

SANL 05



National Nuclear Security Administration

Sandia Site Office

P.O. Box 5400

Albuquerque, New Mexico 87185-5400



JUN 03 2005

Mr. John E. Kieling, Program Manager
Permits Management Program
New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Dr. East, Bldg 1
Santa Fe, NM 87505



Dear Mr. Kieling:

On behalf of the Department of Energy (DOE) and Sandia Corporation (Sandia), DOE is withdrawing a proposed modification (dated March 24, 2005) to the operating permit for the Thermal Treatment Facility (TTF) at Sandia National Laboratories/ New Mexico (SNL/NM). The TTF is regulated under Resource Conservation and Recovery Act (RCRA) Permit No. NM5890110518-2 for SNL/NM (EPA ID No. NM5890110518).

In place of the withdrawn proposal, DOE is submitting the enclosed proposed modification to the New Mexico Environment Department (NMED). DOE is also hereby requesting a determination that this represents a Class 1 permit modification.

The proposed modification affects one of the engineering and operating precautions prescribed in Attachment 5 "Procedures for Handling Ignitable and Reactive Wastes." During normal TTF operations and maintenance, personnel frequently perform a wide variety of routine activities that involve contact with parts of the Unit. Residual untreated explosive material is not expected to routinely be present during normal operations, and therefore would not cause a hazard to workers performing most of the frequent and routine activities that involve direct contact with the burn cage, equipment, pad, or surrounding area.

DOE and Sandia propose to modify the language to more clearly define the situations when residual untreated explosive material could cause a hazard to workers (i.e., activities involving hot work or friction, and situations where kickout has been observed during treatment). The proposal also specifies the actions to be taken by operating personnel in response to each situation. The changes are summarized in Attachment A to this letter. Attachment 5 with changes shown in redline/strikeout format is enclosed as Attachment B. A clean copy of the revised attachment is also enclosed as Attachment C.

DOE and Sandia believe this change constitutes a Class 1 permit modification in accordance with New Mexico Administrative Code, Title 20, Chapter 4, Part 1, Subpart IX (20.4.1.900 NMAC) incorporating Title 40 of the Code of Federal Regulations, Part 270.42 (40 CFR 270.42 Appendix I). It has been previously discussed with your staff.

This change represents a minor change to keep the permit current and reflect routine changes to facility operations. It does not substantially alter the permit conditions, (see 20 NMAC 4.1.900/ 40 CFR 270.42(d)(2)(i)) and does not reduce the capacity of DOE and Sandia to protect human health and the environment. In accordance with 20.4.1.900 NMAC/40 CFR 270.42(a), this change will take effect on June 10, 2005.



Mr. J. Kieling

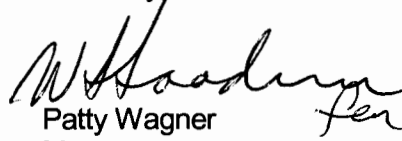
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DOE and Sandia will mail a notice about the permit modification to all persons on the facility mailing list within 90 days after the change takes effect, in accordance with 20.4.1.900 NMAC/40 CFR 270.42(a)(1)(ii).

DOE and Sandia are available to provide additional information as needed. If you have any questions regarding this submittal, please contact David Rast of my staff at (505) 845-5349.

Sincerely,


Patty Wagner
Manager

cc w/enclosures:

W. Moats, NMED-HWB
L. King, EPA Region 6
M. Gardipe, AL, ERD
M. Reynolds, DOE/SSO
J. Volkerding, NMED-OB

cc w/o enclosures:

D. Rast, DOE/SSO
L. E. Shephard, SNL, MS 0724, 6000
A. J. Blumberg, SNL, MS 0141, 11100
T. E. Blejwas, SNL, MS 0512, 2500
W. Cieslak, SNL, MS 1453, 2550
J. A. Romero, SNL, MS 0665, 2500
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D. R. Johnson, SNL, MS 1454, 2553
K. G. McCaughey, SNL, MS 0868, 6300
J. L. Moya, SNL, MS 1139, 6330
T. P. Laiche, SNL, MS 0651, 6334
D. H. Castillo, SNL, MS 1112, 6334
J. J. Thompson, SNL, MS 1151, 6339
A. S. Reiser, SNL, MS 1151, 6339
SNL ISS Records Center, MS 0651, 9612
SSO Legal File

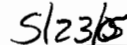
**Request for Class 1 Modification to NMED Permit No. NM5890110518-2
Changes to Procedures for Handling Ignitable or Reactive Wastes at the Thermal
Treatment Facility (Permit Attachment 5)**

CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations.



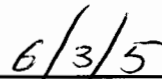
Les E. Shephard
Vice President, Energy, Information, and Infrastructure Surety
Sandia Corporation
Albuquerque, New Mexico
Co-Operator



Date signed



Patty Wagner
Manager
U.S. Department of Energy
National Nuclear Security Administration
Sandia Site Office
Owner and Co-Operator



Date signed

Attachment A

Summary of Changes

**Sandia National Laboratories
Thermal Treatment Facility**

Permit NM5890110518-2

Attachment A. Summary of Operational Changes
TTF Permit NM5890110518-2
Permit Attachment 5, Procedures for Handling Ignitable or Reactive Wastes

Location	Current Language	Proposed Language	Explanation of Change	Modification Class Rationale
Attachment 5, Section 1.1, Page 1	Prior to maintenance and repair activities that involve hot work such as welding or cutting, operating personnel shall check the surfaces of the burn cage, the pad, and the surrounding area with a portable propane burner to ensure that residual untreated explosive material is not present to cause a hazard to workers.	<p><u>In order to ensure that residual untreated explosive material is not present to cause a hazard to workers, operating personnel shall check surfaces with a portable propane burner as described below.</u></p> <ul style="list-style-type: none"> • <u>Prior to maintenance and repair activities on or in the burn cage:</u> If such activities that involve hot work or friction (such as welding, or cutting, or grinding), <u>personnel shall check the burn cage and pad.</u> • <u>Prior to maintenance or repair other activities on the steel-lined concrete pad:</u> If such activities that involve hot work or friction (such as welding, cutting, or grinding), <u>direct contact with the burn cage, equipment, pad, or surrounding area, operating personnel shall check the surfaces of the burn cage, the pad, and the surrounding areas in the vicinity of the work area, with a portable propane burner to ensure that residual untreated explosive material is not present to cause a hazard to workers.</u> • <u>Following observation of kick out that occurs during treatment operations:</u> If kick out is observed, <u>personnel shall check the affected area following the post-treatment inspection as described in Section 1.3.</u> 	More clearly define situations when residual untreated explosive material could cause a hazard to workers, and specify activities conducted in response to these situations to maximize worker safety.	<i>Class 1 modification.</i> Minor change and clarification of operating procedures to keep the permit current with facility operations and to maximize protection of human health and safety. This modification does not substantially alter the permit conditions or reduce DOE/Sandia's capacity to protect human health and the environment.

Attachment B
Sandia National Laboratories
Thermal Treatment Facility
Revisions to Permit Attachment 5

Redline / Strikeout Format

Permit NM5890110518-2

**PERMIT ATTACHMENT 5
PROCEDURES FOR HANDLING IGNITABLE OR REACTIVE WASTES
AT THE THERMAL TREATMENT FACILITY**

1.0 Prevention of Reaction of Ignitable, Reactive, and Incompatible Waste

SNL shall take measures to isolate the waste from sources of ignition and from incompatible materials, as noted below.

1.1 Engineering and Operating Precautions to Prevent Reactions

Explosives contaminated wastes shall not be stored at the TTF prior to treatment. Reactive explosives and energetic waste (being sensitive to impact, heat, shock, and light, are immediately treated upon transfer to the TTF. The nearest perimeter fence of SNL/NM TA-III is greater than 50 feet (15 meters) away.

Smoking, matches, and lighters are not permitted anywhere in or near the TTF at any time.

The grounds and berms near the TTF are cleared of weeds and brush. This helps to prevent brush fires near the operation of the TTF.

In order to ensure that residual untreated explosive material is not present to cause a hazard to workers, operating personnel shall check surfaces with a portable propane burner as described below.

- Prior to maintenance ~~and~~ repair activities on or in the burn cage: If such activities that involve hot work or friction (such as welding, ~~or~~ cutting, or grinding), personnel shall check the burn cage and pad.
- Prior to maintenance or ~~repair~~ activities on the steel-lined concrete pad: If such activities that involve hot work or friction (such as welding, cutting, or grinding), ~~direct contact with the burn cage, equipment, pad, or surrounding area, operating personnel shall check the surfaces of the burn cage, the pad, and the surrounding areas in the vicinity of the work area.~~ with a portable propane burner to ensure that residual untreated explosive material is not present to cause a hazard to workers.
- Following observation of kick out that occurs during treatment operations: If kick out is observed, personnel shall check the affected area following the post-treatment inspection as described in Section 1.3.

The reactive waste is protected from open flames by disabling the gas burner system during loading of the TTF, which is done by removing the only key from the lock on the control console in building 6715. Thus the gas burner system is controlled by the operator who is loading the TTF while the TTF door is open. The door is also operable from the control console. The gas burner system is reactivated at the control console only after an area check for personnel and a public address announcement is made that the TTF will begin operations.

Liquids may be transferred to the burn pan through the waste transfer pump and lines. For liquids that are pumped, the operator at the control console in Building 6715 operates the pump remotely. The burners may or may not be operating during the transfer, depending on the stage of the treatment operations.

1.2 General Precautions for Handling Reactive Waste

Copper is incompatible with an explosive slurry of silver acetylide/silver nitrate (SASN); therefore, no exposed copper is allowed when the explosive SASN is present. No other materials that would produce undesirable reactions with the hazardous waste, such as explosion, toxic fumes, or structural damage, are located at the TTF.

1.3 Waste Management Operations

Wastes shall be treated in the TTF on the day they are generated. All waste to be treated shall be manually placed or poured inside the burn pan by qualified explosive waste handlers, except of SASN contaminated liquid, which shall be pumped into the burn pan from inside building 6715 by qualified TTF personnel. Transfer of SASN-contaminated liquid to the TTF can be accomplished remotely, without opening the TTF door or accessing the fence gates.

After items are manually placed in the burn pan, the door to the burn cage is remotely closed from the control console on building 6715, and the treatment process started. Three remotely operated propane gas jets, one positioned to heat the inside of the burn pan and two positioned to heat the bottom of the burn pan. The burners may or may not be operating during transfer of SASN-contaminated liquids, depending on the stage of the treatment operations. Upon heating, the waste burns and decomposes (i.e., oxidizes to non-hazardous gases and carbon). The burn may be repeated several times to assure complete destruction of explosive waste.

After treatment and the post-treatment burn are complete, personnel shall turn off the propane burners and lower the lid to preclude wind dispersal of treatment residue and water infiltration into the burn pan during the cool-down period. The cool-down period varies, but generally does not exceed 24 hours.

After the unit has cooled sufficiently, personnel perform a post-burn inspection to identify any untreated waste in the burn pan and contamination and/or "kickout" on the steel-lined concrete pad that surrounds the burn pan. Kickout is defined as untreated RCRA-regulated waste ejected from the burn pan during treatment. If any kickout is identified, personnel will safely return it to the burn pan. Untreated waste remaining in the pan and kickout returned to the burn pan are subsequently retreated. If the inspection indicates that all the waste has been treated, the contents of the burn pan (i.e., ash) shall be removed. If the post-treatment inspection identifies contamination on the steel-lined concrete pad, it will be decontaminated by saturating the area with water and wiping with wet paper wipes, and the wipes will be treated at the TTF.

Following the post-treatment inspection, personnel may perform an additional review, checking the surfaces of the burn cage, the pad, and the surrounding area with a portable propane burner to determine whether small quantities of additional kick out (small particles that are not visually observed during the post-treatment inspections) are present. Removable kick out identified during this review will be collected and treated in the burn pan.

The treated contents of the burn pan are containerized and managed as hazardous waste. TTF personnel submit a request to Hazardous Waste Management Facility (HWMF) for the transport of the treated and containerized contents of the burn pan to the HWMF.

1.4 Waste Handling Equipment

A peristaltic pump shall be used to transfer waste liquid contaminated with SASN from Building 6715 into the burn pan and is the only waste handling equipment used at the TTF. Other items shall be hand-carried to the burn pan as described in Section 1.3. The waste is not handled after

placement into the burn pan or before treatment. TTF treatment operations (i.e., waste ignition) are remotely performed from the control console in building 6715. After treatment is complete, the ash in the burn pan is manually unloaded (using plastic scoops), placed in containers, and managed in accordance with the applicable regulatory requirements.

1.5 Containers

The hazardous wastes treated at the TTF shall not be managed in containers before treatment.

1.6 Container Handling Procedures

Containerized explosive hazardous wastes shall not be received at the TTF for treatment. Waste shall not be stored at the TTF prior to treatment. However, if for some reason treatment is aborted after the burn pan is loaded with waste, and it is deemed unsafe to remove the waste, the waste will be wetted as needed to stabilize it, the burn pan shall be covered with the burn pan lid (remotely), and the waste shall remain there until it is possible to perform at the treatment or be safely removed. The TTF burn pan will provide primary containment. The steel-lined concrete pad serves as secondary containment. After treatment, the contents of the burn pan (i.e., ash) shall be removed and placed in a container to be manifested to a permitted facility.

1.7 Secondary Containment System Design and Operation-

The TTF consists of a square steel burn pan with a capacity of approximately 20.8 gallons (78.7 liters). The burn pan sits in the center of a steel lined concrete pad 14 feet (4.3 meters) on a side with a 4-inch (10 centimeter) high curb at the perimeter. The steel liner is ½ inch (1.27 centimeters) thick. Any liquids collected inside the lined concrete pad shall be drained into a settling basin, and then through a filter into a 157-gallon (594 liter) catch tank. The TTF is bermed on three sides with earthen berms 8 to 12 feet (2.4 to 3.6 meters) high. The burn pan is the primary containment for the hazardous waste. The steel-lined concrete pad serves as secondary containment for the burn pan. The catch tank serves as tertiary containment.

The upper volume limit of hazardous liquid in the TTF at any time is 20.8 gallons (78.7 liters). Because of the presence of liquids in the waste, additional containment is provided by the curbed, steel lined concrete pad, with a capacity of approximately 300 gallons (1130 liters) and a catch tank with a capacity of approximately 157 gallons (594 liters).

Attachment C

**Sandia National Laboratories
Thermal Treatment Facility
Revisions to Permit Attachment 5**

Permit NM5890110518-2

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- Following observation of kick out that occurs during treatment operations: If kick out is observed, personnel shall check the affected area following the post-treatment inspection as described in Section 1.3.

The reactive waste is protected from open flames by disabling the gas burner system during loading of the TTF, which is done by removing the only key from the lock on the control console in building 6715. Thus the gas burner system is controlled by the operator who is loading the TTF while the TTF door is open. The door is also operable from the control console. The gas burner system is reactivated at the control console only after an area check for personnel and a public address announcement is made that the TTF will begin operations.

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The upper volume limit of hazardous liquid in the TTF at any time is 20.8 gallons (78.7 liters). Because of the presence of liquids in the waste, additional containment is provided by the curbed, steel lined concrete pad, with a capacity of approximately 300 gallons (1130 liters) and a catch tank with a capacity of approximately 157 gallons (594 liters).