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 ENTERED

Allen, Pam, NMENV

From: Hall, Timothy, NMENV
Sent: Thursday, August 16, 2012 10:42 AM
To: Allen, Pam, NMENV
Subject: FW: TA-55 Temporary Authorization.
Attachments: TA55-TA Request__Tim Hall email_ATTACHMENT__ FINAL 08-14-12 (2).docx

Pam,

Would please print the email and attachment and put it in the record?

Thanks,

Tim

From: Haagenstad, Mark P [<mailto:mph@lanl.gov>]
Sent: Thursday, [REDACTED], 2012 10:55 AM
To: Hall, Timothy, NMENV
Cc: Kieling, John, NMENV; Grieggs, Tony; Turner, Gene E.; Henckel, George C; Carmichael, Jeff A
Subject: TA-55 Temporary Authorization.

Dear Tim Hall:

The purpose of this email is to provide for your review and discussion the enclosed draft document, which is an expanded outline of LANL's proposed Temporary Authorization request. This request, to conduct a short-term waste processing campaign at LANL TA-55, was briefly presented in a meeting on June 21, 2012, of US Department of Energy/National Nuclear Security Agency (DOE/NNSA), Los Alamos National Security, LLC (LANS), and New Mexico Department of Environment-Hazardous Waste Bureau (NMED-HWB) representatives. In that meeting, DOE/LANS (collectively the Permittees) offered to prepare this expanded outline of the LANL Temporary Authorization request, to be discussed at a future meeting.

The Permittees are proposing to undertake a short-term campaign at TA-55 to work-off a backlog of STP mixed transuranic (MTRU) waste. In our meeting on June 21, 2012, the Permittees proposed a Temporary Authorization as the optimum means to accomplish this effort. The Temporary Authorization would be authorized and implemented in accordance with Title 40 of the Code of Federal Regulations (40 CFR) Part 270.42(e)(2)(i)(A), as incorporated by reference in Title 20, Chapter 4, Part 1, Section 900 of the New Mexico Administrative Code (20.4.1.900 NMAC).

As part of a Federal Facility Compliance Order, the MTRU waste in question has been placed on the Site Treatment Plan and held in storage at TA-55 because it cannot meet Department of Transportation (DOT) shipping requirements or the Waste Isolation Pilot Plant (WIPP) Waste Acceptance Criteria (WAC) without first being processed. The required processing varies by waste item, but it includes sorting and segregation, absorption, and repackaging. Currently, TA-55 does not have a permitted unit with the necessary safety authorizations or capabilities to perform the required procedures; nor has it been possible to transport the waste to another facility within LANL or elsewhere for the required processing. However, a previously-unavailable window of opportunity is opening at TA-55 for the remainder of the calendar year, in which the necessary space, equipment, manpower, and safety authorizations will all become available for this campaign for a limited period of time.

The procedures for granting temporary authorizations are located in 40 CFR 270.42(e). Under these procedures, the permittee must submit to the Agency a request for temporary authorization that (1) describes the activities to be conducted; (2) explains why the temporary authorization is necessary; and (3) provides sufficient information to ensure the activity's compliance with 40 CFR Part 264 standards. In addition, within seven days of submitting the formal



request, the permittee will be required to notify all persons on the facility mailing list and local and State agencies about the temporary authorization request.

Before making a formal submittal, however, the Permittees would like to ensure that the information provided in this temporary authorization request will be appropriate and sufficient for the NMED-HWB to support a decision approving the temporary authorization. Under 40 CFR §270.42(e)(3), in order to approve LANL's request, the NMED-HWB must find that:

- The authorized activities are in compliance with the standards of 40 CFR §264, as incorporated by reference in 20.4.1.500 NMAC, and
- The temporary authorization is necessary to achieve one of five specific objectives listed in 40 CFR §270.42(e)(3)(ii) - in this case, to allow treatment or storage in tanks or containers, or in containment buildings in accordance with 40 CFR Part 268. (Note that this Temporary Authorization will, in fact, have the additional benefit of preventing disruption of ongoing waste management activities at TA-55).

The Permittees believe this request meets all applicable requirements. The Attachment to this email provides the expanded outline as promised, which is an overview of the information being assembled by the Permittees to provide the rationale for seeking this temporary authorization. DOE/LANS look forward to discussing this matter with you at your earliest opportunity, so we can begin this work with minimal delay.

Please contact me at (505) 665-2014 if additional information would be helpful. We look forward to meeting with you in the near future to discuss.

Sincerely,

Mark

Mark Haagenstad
ENV-RCRA
Office: (505) 665-2014
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ENCLOSURE 1

Overview of LANL Temporary Authorization Request for Technical Area (TA)-55 STP Waste Work-off

LAUR-12-23929

Date: August 14, 2012

Overview

- I. Introduction/Background
 - A. Statement of the Problem
 - B. New opportunity
 - C. Regulatory Requirements for a Temporary Authorization Request
- II. Justification for Temporary Authorization at TA-55
 - A. Description of Activities to Be Conducted
 - B. Why a Temporary Authorization Is Necessary
 - C. Compliance with 40 CFR Part 264 Standards
- III. Conclusion

I. Introduction/Background

A. Statement of the Problem

For several years, a number of mixed transuranic (MTRU) waste items have been safely stored at Technical Area (TA)-55 to meet the requirements of the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit (Permit) and the Federal Facility Compliance Order, Site Treatment Plan (STP).

- Although stored safely and in compliance with the Permit, they are not currently stored in DOT-approved containers, and their types and/or waste forms cannot be shipped off-site as presently stored.
- At a minimum, most of these waste items will require repackaging in order to be transported and to meet the Waste Isolation Pilot Plant Waste Acceptance Criteria (WIPP-WAC), while others will require additional processing to render them compliant for off-site shipment or disposal.
- No on- or off-site processing options are available; hence there has been no alternative but to continue to store these items at LANL and identify them in the STP inventory.

B. New Opportunity

LANL has a limited window of opportunity to conduct the required processing activities at TA-55 for MTRU wastes as necessary to ship these wastes off-site for disposal at WIPP. In the Fall of 2012, LANL will have an opportunity to process these MTRU wastes due to a gap in current project schedules at LANL. This new opportunity includes the space (Building PF-4, Room 432), manpower, and safety features needed for the required processing, including the High-Efficiency Particulate Air (HEPA) filtration system, containment, and safety basis.

C. Regulatory Requirements for a Temporary Authorization Request

EPA has clarified that a Temporary Authorization is appropriate to address a “one-time or short-term activity for which the full permit modification process is inappropriate.” See U.S. EPA, *Permit Modifications for Hazardous Waste Facilities*, 53 Fed. Reg. 37912, 37919 (Sept. 28, 1988). NMED-HWB procedures for approving a Temporary Authorization are specified in 40 CFR §270.42(e). The Permittees must submit a Temporary Authorization request that (1) describes the activities to be conducted; (2) explains why the Temporary Authorization is necessary; and (3) provides sufficient information to ensure compliance with 40 CFR Part 264.

To approve the request, the NMED-HWB must find that the authorized activities are in compliance with the standards of 40 CFR Part 264, and that the Temporary Authorization is necessary to achieve at least one of the following objectives specified in 40 CFR §270.42(e)(3)(ii):

1. To facilitate timely implementation of closure or corrective action activities;
2. To allow treatment or storage in tanks or containers, or in containment buildings in accordance with 40 CFR Part 268;
3. To prevent disruption of ongoing waste management activities;
4. To enable the permittees to respond to sudden changes in the types or quantities of the wastes managed under the facility permit; or
5. To facilitate other changes to protect human health and the environment.

II. Justification for Temporary Authorization at TA-55

As described above, in order to be approved by NMED-HWB, the Temporary Authorization must meet specific regulatory criteria. The following sections describe how LANL’s Temporary Authorization request meets these criteria, including (1) a description of the activities to be conducted (Section II.A); (2) why the temporary authorization is necessary (Section II.B); and (3) information to ensure that the activities will be compliant with Part 264 standards (Section II.C).

A. Description of Activities to be Conducted

1. STP Waste to be Processed

- The total volume of TA-55 STP waste to be processed under this TA is approximately 1.9 cubic meters. This is an inventory of already-existing waste that has been maintained in permitted RCRA storage for several years; therefore, upon completion, this project will not increase LANL’s RCRA-permitted storage capacity.

- Waste items to be processed are in the noncombustible, combined combustible and noncombustible, and solidified waste MTRU Treatability Groups (see Table 1).
- 2. Processing Required**
- Approximately 98 percent (%) of the waste requires sorting, segregation and repackaging to meet the WIPP-WAC. These waste containers cannot exceed the Special Nuclear Material limit (150 Pu-239 gram equivalents). The current packaging configuration does not meet the WIPP-WAC and the containers require repackaging. The repackaged waste and containers must be visually examined by a certified examiner in order to be certified to be shipped to WIPP.
 - Approximately 2% of the waste items are liquids that require absorption to meet the WIPP-WAC. In this campaign, TA-55 will absorb only those liquid waste items that can be absorbed within the approved safety basis for the facility. Items that cannot be safely absorbed will be returned to RCRA-permitted storage.

Table 1
TA-55 Site Treatment Plan Wastes to be Processed

Treatability Group	Waste Item Description	EPA codes	Approx. Volume (gal.)	Approx. Volume (cu. meters)
Combined Combustible and Noncombustible (solids)	Heterogeneous debris, Contaminated plastics, Organic/ inorganic debris	D004-D011, D018, D019, D021, D022, D035, D038, D039, D040, F001, F002, F003 , F005	495	1.87
Combined Combustible and Noncombustible (liquids)	Bromobenzene, Buehler release agent	D001	4.1	0.015
Solidified Organic Waste with Inorganics	Trichloroethylene (TCE)	F001	3.7	0.014

3. Processing Approach

Each container will be brought to Room 432 from the RCRA-permitted storage unit for processing. Its contents will be sorted, segregated and repackaged according to their composition, characteristics, compatibility, reactivity, and compliance with off-site facility requirements. After processing, each waste container will be returned to the RCRA-permitted storage unit, and scheduled for on- or off-site disposal. Depending on the specific parent container and its waste items, processing may include one or more of the following open-container activities:

- volume/size reduction,
- repackaging,
- waste segregation,
- transfer of waste from one container to another,
- absorption,
- prohibited item removal,
- waste consolidation,
- lid replacement,
- decontamination, and
- inspection.

4. Empty containers

Empty outer parent containers will be monitored by a radiological control technician (RCT), and managed according to LANL requirements.

5. Project Location

This STP waste processing campaign will be conducted in TA-55, Building PF-4, Room 432, which is equipped with a HEPA ventilation system.

6. Processing Facilities and Safeguards

- All containers holding liquids will be labeled as “Free Liquids” and placed on secondary containment pallets.
- Safety equipment will include continuous air and fixed head radiation monitors, ventilation alarm(s), fire alarm, telephone, and public address system, as currently in place at TA-55, according to Permit requirements.
- Most or all waste items will be processed within a portable confinement structure, called a glove bag, as needed, to mitigate the potential hazards of specific wastes or operations. The type and degree of risk, and the short duration of the task proposed at TA-55, does not warrant installation of a hard-sided confinement structure such as a glovebox.

7. What is a Glove bag?

A glove bag is a portable, flexible containment structure used to establish an enclosure around a contaminated item, allowing personnel to accomplish repairs or manipulations via gloved sleeves without contacting the contaminated item or its environment. Glove bags have been used for various activities throughout the US Department of Energy (DOE) Complex, including LANL facilities, as well as in many industrial applications such as asbestos abatement. They offer an effective and proven method of contamination

control for many moderate- and high risk tasks, where there is a risk of contamination spread.

8. Design factors and approvals

- Contamination control and personnel safety are the key considerations when designing, selecting, and using a glove-bag containment system. Contamination levels, temperature, area configuration, isotope(s), and the radiological characteristics of the immediate vicinity are all considered when designing any containment system.
- Containment systems must be approved by the LANL radiological protection organization and the appropriate line organization, as well as appropriate facility safety and DOE representatives, to ensure they comply with the approved safety basis for the facility and operation.

9. Enclosure Testing

Specific tests are required to verify the glove bag's ability to contain contamination. Air testing is generally used to confirm the integrity of glove bags at TA-55. Tests are often run both before and after installation at the project site.

10. Procedures

All work inside the glove bag will be performed in strict accordance with the Permit and internal LANL procedures, which have been developed based on TA-55 facility and DOE worker safety and radiation protection requirements, peer-reviewed techniques, and DOE- and industry-standard protocols for glove bag operations.

B. Why a Temporary Authorization is Necessary

1. Problem/Issue

The STP MTRU wastes to be processed are not in DOT approved containers, and cannot be shipped as-is for processing or disposal outside of TA-55. Nor is there a viable on-site option, as the seven RCRA-permitted storage units at TA-55 do not have the necessary safety features for sorting and segregation, absorption, and repackaging of MTRU waste. The TA request, on the other hand, will authorize these processes to be performed in an appropriate location so that these STP MTRU wastes can be shipped off-site to WIPP.

2. Regulatory Rationale (40 CFR §270.42(e))

As explained above at Section I.C, a Temporary Authorization is appropriate to address a one-time or short-term activity for which the full permit modification process is inappropriate. See U.S. EPA, *Permit Modifications for Hazardous Waste Facilities*, 53 Fed. Reg. 37912, 37919 (Sept. 28, 1988). LANL's TA-55 work-off project meets EPA's

intent for a Temporary Authorization. Based on the new opportunity, resources will become available to conduct the required processing activities for MTRU waste on-site at TA-55 due to a gap in current LANL project schedules. This includes the space (TA-55, PF-4, room 432), manpower, and safety features required for processing these particular wastes, including the HEPA filtration system, containment, and safety basis. This short-term project is expected to take approximately 3 months to complete. If the project does not begin by November 30, 2012, this opportunity will no longer be available due to other scheduled projects, and it is unlikely that the STP work-off can be accomplished for several years resulting in continued storage of these STP MTRU wastes. Due to the limited, “one-time” and “short-term” nature of the MTRU waste processing campaign; and the relatively simple nature of the anticipated waste management activities, this project is an ideal candidate to be approved under the Temporary Authorization process.

LANL’s ability to successfully process these MTRU wastes at TA-55 will not be available if LANL must wait several months and complete a formal permit modification process in order to conduct these limited, “one-time” operations. Moreover, this Temporary Authorization will achieve at least one of the objectives specified in 40 CFR §270.42(e)(3)(ii), namely, to allow treatment or storage in tanks or containers, or in containment buildings in accordance with 40 CFR Part 268. Doing so will, in fact, have the additional benefit of preventing disruption of ongoing waste management activities at TA-55.

C. Compliance with 40 CFR Part 264 Standards

LANL has ample information to demonstrate that this project will comply with 40 CFR Part 264 standards, as summarized in Table 2 which includes the relevant Permit sections that address the regulatory standards. Many of the generally applicable 40 CFR Part 264 standards will be met by managing this project according to all applicable requirements contained in the previously approved Permit, including for example: Attachment D – Contingency Plan; Attachment E – Inspection Plan; Attachment F – Personnel Training Plan; , and Part 9 – Closure.

Table 2
Compliance with Permit and 40 CFR Part 264 Requirements

Permit/ Regulatory Citation(40 CFR)	Description of Requirement	Compliance Approach
§264.13(b)	Development and implementation of waste analysis plan	The project will comply with Permit Section 2.4 and Attachment C.
§264.14	Security	The project will comply with Permit Section 2.5. TA-55 is a secure facility and meets all security requirements of 40 CFR § 264.14 and the Permit.
§264.15(b)	General inspection requirements	The project will comply with Permit Section 2.6 and Attachment E. An inspection program for the permitted units at TA-55 is in place and in compliance with the operating schedule, recordkeeping, and response action commitments in Attachment E (Inspection Plan) and 40 CFR § 264.15(b)(i). This program will be extended to room 432 during the duration of the temporary authorization.
§264.174	Container inspections	The project will comply with Permit Section 2.6, Permit Part 3, and Attachment E.
§ 264.15(c),	Inspections, Preparedness and prevention	Any deterioration or malfunction of equipment or structures discovered during an inspection which may lead to an environmental or human health hazard shall be mitigated within 24 hours of discovery of the problem. The Permittees shall immediately implement remedial action where a hazard is imminent or has already occurred (see Permit Section 2.10)
§ 264.16	Personnel Training	TA-55 personnel have successfully completed all training programs in compliance with the training requirements Attachment F (Personnel Training Plan) of the Permit.
§264.17	General requirements for ignitable, reactive, or incompatible wastes	The project will comply with Permit Section 2.8. All wastes to be dispositioned under the temporary authorization will be managed in compliance with the requirements of 40 CFR §§ 264.17, 264.176, 264.177, and 264.198.

Permit/ Regulatory Citation(40 CFR)	Description of Requirement	Compliance Approach
§264, Subpart C	Preparedness and prevention	The project will comply with Permit Section 2.10 and Attachment E. For the duration of the temporary authorization, room 432 will be maintained and operated in a manner that minimizes the possibility of fire, explosion or any unplanned sudden or non-sudden release of hazardous waste or hazardous constituent that could threaten human health or the environment (40 CFR § 264.31). Additional equipment will be added to room 432 as necessary for compliance with Permit Section 2.10.1
§ 264.32(b),	Internal communication and alarm system devices, fire control equipment, spill control equipment, and decontamination equipment	Internal communication and alarm system devices, fire control equipment, spill control equipment, and decontamination equipment listed in the tables in Attachment A (Technical Area Unit Descriptions) and Attachment D (Contingency Plan) of the Permit will be maintained in compliance with 40 CFR § 264.32(b)(2).
§264, Subpart D	Contingency plan and emergency procedures	The project will comply with Permit Section 2.11 and Attachment D.
§ 264.51(b),	Contingency Plan	TA-55 will immediately implement Attachment D (Contingency Plan) if there is an incident (such as a fire, an explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous constituents) unit that threatens human health or the environment
§§ 264.71, 264.72, and 264.76.	Recordkeeping and reporting requirements	TA-55 will maintain operating records, and comply with the recordkeeping and reporting requirements associated with manifests, in accordance with 40 CFR §§ 264.71, 264.72, 264.76 and Permit Section 1.9 and 2.12.

Permit/ Regulatory Citation(40 CFR)	Description of Requirement	Compliance Approach
§264, Subpart I	Use and Management of Containers	Containers of hazardous waste will be stored and managed in accordance with 40 CFR Part 264, Subpart I, 40 CFR § 264.173, and Permit Section 3.. All containers used for repackaging of hazardous wastes during the temporary authorization will be in good condition (e.g., no severe rusting or apparent structural defects) in accordance with 40 CFR § 264.171, and LANL will only use containers that comply with 40 CFR Part 264 Subpart I (Use and Management of Containers) for storage of hazardous waste. Only containers made of, or lined with, materials that are compatible with and will not react with the hazardous waste to be sorted, treated and/or repackaged will be used, so that the ability of the container to contain the waste is not impaired (40 CFR § 264.172).
§264.175	Secondary containment	Secondary containment will be used to store wastes which contain free liquids in compliance with 40 CFR § 264.175 and Permit Part 3.
§264 Subpart CC	Air pollutant emissions	40 CFR Part 264 Subpart CC requirements do not apply to MTRU or mixed low-level waste.
§264.112	Amendment of closure plan	The project will comply with Permit Part 9 and Attachment G, to the extent applicable [see below].
§264.178	Closure/containers	The project will comply with Permit Part 9 and Attachment G, to the extent applicable The closure plan to be submitted as part of the temporary authorization request will present closure procedures for removal and decommissioning of glove bags (and/or other containment structures, if used) based on DOE radiation protection requirements, peer-reviewed techniques, and industry-standard protocols. This approach will allow the room to be returned to other TA-55 operational uses (including housing a <90 day RCRA area) at the end of the processing campaign, while ensuring compliance with closure requirements in 40 CFR §§ 264.110 through 264.116, and 264.178.

Permit/ Regulatory Citation(40 CFR)	Description of Requirement	Compliance Approach
§264.178	Closure/containers (cont.)	<p>Detailed DOE guidance is available that provides step-by-step instructions and illustrations for proper decommissioning of a radiologically-contaminated glove bag for disposal as a non-surface-contaminated radioactive waste. The glove bag to be used for treating and repackaging wastes and related equipment will be containerized and disposed in accordance with 40 CFR § 264.114.</p> <p>A Closure Report will be submitted to the Department no later than 60 days after completion of authorized STP waste work-off. The certification will be signed by the Permittees and by an independent New Mexico licensed professional engineer in accordance with the New Mexico Engineering and Surveying Practice Act, NMSA 1978, Section 61-23-1 through 32 (as amended)(40 CFR § 264.115 and 20.4.1.501 NMAC).</p>
§264.118	Post-closure plan; amendment of plan	N/A
§264.603	Post-closure care	N/A

III. Conclusion

LANL believes that the information provided above demonstrates that this request fully meets the applicable criteria for a Temporary Authorization under 40 CFR §270.42 (e)(3).