
<td>667-2408</td>
<td>996-4583</td>
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<td>24-hr on-call supervisor</td>
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<td>665-4763</td>
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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 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 U.S. Department of Energy 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 U.S. 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 FM, 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 (PE). 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 PE.
Appendix A

Inspection Reports and Test Records
# Walk-Around SPCC Plan

## General Site Information

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<td>Tank Contents</td>
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</tr>
</tbody>
</table>

### 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.):

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
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</thead>
<tbody>
<tr>
<td>Adequate lighting</td>
<td></td>
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<tr>
<td>Is facility fenced?</td>
<td>Yes</td>
<td>No</td>
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Any change in tank contents' volume?:

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
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<tbody>
<tr>
<td>Grounding Wires:</td>
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<tr>
<td>Inadequate</td>
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<td>N/A</td>
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Level Gauge:

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<th>Adequate</th>
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<th>N/A</th>
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<tbody>
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<td>Inadequate</td>
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Liquid Level Alarm System:

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<th>N/A</th>
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<td>Inadequate</td>
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<tr>
<td>N/A</td>
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</table>

Foundation Condition:

<table>
<thead>
<tr>
<th></th>
<th>Good</th>
<th>Poor</th>
<th>N/A</th>
</tr>
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<tbody>
<tr>
<td>Adequate</td>
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<td>Inadequate</td>
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<tr>
<td>N/A</td>
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</table>

Flanges, Valves, Nozzles and Piping:

<table>
<thead>
<tr>
<th></th>
<th>Good</th>
<th>Poor</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adequate</td>
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<tr>
<td>Inadequate</td>
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<tr>
<td>N/A</td>
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</table>

Ladders or Stairs:

<table>
<thead>
<tr>
<th></th>
<th>Good</th>
<th>Poor</th>
<th>N/A</th>
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</thead>
<tbody>
<tr>
<td>Adequate</td>
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<td></td>
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<tr>
<td>Inadequate</td>
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<tr>
<td>N/A</td>
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</tbody>
</table>

Transfer Pump:

<table>
<thead>
<tr>
<th></th>
<th>Good</th>
<th>Poor</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adequate</td>
<td></td>
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<td></td>
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<tr>
<td>Inadequate</td>
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<tr>
<td>N/A</td>
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</tbody>
</table>

## 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.):

<table>
<thead>
<tr>
<th></th>
<th>Locked</th>
<th>Unlocked</th>
<th>No valve</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storm water discharge valve:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>No</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Sump? (if yes, describe in comments below):

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

Containment liner (for earthen berms):

<table>
<thead>
<tr>
<th></th>
<th>Good</th>
<th>Poor</th>
<th>No liner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adequate</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Inadequate</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>N/A</td>
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<td></td>
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</tbody>
</table>

Storm Water Accumulation in Containment Unit:

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

Oil accumulation in dike or collection sump:

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

## AST 1968 Condition

Describe general condition of AST (changes in the; any previously identified leaks, new leaks and potential problems; secondary containment condition; etc.):

## Comments:

## Items Requiring Corrective Actions:

## Corrective actions taken (give dates):

## Inspector's signature: Date:
Above Ground Storage Tank

Records for

Inservice Inspection

Using

API 653 and 40 CFR 112

TA 03 -73 Asphalt Batch Plan

Structure ID: 1968-AST

10,000 Gal. Asphalt Emulsion
This tank is insulated, so we can not do a complete inspection.

This tank is skid mounted and does not have a bottom angle.

N/A

N/A

There is no evidence of leakage through the insulation.

No evidence of leakage.

N/A

Due to the insulation we can not inspect the seams.

Due to the insulation we can not record the seam location.

N/A

Due to the insulation we can not inspect the welds.
Due to the insulation we cannot inspect for pads.

Due to the insulation we cannot inspect these weld joints.

Due to the insulation we cannot inspect the shell plate.

Due to the insulation we cannot inspect the flanges.

The insulation appears sound.

N/A

The valve on the south end is wet with oil. There is oil on the ground below this valve.

N/A

All of the piping is mounted on the skid with the tank. Any movement would move the whole skid.

The tank is vented to atmosphere.

N/A

N/A

The temperature controller is damaged and the temperature gage is not calibrated.
<table>
<thead>
<tr>
<th>Question</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensure the hardware device is above valves and valve ends.</td>
<td>N/A</td>
</tr>
<tr>
<td>Is the upper guide and lower guide housing floating or pinned?</td>
<td>N/A</td>
</tr>
<tr>
<td>Ensure hinge pin is tight.</td>
<td>N/A</td>
</tr>
<tr>
<td>Bring the sheave on the sliding rope head and proper movement of rope</td>
<td>N/A</td>
</tr>
<tr>
<td>Are the size and construction material of the rope proper?</td>
<td>N/A</td>
</tr>
</tbody>
</table>
Inservice Inspection of Tank Foundations to API 653

Structure ID: 1968-AST  Read Inspector: Kelly Bingham

Update Date: 2/3/97  Update By: KLB  Inspection Date: 2/3/97

Leakage: N/A  Tank ID#: 4

Leakage Readings:

When required, leakage readings are shown on the same drawings as the ultrasonic thickness readings.

What is the condition of the concrete ring?

N/A

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:

N/A

Check that run of rainwater from the shell drains away from the tank:

The tank is skid mounted and sits on railroad ties. There is no Berm around this 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
Check for areas where cleaning of tank has left rock fill exposed, which indicates hydrocarbon leakage.

N/A

Check for settlement into the base which could affect the flow under the tank base.  N/A

The railroad ties the skid sits on are on a gravel base. But the bottom of the tank does not touch the ground.

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

The Drainage appears to move water away from the tank skid.

Check operator's condition of dike/drain.

There is no dike or drains.

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

There is no trash or vegetation around this tank.
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

<table>
<thead>
<tr>
<th>Date</th>
<th>Spill Location</th>
<th>What Spilled</th>
<th>Quantity Spilled</th>
<th>Corrective Action Taken</th>
<th>Plans to Prevent Recurrence</th>
</tr>
</thead>
<tbody>
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Appendix D

Training Records
ASPHALT PLANT OPERATION

This procedure provides requirements and instruction for the operation of the asphalt plant and other yard-activities of the Roads Section.

This instruction applies to all JCNNM personnel responsible for work performance in support of the asphalt plant and in the Roads Section yard.

Manager, Roads Section

Levi Trujillo, Supervisor, Roads, MDSR
Loyola M. Torres, Technical Writer, Maintenance Department, MDDO
Larry G. McKnight, Manager, Maintenance Department, MDDO

Prepared by
Reviewed by
Approved by

Prepared by: (Original Signature on File) 5-13-99
Levi Trujillo, Supervisor, Roads, MDSR

Reviewed by: (Original Signature on File) 5-13-99
Loyola M. Torres, Technical Writer, Maintenance Department, MDDO

Approved by: (Original Signature on File) 5-13-99
Larry G. McKnight, Manager, Maintenance Department, MDDO
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<table>
<thead>
<tr>
<th>TOPIC</th>
<th>PAGE</th>
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<td>1.0 TERMS, DEFINITIONS, ACRONYMS, AND ABBREVIATIONS</td>
<td>3</td>
</tr>
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</tr>
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<td>4</td>
</tr>
<tr>
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</tr>
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<tr>
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<td>8</td>
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<td>11.1 HEAT TRANSFER OIL HEATER PRE-OPERATIONAL INSPECTION</td>
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<tr>
<td>11.2 ASPHALT PLANT START-UP CHECKLIST</td>
<td>17</td>
</tr>
<tr>
<td>11.3 ASPHALT HOT PLANT SHUTDOWN CHECKLIST</td>
<td>19</td>
</tr>
</tbody>
</table>
1.0 TERMS, DEFINITIONS, ACRONYMS, AND ABBREVIATIONS

1.1 Asphalt Plant - A machine designed to heat asphalt and aggregate mix to specified proportions, and discharge it into a truck for delivery to the job site.

1.2 ESTD - Engineer Service Civil Structural

1.3 Heat Transfer Oil Heater – A machine designed to heat and circulate oil through a series of coils, which heat the asphalt in a separate tank.

1.4 Hot Mix - The final product of asphalt and aggregate, properly heated and mixed to specifications.

1.5 Mix Design - An engineered blend of asphalt and aggregates that yield a hot mix of sufficient voids and workability to ensure a durable pavement under suitable compaction.

1.6 Yard Operation - Movement of equipment, use of heavy equipment to move stockpiles, and associated movement of containers. Attachment of equipment and other items in the yard. Items moved by this document will be performed as Skill of Craft or using a site Activity Hazard Analysis (AHA).

2.0 RESPONSIBILITIES

2.1 The Maintenance Department manager is responsible to ensure the implementation of this procedure.

2.2 The Roads Section manager is responsible for the operation of the asphalt plant. The manager will establish the job qualifications for craft personnel, arrange for necessary training, establish and maintain program records and documentation, and enforce procedure requirements during work performance.

2.3 The Roads Section supervisor is responsible for determining the necessary qualifications and training required to perform work supporting asphalt plant operation, for developing the necessary procedures and checklists, and for ensuring that the program records and documentation are properly completed.

2.4 The Roads Section supervisor and/or operation foreman will review the requirements of the work request and must perform a pre-job walk-down (scope of work). The supervisor and/or foreman shall assure the work package is complete and includes required permits.
prior to assigning craft personnel to perform work. The supervisor shall approve all changes in the scope of work and changes must be accepted by the FM or designated representative.

2.5 The operator foreman is responsible for the assignment of qualified and properly trained craft personnel to this work. The foreman will ensure that the necessary materials, equipment, tools or other resources needed to complete the work area available to the craft personnel, that access to the work site is properly arranged and coordinated, by the activity hazard analysis. The foreman will also ensure that the craft personnel complete the work according to the procedure and the work checklist(s), as appropriate, and that all documentation is verified correct.

2.6 The operator craft workers are responsible for the workmanship quality to comply with this procedure and for using safe work practices to complete the work. The craft workers shall document the work completed on the proper forms shown in the attachments, as applicable.

2.7 The craft workers are responsible for understanding the hazards and hazard controls identified in the Activity Hazard Analysis (AHA) for the work tasks to be performed. This includes stopping work and notifying the JCNNM supervisor or foreman when a change in the scope of work is identified, or processes or hazard conditions change.

2.8 The Work Control Engineer prepares a Site Activity Hazard Analysis and the foreman reviews the Site Activity Hazard Analysis with shop personnel to familiarize them with the specific hazards and safety requirements associated with the required work, and to confirm that all employees have the required training.

3.0 SAFETY

3.1 The work request package must be complete, and include all required permits and an AHA to address all environmental, health and safety related concerns prior to being assigned to the craft personnel. The foreman will review the AHA as the pre-job safety checklist with all assigned personnel before any work starts.

3.2 The foreman must have a pre-job briefing with the craft workers to ensure that assigned personnel are instructed on the job assignment, training requirements, job site procedures, necessary safety equipment, the appropriate MSDS information, and the hazards involved
in the work by reviewing the contents of the work package before the job is started at each work location.

**CAUTION: HOT ASPHALT CAN CAUSE SEVERE BURNS.**

3.3 Refer to the AHA or SAHA to know which personal protective equipment must be worn during the performance of work in support of the asphalt plant in the Roads Section yard.

3.4 No personnel shall be allowed to enter confined spaces without proper training and written procedures for each confined space.

3.5 All personnel shall comply with current lock out/tag out procedures.

4.0 REFERENCES

4.1 NATIONAL CODES AND STANDARDS

4.1.1 29 CFR 1926.600, Equipment Safety

4.1.2 29 CFR 1926.150, Fire Protection

4.1.3 New Mexico State Environmental Regulations

4.2 DOE ORDERS AND REGULATIONS

4.2.1 Order 232.1A, Occurrence Reporting and Process of Operations Information

4.2.2 Order 1324.5B, Records Management Program

4.2.3 Order 4330.4B, Maintenance Management Program

4.2.4 Order 5480.19, Conduct of Operations Requirements for DOE Facilities

4.3 LANL PROCEDURES

4.3.1 AR 1-6, Safety Analysis and Review System
4.3.2 LIR 230-03-01, Facility Management Work Control

4.3.3 LIR 300-00-02, Documentation of Safe Work Practices

4.3.4 LIR 402-10-01, Hazard Analysis and Control for Facility Work

4.3.5 LIR 404-00-03, Hazardous and Mixed Waste Requirements for Generators

4.3.6 LP 106-01, Lock out/Tag out for Control of Hazardous Energy Sources for Personnel Safety (Red Lock Procedure)

4.3.7 LP 106-02, Lock out/Tag out for Control of Equipment and Systems Status (Blue Lock Procedure)

4.4 JCNNM PROCEDURES AND MANUALS

4.4.1 HSE-Manual, Safety Section:

9. Electrical Safety
13. Fire Safety
16. Forklifts
19. Hazard Analysis and control for Facility Work
24. Lock out/Tag out
25. Machine Guarding
29. Personal Protective Equipment
37. Spark and flame Producing Operations

4.4.2 HSE-Manual, Industrial Hygiene Section:

9. Hazard Communication
10. Hazardous Chemical Storage
11. Hearing Conservation
19. Safety Showers and Eyewashes

4.4.3 HSE-Manual Environmental Section:

3. Drum Storage, Handling, Labeling, and Disposal
11. Hazardous Waste Generation, Management, and Disposal
20. Spill Reporting and Response Procedure

4.4.4 AP 37-60-001, Work Provider Work Order Process
4.5 MANUFACTURER'S LITERATURE

4.5.1 Barber-Greene Operation and Service Manual

4.5.2 Gordon-Piatt Instruction Manual for Heat Transfer Oil Heater

5.0 QUALIFICATIONS AND TRAINING

5.1 QUALIFICATIONS

Personnel performing tasks to this procedure must have a working knowledge of asphalt plant operations and at least 300 hours experience with assisting in operations at the TA-3, SM 73 plant, working under the direction of a qualified operator.

5.2 TRAINING

5.2.1 TECHNICAL TRAINING

MDSO Training Coordinator will keep records reminding each individual requiring training and status of training.

5.2.2 All operators and foremen assigned to the operation of the asphalt plant will attend a two-hour training course on plant operations and safety.

5.2.3 JCNNM TRAINING

Personnel will receive the basic health, safety, security, and administrative training offered by JHSE and PITD, and shall attend the update training, as required.

5.2.4 VENDOR TRAINING

Personnel will participate in the Laboratory and Johnson Controls Northern New Mexico sponsored vendor-training classes arranged for the craft personnel working in asphalt plant operational support.

5.2.5 LANL TRAINING

Personnel will attend all laboratory sponsored training classes required to work in asphalt plant operational support or yard operations as appropriate.
5.2.6 **ES&H TRAINING**

Personnel will receive training in the overall Laboratory ES&H policy. No activity or operation will be done at the Laboratory unless it can be performed in a manner designed to protect employees, the public, and the environment. Accomplishing these goals requires a team effort on the part of all employees and line managers.

### 6.0 SPECIAL INSTRUCTIONS

6.1 Submit any corrections or recommendations for improvement to this procedure to the Roads Section supervisor.

6.2 Report any unusual events or accidents occurring in the field during the evaluation process per DOE Order 232.1A.

6.3 Report any structural or equipment deficiencies observed during the performance of work to the operator foreman so that immediate remedial action can be taken, if required.

6.4 The operator foreman will review the requirements of the program and complete a Site Activity Hazard Analysis for the review and approval of the Roads Section supervisor.

6.5 Plant dust collection system leaks will be repaired immediately to ensure that no dust is escaping into the environment which may be in violation of the New Mexico State Environmental Regulations.

6.6 The asphalt plant operator must ensure that the truck driver sprays the truck bed with a light mist Zep product.

6.7 **Settling tanks must not be drained in the Sandia Canyon.** No water will be dumped into the environment. Contact JCNNM Environmental Department for assistance on proper disposal of water in settling tanks.

6.8 In some instances, the manufacturer may recommend that a tool or instrument be verified
against a reference standard provided with the tool, as is often the case with quality micrometers and similar types of tools. The craft worker will perform such verifications before leaving the shop or before receipting for the tool.

6.9 The foreman and craft workers review each job to ensure that all consumable materials brought to the job site are the minimum amounts required to complete the work. Additionally, remove and properly return to stock or dispose of all materials not used on the job according to the MSDS, the Waste Minimization Program and other applicable instruction. Current waste minimization procedures to use reusable cloth rags and non-hazardous cleaning solvents must be followed at all times unless authorized by the supervisor.

6.10 Craft workers must identify any component with a limited service life to the supervisor, so that it may be included in the maintenance program for replacement before the service life expires.

7.0 SPECIAL EQUIPMENT

7.1 MEASUREMENT AND TEST EQUIPMENT

7.1.1 Weigh hopper scales (calibrated annually)

7.1.2 Thermometer (to 400°F)

8.0 ACCEPTANCE CRITERIA

8.1 The supervisor must perform a verification inspection of 10% of the completed work.

8.2 ECMT will approve and accept the aggregate prior to use.

8.3 ECMT will approve and accept the hot mix according to work order specifications.
9.0 OPERATING INSTRUCTIONS

9.01 ASPHALT PLANT

Perform a pre-operational check of the heat transfer oil heater and document the inspection on Form 41-20-001.1 (Attachment 11.1). After completing the form, file it with the operator foreman at TA-3, SM 70.

CAUTION: DO NOT OPERATE THE HEAT TRANSFER OIL HEATER WITHOUT A QUALIFIED EQUIPMENT OPERATOR PRESENT STANDING-FIRE WATCH.

CAUTION: DO NOT OPERATE THE PLANT IF THERE ARE ANY SAFETY HAZARDS OR ENVIRONMENTAL CONCERNS. NOTIFY SUPERVISOR IF ANY HAZARDS ARE PRESENT.

9.1 HEAT TRANSFER OIL HEATER INSPECTION

9.1.1 Inspect the heat transfer oil heater and oil level daily. It should be at least ½ of capacity in sight glass. Refill if necessary, using heat transfer oil No. 1 ONLY.

9.1.2 Inspect the heat transfer oil pump for leaks. Make sure shaft is free. Repair or adjust if necessary.

9.1.3 Inspect the heat transfer oil pump drive coupling. It should be secure, not loose or worn. Adjust or replace if necessary.

9.1.4 Inspect electric drive motors, heat transfer oil pump, flower fan, and mounts. Ensure that all wiring is secure. Adjust if necessary.

9.1.5 Inspect temperature setting on temperature control valve. Maximum operating temperature should be between 250° F and 360° F. Observe setting periodically during heater operation to ensure that temperature does not exceed 360° F.

9.1.6 Repair any oil leaks before starting operations.
9.2 BEGIN HOT MIX PRODUCTION

9.2.1 Check the asphalt temperature before starting. Check again every hour to ensure that the temperature does not drop below 250° F.

9.2.2 Turn on the dust collection system water pump. After the pump is operating, verify that the water is spraying throughout the collection system and into the settling ponds.

9.3 The hot mix plant will now be started in the following order:

CAUTION: IF ANY OF THE FOLLOWING ITEMS FAIL TO PASS INSPECTION, THE OPERATOR WILL HALT OPERATIONS AND SECURE THE HOT PLANT UNTIL REPAIRS ARE MADE.

9.3.1 Start the asphalt pump. Verify that the asphalt is flowing freely between the asphalt weigh hopper and the asphalt storage tank before proceeding.

9.3.2 Start the exhaust fans. Verify that air is flowing out of the exhaust plenums. Also check for any excess vibrations of the exhaust fans. If present, make repairs.

9.3.3 Start the pilot for main burners.

9.3.4 Start the shaker. Inspect for excess vibrations. If present, stop shaker and make repairs.

9.3.5 Start the hot aggregate elevator. Verify that the elevator buckets DO NOT hit the enclosure. If they do, then shut down the elevator and check for a loose chain or bearing failure. If found, shut off the pug mill and make repairs as appropriate.

9.3.6 Start the dryer. Check for excess vibrations and rough rotations. If excess vibration or
rough rotation is encountered, shut down the dryer and inspect for bearing failure or flat trunnions. If found, make repairs as appropriate.

9.3.7 Start the pug mill. Check for unusual clattering indicating loose mixing paddles or bearing failure. If found, shut off the pug mill and make repairs as appropriate.

9.3.8 Start the gas-fired burner as material flow starts. Verify that gas ignites and burns properly. IF NOT, make necessary adjustments.

9.3.9 Start the cold elevator and reciprocating feeder. Verify that aggregates are feeding properly. IF NOT, make necessary adjustments.

9.3.10 Weigh the required amounts of heated aggregate from the three aggregate bins.

9.3.11 Dump the weighed aggregate into the pug mill for mixing.

9.3.12 Process four tons of aggregate (four batches) WITHOUT ASPHALT through the entire system to ensure the plant and aggregates are at the working temperature of NOT LESS than 250°F. Recycle these batches of aggregate as many times as necessary to achieve 250°F. Do not exceed maximum temperature of 360°F and do not process if temperature exceeds 360°F.

9.3.13 Weigh aggregates and asphalt to the mix design proportions, dump into the pug mill, and mix for approximately 60 seconds.

9.3.14 After the dump truck beds have been properly sprayed with a light mist of Zep Product, dump the hot mix into the trucks and repeat the process (step 9.3.12) until the desired tonnage is loaded into the truck.

**CAUTION: INSPECT HOT MIX FOR PROPER MIXING SO THAT, NO DRY OR OILY STREAKS ARE VISIBLE.**

9.4 PLANT SHUTDOWN

Shut the asphalt plant down in the reverse order of start-up, except that the cold elevator and reciprocating feeder will be shut down first to stop material flow into the plant. As the material flow stops, the dryer flame will be turned down SLOWLY until it is shut off completely. Checklist 41-20-001.3 will be used to document plant shutdown procedure.

9.4.1 Shut down the cold elevator and reciprocating feeder. Check to ensure aggregates are NOT feeding.
9.4.2 Shut down the gas fired burner slowly as material flow ebbs.

9.4.3 Shut down the pug mill. Visually inspect for loose mixing paddles. Schedule repairs if evident.

9.4.4 Shut down the dryer.

9.4.5 Shut down the hot aggregate elevator. Check for damaged or worn buckets. Repair or replace if necessary.

9.4.6 Shut down the shaker. Inspect for worn screens. Replace if necessary.

9.4.7 Shut down exhaust fans.

9.4.8 Shut down the asphalt pump. Ensure the asphalt is NOT flowing between the asphalt weigh hopper and the asphalt storage tank.

10.0 DOCUMENTATION

10.1 GENERAL FILES

Establish and maintain operating record files according to DOE Order 1324.5B, Records Management Program as it applies to DOE contractors and subcontractors.

10.1.1 Dedicate a set of program file folders to manage the procedure compliance documentation.

10.1.2 Record the file folder contents into an index, preferably a computer database.

10.2 FORMS AND CHECKLISTS

Prepare all forms and checklists to support and document procedure requirements according to DOE Order 1324.5B, Records Management Program as it applies to DOE contractors and subcontractors.

10.2.1 The operator foreman prepares the Site Activity Hazard Analysis, as required, to ensure that all personnel are properly trained to recognize hazards they may encounter, and to ensure that they are aware of all safety rules and regulations. Personnel will not sign off on procedures without knowledge of the rules and regulations.
10.2.1.1 The operator foreman will review the checklist with the craft personnel prior to executing the assignment.

10.2.1.2 Turn in the form to the operator foreman at SM 70, to be kept on file for one year.

10.2.1.3 Review and update the Site Activity Hazard Analysis at least annually, or when new conditions are encountered.

10.2.2 Prior to beginning operations, fill out as required the Asphalt Batch Plant Pre-Operational Inspection and Lubrication Checklist, Form 41-20-001.1, (Attachment 11.1). This ensures that the asphalt plant can be operated safely and without environmental concerns.

10.2.2.1 The operator foreman will review the checklist with the craft personnel prior to executing the assignment.

10.2.2.2 Turn in the form to the operator foreman at SM 70, to be kept on file for one year. After a year it will be turned in to the JCNMM Maintenance Department Heavy Equipment Branch (MDHE) supervisor at TA-60, Building 1, and kept on file for the life of the equipment.

10.2.2.3 Review and update the form at least annually, or when new conditions are encountered.

10.2.3 Prior to beginning operations, the asphalt plant operator will complete as required the Heat Transfer Oil Heater Pre-Operational Inspection, Form 41-20-001.1 (Attachment 11.1), to ensure that the heat transfer oil heater can be operated safely and without environmental concerns.

10.2.3.1 Turn in the form to the operator foreman at SM 70, to be kept on file for one year. After a year, it will be turned over to the MDHE supervisor at TA-60, Building 1 and kept on file for the life of the equipment.

10.2.3.2 Review and update the form at least annually or when new conditions are encountered.

10.2.4 Before commencing operations, the asphalt hot plant operator will fill out the Asphalt Plant Start-Up Checklist, Form 41-20-001.2 (Attachment 11.2) to ensure that the plant is started and checked for malfunctions prior to operation.

10.2.4.1 Turn in the form to the operator foreman at SM 70, to be kept on file for one year. After a year, it will be turned over to the MDHE supervisor at TA-60, Building 1 and kept on file for the life of the equipment.

10.2.4.2 Review and update the form at least annually or when new conditions are encountered.
10.2.5 As required, the operator completes the Asphalt Hot Plant Shutdown Checklist, Form 41-20-001.3 (Attachment 11.3) to ensure the asphalt plant is shut down in the proper sequence to prevent damage and excess dust pollution. Fill out the form as the shutdown is occurring.

10.2.5.1 Turn in the form to the operator foreman at SM 70, to be kept for one year.

10.2.5.2 Review and update the Asphalt Hot Plant Shutdown Checklist at least annually, or when new conditions are encountered.

10.3 REPORTS

10.3.1 The MDSO supervisor will produce the Annual Asphalt Production Report for the Roads Section manager.

10.4 RECORD DISPOSITION

Unless otherwise authorized, retain the maintenance and repair records in the shop files until the equipment item is removed from service. The supervisor will review, archive or dispose of the file according to DOE contractors and subcontractors.

11.0 ATTACHMENTS

11.1 Heat Transfer Oil Heater Pre-Operational Inspection, Form 41-20-001.1

11.2 Asphalt Plant Start-Up, Form 41-20-001.2

11.3 Asphalt Plant Shutdown, Form 41-20-001.3
HEAT TRANSFER OIL HEATER PRE-OPERATIONAL INSPECTION

Date Tested: __________ / __________ / __________

Enter a 'Y' for YES, a 'N' for NO and 'N/A' for NOT APPLICABLE in the Y/N column as each task is completed. Use the COMMENTS column for short, job related notes. Record any deficiencies observed in the REMARKS section at the end of the checklist.

<table>
<thead>
<tr>
<th>REF. PAR.</th>
<th>ITEM</th>
<th>Y/N</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.1.1</td>
<td>Inspect heat transfer oil heater and oil level daily. If necessary refill to at least ½ of capacity in sight glass. Use heat transfer oil No. 1 ONLY.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.1.2</td>
<td>Inspect heat transfer oil pump for leaks, ensure shaft is free. Repair/adjust if necessary.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.1.3</td>
<td>Inspect heat transfer oil pump drive coupling. Should be secure, not loose or worn. Adjust/replace as necessary.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.1.4</td>
<td>Inspect electric drive motors, heat transfer oil pump, flower fan, and mount. Ensure wiring is secure. Adjust if necessary.</td>
<td></td>
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</tr>
<tr>
<td>9.1.5</td>
<td>Inspect temperature setting control valve. Maximum operating temperature should be between 250°F and 360°F.</td>
<td></td>
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<tr>
<td>9.1.6</td>
<td>Repair any oil leaks before starting operations.</td>
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</tbody>
</table>

REMARKS:
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NAME OF CRAFT: __________________________ Z-NUMBER: ________
SIGNATURE: ___________________________ DATE: / / 

NAME OF CRAFT: __________________________ Z-NUMBER: ________
SIGNATURE: ___________________________ DATE: / / 

NAME OF CRAFT: __________________________ Z-NUMBER: ________
SIGNATURE: ___________________________ DATE: / / 

FOREMAN VERIFICATION: ___________________________ DATE: / / 

# ASPHALT PLANT START UP

**Date Tested:**

Enter a 'Y' for YES, a 'N' for NO and 'N/A' for NOT APPLICABLE in the Y/N column as each task is completed. Use the COMMENTS column for short, job related notes. Record any deficiencies observed in the REMARKS section at the end of the checklist.

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<th>ITEM</th>
<th>Y/N</th>
<th>COMMENTS</th>
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</thead>
<tbody>
<tr>
<td>9.2</td>
<td>BEGIN HOT MIX PRODUCTION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.2.1</td>
<td>Check asphalt temperature before starting, and every hour. It must NOT drop below 250° F.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.2.2</td>
<td>Turn on dust collection system water pump. Verify that water is spraying throughout the collection system into settling ponds.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.3</td>
<td>START HOT MIX PLANT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.3.1</td>
<td>Start asphalt pump. Ensure asphalt is flowing freely between asphalt weigh hopper &amp; asphalt storage tank before proceeding.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.3.2</td>
<td>Start exhaust fans. Check to ensure air is flowing out of exhaust plenums. Check for any excess vibrations of exhaust fan. If found make repairs.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.3.3</td>
<td>Start pilot for main burners.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.3.4</td>
<td>Start shaker. Inspect for excess vibrations. Shut down and adjust if found.</td>
<td></td>
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</tr>
<tr>
<td>9.3.5</td>
<td>Start the hot aggregate elevator. Ensure elevator buckets do not hit the enclosure. If they do, shut down the elevator and check for a loose chain or bearing failure.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.3.6</td>
<td>Start the dryer. Check for excess vibration and rough rotations. If present, shut down the dryer and inspect for bearing failure or flat trunnions. If found, make repairs.</td>
<td></td>
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</tr>
<tr>
<td>9.3.7</td>
<td>Start the pug mill. Check for unusual clattering indicating loose mixing paddles or bearing failure. If found, shut down and adjust.</td>
<td></td>
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</tr>
<tr>
<td>9.3.8</td>
<td>Start gas-fired burner as material flow starts. Check to ensure gas ignites and burns properly.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.3.9</td>
<td>Start the cold elevator and reciprocating feeder. Check to ensure aggregates are feeding properly. If NOT, make adjustments.</td>
<td></td>
<td></td>
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</tbody>
</table>
## ASPHALT PLANT START UP

Date Tested: __________ / __________ / __________

Enter a 'Y' for YES, a 'N' for NO and 'N/A' for NOT APPLICABLE in the Y/N column as each task is completed. Use the COMMENTS column for short, job related notes. Record any deficiencies observed in the REMARKS section at the end of the checklist.

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<th>Y/N</th>
<th>COMMENTS</th>
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</thead>
<tbody>
<tr>
<td>9.3.10</td>
<td>Weigh required amounts of heated aggregate from three aggregate bins.</td>
<td></td>
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<tr>
<td>9.3.11</td>
<td>Dump weighed aggregate into pug mill for mixing.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.3.12</td>
<td>Process 4 tons of aggregate (4 batches), WITHOUT ASPHALT through system to ensure plant and aggregates are at working temperature of NOT LESS than 250°F. DO NOT exceed temperature of 360°F.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.3.13</td>
<td>Weigh aggregates and asphalt to mix design proportions; dump into pug mill and mix for approximately 60 seconds.</td>
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<td></td>
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<tr>
<td>9.3.14</td>
<td>After dump truck beds have been properly sprayed with a light mist of Zep, operator will dump hot mix into trucks. Repeat process until desired tonnage is loaded into truck.</td>
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</tbody>
</table>

**REMARKS:**

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**NAME OF CRAFT:** __________________________  **Z-NUMBER:** __________

**SIGNATURE:** ___________________________________  **DATE:** / / 

**NAME OF CRAFT:** __________________________  **Z-NUMBER:** __________

**SIGNATURE:** ___________________________________  **DATE:** / / 

**NAME OF CRAFT:** __________________________  **Z-NUMBER:** __________

**SIGNATURE:** ___________________________________  **DATE:** / / 

**FOREMAN VERIFICATION:** __________________________  **DATE:** / /
### ASPHALT PLANT SHUTDOWN

**Date Tested:** __________ / __________ / __________

Enter a 'Y' for YES, a 'N' for NO and 'N/A' for NOT APPLICABLE in the Y/N column as each task is completed. Use the COMMENTS column for short, job related notes. Record any deficiencies observed in the REMARKS section at the end of the checklist.

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<th>Y/N</th>
<th>COMMENTS</th>
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</thead>
<tbody>
<tr>
<td>9.4.1</td>
<td>Shut down cold elevator and reciprocating feeder. Check to ensure aggregates are NOT feeding.</td>
<td></td>
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<tr>
<td>9.4.2</td>
<td>Shut down gas-fired burner slowly as material flow ebbs.</td>
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<td></td>
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<tr>
<td>9.4.3</td>
<td>Shut down pug mill. Visually inspect for loose mixing paddles. Schedule repairs if evident.</td>
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<tr>
<td>9.4.4</td>
<td>Shut down dryer.</td>
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<td></td>
</tr>
<tr>
<td>9.4.5</td>
<td>Shut down hot aggregate elevator. Check for damaged or worn buckets. Replace/repair if found.</td>
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<td></td>
</tr>
<tr>
<td>9.4.6</td>
<td>Shut down shaker. Inspect for worn screens. Replace if found.</td>
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<td></td>
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<tr>
<td>9.4.7</td>
<td>Shut down exhaust fans.</td>
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<td></td>
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<tr>
<td>9.4.8</td>
<td>Shut down asphalt pump. Ensure asphalt is NOT flowing between asphalt weigh hopper and asphalt storage tank.</td>
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**REMARKS:**

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**NAME OF CRAFT:** ____________________________  **Z-NUMBER:** __________________

**SIGNATURE:** ____________________________  **DATE:** / /

**FOREMAN VERIFICATION:** ____________________________  **DATE:** / /
Appendix E

Facility Owner/Operator Contacts
Facility Owner/Operator and Contacts

**Facility Owner**
FWO-UI (FMU 80)
University of California (UC)
Los Alamos National Laboratory

**Facility Owner Contacts**

<table>
<thead>
<tr>
<th>Name</th>
<th>Phone</th>
<th>Pager</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>David Padilla</td>
<td>667-2408</td>
<td>996-4583</td>
<td>Facility Manager</td>
</tr>
<tr>
<td>Ed Hoth</td>
<td>665-6602</td>
<td>996-1279</td>
<td>Facility Coordinator</td>
</tr>
<tr>
<td>Lenny Chavez</td>
<td>667-6111</td>
<td></td>
<td>JCNM batch plant operator</td>
</tr>
<tr>
<td>On call FMD/Larry McKnight</td>
<td>599-3642</td>
<td></td>
<td>JCNM Maintenance Manager</td>
</tr>
</tbody>
</table>

**Facility Operator**

Johnson Controls Northern New Mexico
Los Alamos National Laboratory

**Facility Operator Contacts**

<table>
<thead>
<tr>
<th>Name</th>
<th>Phone</th>
<th>Pager</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>James Trujillo</td>
<td>667-6111</td>
<td>104-7499</td>
<td>Operator and Teamster Supervisor</td>
</tr>
<tr>
<td>Larry McKnight</td>
<td>667-5658</td>
<td>699-3642 (cell)</td>
<td>Manager of Maintenance</td>
</tr>
</tbody>
</table>
Appendix F

Certification of Applicability of the Substantial Harm Criteria
CERTIFICATION OF THE APPLICABILITY OF THE SUBSTANTIAL HARM CRITERIA

Facility Name: TA-3-73 Asphalt Batch 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?
   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 reportable 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.

[Signature]

[Name (please type or print)]

[Title]

[Date]
Appendix G

SPCC Facility Site Map
3 - 55 GALLON DRUM STORAGE WITH SECONDARY CONTAINMENT

LEGEND

- Existing Structure
- Industrial Fence
- Security Fence
- Contours

EAST JEMEZ ROAD

SPCC FACILITY SITE MAP FOR ASPHALT BATCH PLANT (TA-03-0073)

LOCKED VALVE AT BOTTOM OF SECONDARY CONTAINMENT

150 Feet