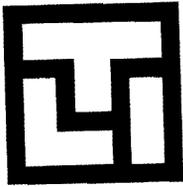


TA56



560 GOLDEN RIDGE ROAD, SUITE 130, GOLDEN, CO 80401

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TECHLAW INC.

October 22, 2002

Mr. Carl Will
State of New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East
Building One
Santa Fe, New Mexico 87505-6303

OCT 2002

Reference: Work Assignment No. Y515, 06110.040; State of New Mexico
Environment Department, Santa Fe, New Mexico; LANL Permitting
Support, Revised Draft Permit for LANL's TA-55; Task 9 Deliverable.

Dear Mr. Will:

Enclosed please find the deliverable for the above-referenced work assignment. The deliverable consists of the revised Draft Permit for Los Alamos National Laboratory's (LANL) Technical Area 55 (TA-55). The Permit, originally submitted to you on June 5, 2002, was revised based upon LANL's response to Notice of Deficiency (NOD) comments submitted by NMED. The responses from LANL included LANL's General Comments, the NOD General Comments, NOD Specific Comments Nos. 1 through 10, Nos. 44 through 51b, and Nos. 104 through 106. In addition, we reviewed the TechLaw "Evaluation of LANL's Response to NOD Comments for TA-55" deliverable, dated September 9, 2002.

The attached deliverable is still in progress, however, NMED has requested that TechLaw submit this draft. The review process that TechLaw followed in making revisions to the Permit were to review LANL's response to a comment and the TechLaw evaluation; locate the subject in the Permit; review the current text in the Permit; and decide what revisions were needed and where they should go. There were several redundant comments in the "Evaluation" document, so revising the Permit once may actually have addressed responses to three comments (e.g., many of the closure NOD comments were repeated for the Container Storage Units, the Storage Tank System, and the Cementation Unit).

The document is formatted in Word. The deliverable was emailed to Ms. Sandra

32440



LE • WASHINGTON, D.C.



Mr. Carl Will
October 22, 2002
Page 2

Gabaldon on Friday, October 18, 2002 at Sandra_Gabaldon@nmenv.state.nm.us. In addition, this email was forwarded to you at Carl_Will @nmenv.state.nm.us on October 21, 2002. If you have any questions, please call me at (303) 763-7188.

Sincerely,

June K. Dreith
Program Manager
Enclosure

cc: James Bearzi, NMED
John Kieling, NMED
Paige Walton, TechLaw
Bill Jordan/Central Files, TechLaw
Denver Files

TASK 9 DELIVERABLE

**REVISED DRAFT PERMIT FOR LANL TA-55 CONTAINER STORAGE UNITS,
THE TANK SYSTEM,
AND THE CEMENTATION UNIT**

NMED General Support Contract

Submitted by:

**TechLaw, Inc.
560 Golden Ridge Road
Golden, CO 80401**

Submitted to:

**Mr. Carl Will
State of New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East
Building One
Santa Fe, New Mexico 87505**

In response to:

Work Assignment No. Y513, 06110.040

October 200

June 5, 2002

Mr. James Bearzi
Mr. David Cobrain
State of New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East
Building One
Santa Fe, New Mexico 87505-6303

Reference: Work Assignment No. Y515, 06082.350; State of New Mexico Environment Department, Santa Fe, New Mexico; General Permit Support Contract; Research and Permitting Support for the Los Alamos National Laboratory, Permit Conditions and Schedule of Compliance for the Los Alamos National Laboratory Technical Area 55 Part B Permit Application, Task 9-revised Deliverable.

Dear Mr. Bearzi and Mr. Cobrain:

Enclosed please find the deliverable for the above-referenced work assignment. The deliverable consists of permit conditions and a schedule of compliance for the "Los Alamos National Laboratory (LANL) Technical Area 55 (TA-55) Part B Permit Application, Dated January 2002, herein referred to as the TA-55 Permit Application. The Permit Conditions and Schedules of Compliance were previously submitted to you on April 12, 2002, however, per your request, the TA-55 permit conditions were re-formatted and written to conform to the format of the Technical Area 50 (TA-50) permit conditions, which reference the General LANL Permit. However, the TA-50 permit used the term "chapter" in association with permit conditions (e.g, the General LANL Permit Chapter). The use of this term is not consistent with the TA-55 permit headings or "Modules" nor is it consistent with other NMED permits, such as WIPP and Triassic Park. Therefore, we omitted the use of the term "chapter" in the TA-55 permit conditions.

The Schedules of Compliance for the various sections of the TA-55 permit conditions |

Mr. James Bearzi and Mr. David Cobrain

June 5, 2002

Page 2

are written to reference the TA-55 Permit Application. The Schedules of Compliance will include the appropriate portions of the TA-55 Permit Application upon their revision and approval.

Several references are made to the LANL General Permit. However, an underlying assumption was made that the information referenced to and provided in the LANL General Permit has been reviewed and deemed adequate. Techlaw did not review the LANL General Permit in order to determine the adequacy of the referenced information and could only incorporate the reference as noted in the TA-55 Permit Application.

For convenience, references to sections, attachments, and/or supplements of the TA-55 Permit Application have been made. However, as information from the Permit Application becomes inserted into the actual Permit, as attachments, the references will need to be modified.

As indicated in the technical review comments of the Permit Application, submitted to you on March 12, 2002 as part of task 8 of this work assignment, the TA-55 Permit Application was lacking in detail and was found to be severely deficient and, therefore, most of the technical comments were incorporated into the schedule of compliance. TechLaw remains concerned that the number and magnitude of the compliance issues may be difficult to justify to an administrative hearing officer, as well as the general public. In addition, the lack of information provided in the TA-55 Permit Application is evidenced by weak permit conditions. Where applicable, we have inserted comments where Notice of Deficiency (NOD) comments based upon the technical adequacy review were made (NMED comments dated May 16, 2002). The information provided in LANL's response to comments, once available, will need to be incorporated into the permit. It is also anticipated that if LANL adequately responds to the NODs, many of the issues addressed in the schedule of compliance may no longer be necessary.

The document is formatted in Word. The permit conditions were formatted in a module (Module #) format while the compliance schedule follows the format of an attachment to a module (Attachment X of Module II, General Facility Conditions). For each section, permit modifications are followed by the schedule of compliance.

The deliverable was emailed to Mr. Carl Will on Wednesday, June 5, 2002 at Carl_Will@nmenv.state.nm.us. If you have any questions, please call me at (303) 763-7188.

Sincerely,

June K. Dreith
Program Manager

Mr. James Bearzi and Mr. David Cobrain

June 5, 2002

Page 3

Enclosure

cc: Mr. Carl Will, NMED
Mr. John Kieling, NMED
Ms. Paige Walton, TechLaw
Mr. B. Jordan, TechLaw Central Files
Denver File

TASK 9-revised DELIVERABLE

**PERMIT CONDITIONS AND SCHEDULE OF COMPLIANCE FOR THE
LOS ALAMOS NATIONAL LABORATORY TECHNICAL AREA 55
PART B PERMIT APPLICATION**

**NMED-HSW Corrective Action Program
RCRA Permit Renewal for the Los Alamos National Laboratory**

Submitted by:

**TechLaw, Inc.
300 Union Boulevard, Suite 600
Lakewood, CO 80228**

Submitted to:

**Mr. David Cobrain
Mr. James Bearzi
State of New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East
Building One
Santa Fe, New Mexico 87505**

In response to:

Work Assignment No. Y513, 06082.600

June 5, 2002

MODULE I PERMIT CONDITIONS

I.1 EFFECT OF PERMIT

The Secretary of the New Mexico Environment Department (Secretary) issues this Permit to the United States Department of Energy (DOE), the Owner and co-operator of the Los Alamos National Laboratory (LANL) (Environmental Protection Agency [EPA] ID Number NM0890010515-1), and the University of California (UC), co-operator of LANL. This Permit authorizes LANL and UC (the Permittees) to accept, store, manage, and treat hazardous and mixed waste at Technical Area 55 (TA-55) and establishes the general and specific standards for these activities, pursuant to the Hazardous Waste Act (Chapter 74, Article 4 NMSA 1978), and 20.4.100 NMAC *et seq.* Issuance of this TA-55 Permit is conditional on issuance of or having an effective LANL General Permit (herein referred to as the General Permit) in place, as specified in Permit Condition I.2.1.

Compliance with this Permit during its term shall constitute compliance for purposes of enforcement with Subtitle C of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. 6901 *et seq.*, and/or the Hazardous Waste Act (Chapter 74, Article 4 NMSA 1978), and/or their implementing regulations. Compliance with this permit shall not constitute a defense to any order issued or any action brought under Sections 74-4-10.E or 74-4-13 NMSA 1978; RCRA Sections 3004(u), 3004(v), 3008(a), 3008(h), 3013, 7002(a)(1), or 7003 (42 U.S.C. 6924(u), 6924(v), 6928(a) and (h), 6934, and 6973); Sections 104, 106(a), and 107 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA - 42 U.S.C. 9601 *et seq.*) or any other law providing for protection of public health or the environment. This Permit does not convey any property rights of any sort or any exclusive privilege, nor authorize any injury to persons or property, any invasion of other private rights, or any infringement of State or local laws or regulation, pursuant to 20.4.1.900 NMAC, incorporating 40 CFR §270.4 and §270.30(g).

I.2 PERMIT ACTIONS

I.2.1 Term of Permit

This Permit shall be effective for ten (10) years from its effective date provided that the LANL General Permit (herein referred to as the General Permit) is also in effect.
[20.4.1.900 NMAC (incorporating 40 CFR §270.50(a))]

I.2.2 Permit Modification, Suspension and Revocation

This Permit may be modified, suspended, or revoked for cause as specified in Section 74-4-4.2 of the HWA and 20.4.1.900 NMAC and 20.4.1.901 NMAC (incorporating 40 CFR §270.41 through §270.43). The filing of a request by the Permittees for a permit modification or the notification by the Permittees of planned changes or anticipated

noncompliance shall not stay the applicability or enforceability of any permit condition. [20.4.1.900 NMAC (incorporating 40 CFR §270.30(f))]

I.2.3 Permit Renewal

The Permittees may renew this Permit by submitting an application for a new permit at least one hundred eighty (180) calendar days before the expiration date of this Permit in accordance with 20.4.1.901 NMAC, 20.4.1.900 NMAC (incorporating 40 CFR §270.10(h) and §270.30(b)) and Permit Condition I.2.5 below. When renewing this Permit, an effective Application must be in place or renewed at the time of the permit. In reviewing any application for a permit renewal, the Secretary may consider improvements in the state of control and measurement technology and changes in applicable regulations. [20.4.1.900 NMAC (incorporating 40 CFR §270.10(h) and §270.30(b))]

I.2.4 Continuation of Expiring Permit

If the Permittees have submitted a timely and complete application for renewal of this Permit and the General Permit, in accordance with 20.4.1.900 NMAC (incorporating 40 CFR §270.10 and §270.13 through §270.28), this Permit shall remain in effect until the effective date of the new permit if, through no fault of the Permittees, the Secretary has not issued a new permit on or before the expiration date of this Permit. [20.4.1.900 NMAC (incorporating 40 CFR §270.51)]

I.2.5 Duty to Reapply

If the Permittees wishes to continue an activity regulated by this Permit after the expiration date of this Permit, the Permittees shall apply for and obtain a new permit. The Permittees shall submit a complete application for a new Permit at least 180 calendar days before the expiration date of this Permit, unless the Secretary has granted permission for a later date. The Secretary will not grant permission for applications to be submitted later than the expiration date of the existing Permit. [20.4.1.900 NMAC (incorporating 40 CFR §270.10(h) and §270.30(b))] When applying for a new permit, the Permittees shall ensure that an effective Application will be in place at the time of issuance.

MODULE II GENERAL OPERATING CONDITIONS

HIGHLIGHTS:

This Module sets forth the standards that the Permittees shall meet for managing, storing, and treating hazardous and mixed waste at the TA-55 waste management units: the Container Storage ~~Units~~ Areas (CSUAs), the Storage Tank System, and the Cementation Unit. Permit conditions specific to each of the waste management units are contained in Module ~~IV~~ VI (CSA~~CSU~~S), Module V (Storage Tank System), and Module VI (Cementation Unit).

II.1 OPERATION AND MAINTENANCE OF THE WASTE MANAGEMENT UNITS

The Permittees shall maintain and operate the TA-55 waste management units to minimize the possibility of a fire, explosion, or any unplanned, sudden or nonsudden release of hazardous waste or hazardous constituents to air, soil, ground water, or surface water that could threaten human health or the environment. [20.4.1.500 NMAC (incorporating 40 CFR §264.31)]

II.2 WASTE SOURCES

II.2.1 Authorized Wastes

Carl – this is an NOD issues. The permit should list specific wastes that are acceptable at each of the waste management units. For example, each area may not handle the same wastes. This should be provided by LANL.

The Permittees shall receive and store only hazardous and mixed wastes that bear appropriate U.S. EPA Hazardous Waste Numbers and as listed in Attachment ____ (*Authorized Wastes*) of the General Permit.

II.2.2 Hazardous Waste Imports

The Permittees shall not accept hazardous or mixed waste from a foreign source, as defined in the General Permit, Condition ____.

II.2.3 Hazardous Waste From Off-site Sources

Carl – this was not part of the TA-55 application, but was included as a permit condition for TA-50. Is this applicable here?

The Permittees may receive hazardous waste from an off-site source as defined in Module ___ of the General Permit and in accordance with requirements and conditions specified in this Permit.

II.2.4 Liquid Hazardous Wastes Containing Polychlorinated Biphenyls (PCBs)

Carl – this was not part of the TA-55 application, but was included as a permit condition for TA-50. Is this applicable here?

The Permittees are prohibited from storing hazardous waste restricted from land disposal under 20.4.1.700 NMAC (incorporating 40 CFR §268, Subpart C) for more than one year from the date such waste was first placed into storage. [20.4.1.700 NMAC (incorporating 40 CFR §268.50)] The Permittees are prohibited from storing liquid hazardous wastes containing polychlorinated biphenyls (PCB's) at concentrations greater than 50 parts per million (ppm) unless such storage is in compliance with the requirements of 40 CFR §761.65(b). The Permittees are prohibited from storing liquid hazardous wastes containing PCB's at concentrations greater than 50 ppm for more than one year from the date such waste was first placed into storage. If the Permittees handle PCBs at concentrations greater than or equal to 50 ppm, then the Permittees shall submit a copy of their EPA-issued Toxic Substance Control Act (TSCA) Permit for storage of PCBs to the Secretary before accepting the PCB waste, pursuant to 20.4.1.800 NMAC, incorporating 40 CFR §268.50. [20.4.1.700 NMAC (incorporating 40 CFR §268.50(f))]

II.3 GENERAL WASTE ANALYSIS

Carl – there are several NODs related to the WAP and to the Cementation Unit WAPs. (General Comment #4, Specific Comments 31 – 43)

The Permittees shall follow the waste analysis procedures specified in the General Permit, Module ___ and Appendix B (*Waste Analysis Plan*) as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.13) and 20.4.1.800 NMAC (incorporating 40 CFR §268.7). For the treatment of wastes in the Cementation Unit, additional waste analysis procedures as noted in the Permit Application Attachments B.1 and B.2 must be followed.

II.4 SECURITY

In order to prevent the unknowing entry and to minimize the possibility of unauthorized entry of persons into the TA-55 ~~CSACSU~~s, the Permittees shall comply with the security provisions and procedures described in Conditions II.4.1, II.4.2 of this Permit and the TA-55 Permit Application Attachment K.1 (*Security and Access*). [20.4.1.500 NMAC (incorporating 40 CFR §264.14)]

II.4.1 Barriers and Means to Control Entry

The Permittees shall maintain in good repair the two 12-foot high chain link security fence, with razor wire at the top, that encompasses the perimeter of the TA-55 complex as specified in the TA-55 Permit Application, Attachment K.1 (*Security and Access*). The security fence shall be used and maintained in order to control entry and prevent unauthorized personnel and livestock from gaining access to the facility. Access to TA-55 shall be through one of the three access gates designated in the TA-55 Permit Application, Attachment K.1 (*Security and Access*). The access gates shall remain locked at all times when not in use. [20.4.1.500 NMAC (incorporating 40 CFR 264.14(b)(2)(ii))]

II.4.2 Warning Signs

Warning signs in English and Spanish, indicating “NO TRESPASSING BY ORDER OF THE UNITED STATES DEPARTMENT OF ENERGY” or similar, for example: “DANGER UNAUTHORIZED PERSONNEL KEEP OUT” or “DANGER – HAZARDOUS WASTE STORAGE AREA”, shall be posted at all the gates and around the fence, and at the entrances at each hazardous and mixed waste management area in sufficient numbers to be visible from all angles of approach to TA-55. These bilingual signs must be legible from a distance of at least 25 feet from any approach to the perimeter fence, as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.14(c)).

II.5 GENERAL INSPECTION REQUIREMENTS

The Permittees shall inspect the waste management units located at TA-55 following the inspection schedules and requirements specified in Attachment C (*Inspection Plan*) of the TA-55 Permit Application, in order to detect any container and/or equipment malfunctions and deteriorations, operator errors, and discharges. The inspections shall include monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment. [20.4.1.500 NMAC (incorporating 40 CFR §§264.15(a) and (b))]

The Permittees shall remedy any deterioration or malfunction discovered by an inspection, as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.15(c)).

Records of inspections shall be kept in the Operating Record for each waste management unit at TA-55 as noted in the TA-55 Permit Application Attachment C.1.1 and as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.15(d)).

II.6 PERSONNEL TRAINING

The Permittees shall follow the General Permit , Appendix D (*Personnel Training Requirements*) for training of all persons involved in the management and treatment of hazardous and mixed waste in procedures relevant to the positions in which they are

employed. [20.4.1.500 NMAC (incorporating 40 CFR §264.16) and 20.4.1.900 NMAC (incorporating 270.14(b)(12))]

II.7 SPECIAL PROVISIONS FOR IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTE

Carl – there are NODs concerning this issue. (Specific Comments 6, 10, 14, 19, 24, 106, 110, 112, and 117)

The Permittees shall comply with the requirements of 20.4.1.500 NMAC (incorporating 40 CFR §264.17(a), §264.176 and §264.177). The Permittees shall follow the procedures for handling ignitable, reactive, and incompatible wastes specified in the TA-55 Permit, Conditions IV.11.1 through 3, V.4, and VI.4, ~~and VII.4~~ and Attachments G (*Container Management*), H (*Storage Tanks*), and I (*Cementation Unit*) of the TA-55 Permit Application.

II.7.1 Precautions

The Permittees shall take precautions to prevent accidental ignition or reaction of ignitable or reactive waste and follow the procedures specified in TA-55 Permit Application Attachments G, H, and I, ~~and J,~~ as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.17(a), §264.176 and §264.177).

II.8 PREPAREDNESS AND PREVENTION

Permittees shall comply with the preparedness and prevention conditions listed below. [20.4.1.500 NMAC (incorporating 40 CFR §264.31 through §264.37)]

II.8.1 Required Equipment

At a minimum, the Permittees shall maintain at the TA-55 waste management units the equipment set forth in the Contingency Plan of TA-55 Permit Application, Attachment E, and all general equipment requirements specified in the General Permit, Appendix E, (*Contingency Plan*). [20.4.1.500 NMAC (incorporating 40 CFR §264.32)]

II.8.2 Testing and Maintenance of Equipment

The Permittees shall test and maintain the equipment specified in the Contingency Plan, as necessary, to assure its proper operation in time of emergency. [20.4.1.500 NMAC (incorporating 40 CFR §264.33)]

II.8.3 Access to Communications or Alarm System

The Permittees shall maintain access to the communications or alarm system specified in the Contingency Plan. [20.4.1.500 NMAC (incorporating 40 CFR §264.34)]

II.8.4 Required Aisle Space

~~Carl—this is an NOD comment, that the aisle space specified in the application was not sufficient. (Specific Comments 4 and 118)~~

At a minimum, the Permittees shall maintain a minimum of two feet of ~~enough~~-aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of any of the waste management unit operations [20.4.1.500 NMAC (incorporating 40 CFR §264.35)] and as specified in TA-55 Permit Application, Section 2.

II.8.5 Arrangements with Local Authorities

The Permittees shall maintain the arrangements with local authorities requirements as specified in the General Permit, Appendix E (*Contingency Plan*) and General Permit Condition ____.

II.9 CONTINGENCY PLAN

II.9.1 Implementation of Plan

The Permittees shall immediately implement the Contingency Plan addressed in the General Permit, Appendix E and TA-55 Permit Application, Attachment E whenever there is a fire, explosion, or release of hazardous or mixed waste or hazardous or mixed waste constituents at any of the waste management units that could threaten human health or the environment. [20.4.1.500 NMAC (incorporating 40 CFR §264.51(b))]

II.9.2 Copies of the Plan

The Permittees shall maintain copies of the Contingency Plan (General Permit, Appendix E) and TA-55 specific requirements (TA-55 Permit Application, Attachment E) and all revisions and amendments to the Contingency Plan at the TA-55 complex. The Permittees shall provide copies of the most current plan and revisions to the Secretary and all entities with which the Permittees have emergency Memorandums of Understanding (MOUs) or Memorandums of Agreement (MOAs) required under General Permit Condition _____. [20.4.1.500 NMAC (incorporating 40 CFR §264.53)]

II.9.3 Amendments to Plan

The Permittees shall review and immediately amend, if necessary, the Contingency Plan (General Permit, Appendix E and the TA-55 Permit Application, Attachment E), as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.54).

II.9.4 Emergency Coordinator

An Emergency Coordinator and an Alternate Emergency Coordinator, as specified in the Contingency Plan General Permit, Appendix E, shall be available at all times in case of an emergency. The Emergency Coordinator or Alternate Emergency Coordinator shall be thoroughly familiar with the Contingency Plan and shall have the authority to commit the resources needed to implement the Contingency Plan, as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.55). In the event of an imminent or actual emergency, the Emergency Coordinator or Alternate Emergency Coordinator shall activate the internal emergency alarms, notify the appropriate State or local agencies with designated response roles, and implement the other requirements specified under 20.4.1.500 NMAC (incorporating 40 CFR §264.56), and as described in the Contingency Plan contained in General Permit, Appendix E.

MODULE III CLOSURE REQUIREMENTS

III.1 PERFORMANCE STANDARD

Carl – this is an NOD issue (both related to what is the closure standard and in regard to the closure plans). (Specific Comments 44, 60, 74, and 89)

The Permittees shall close the hazardous and mixed waste management units at TA-55 in accordance with their approved Closure Plans (TA-55 Permit Application Attachments F.1, F.2, F.3, and F.4), and as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.110 through §264.115) and the requirements of 40 CFR §264.178. All hazardous and mixed waste, waste residues, and hazardous constituents shall be removed upon closure.

III.1.1 Partial Closure

Carl – This is an NOD about what constitutes partial closure. LANL intends to partially close the units, but did not specify the order, how many areas may be left operating during closure, etc. until final closure is achieved. (Specific Comment #45, 61, 75, and 90)

Partial closure at TA-55 will consist of closing one or more of the units while leaving the other units in service. Closure of all storage units at TA-55 constitutes final closure. Partial closure may consist of closing one or more CSUs, one or more components of the Storage Tank System, or the entire Cementation Unit while leaving the other hazardous waste units at TA-55 in service.

III.2 AMENDMENT TO CLOSURE PLAN

The Permittees shall amend the Closure Plan, whenever necessary, through a Permit modification, as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.112(c)).

III.3 NOTIFICATION OF CLOSURE

The Permittees shall notify the Secretary in writing at least forty-five (45) calendar days prior to the date on which they expect to begin closure of any waste management unit at TA-55, as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.112(d)).

III.4 TIME ALLOWED FOR CLOSURE

Within ninety (90) calendar days after receiving the final volume of hazardous waste, the Permittees shall remove all hazardous and mixed waste from the waste management unit(s) to be closed and shall complete closure activities in accordance with the approved Closure Plan (TA-55 Permit Application, Attachments F.1, F.2, F.3, and F.4), or as amended, Permit Conditions IV.10, V.10, VI.10, ~~and VII.11~~, and 20.4.1.500 NMAC

(incorporating 40 CFR §264.113). The removed hazardous waste shall be treated and/or disposed of at a permitted treatment, storage or disposal facility.

III.5 DISPOSAL OR DECONTAMINATION OF EQUIPMENT, STRUCTURES, AND SOILS

At closure, the Permittees shall decontaminate or dispose of all contaminated equipment, structures, soils and ground water, as specified in the TA-55 Permit Application Attachments F.1, F.2, F.3 and F.4, Permit Conditions IV.10, V.10, and VI.10 ~~and VII.11~~, and 20.4.1.500 NMAC (incorporating 40 CFR §264.114).

By removing hazardous waste or hazardous constituents during closure activities, the Permittees may become a generator of hazardous waste, and shall handle that waste in accordance with all applicable requirements of 20.4.1.300 NMAC (incorporating 40 CFR §264.262).

III.6 CERTIFICATION OF CLOSURE

Within sixty (60) calendar days from the date of completion of closure of each TA-55 CSACSU, the Permittees shall provide to the Secretary a final closure report and written closure certification, signed by an independent professional engineer registered in New Mexico, that the CSACSU was closed in accordance with the specifications in the approved *Closure Plan* (TA-55 Permit Application Attachment F), as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.115).

MODULE IV STORAGE OF HAZARDOUS WASTE IN CONTAINERS

DESCRIPTION

Carl – there are several NODs concerning the CSAs, including descriptions, layout, specific wastes, etc. (General Comments 1 and 2, Specific Comments 2-26 and 103-107)

This Module specifies the regulatory requirements that the Permittees shall follow when managing and storing hazardous, mixed low-level, and/or mixed TRU wastes at the TA-55 ~~Container Storage Areas (CSUAs)~~. The Permittees are authorized to manage and store only those hazardous wastes listed in Permit Attachment H (*Authorized Wastes*). Specific TA-55 and process information for the management, storage and transfer of hazardous waste and a description of the ~~CSA~~CSUs are provided in the TA-55 Permit Application Section 2.1 and Attachments F.1 and G.

The Permittees are authorized to store containerized hazardous wastes in the following ~~seventy-eight (78)~~ (78) ~~CSA~~CSU locations at TA-55:

- Building 4, B40
- Building 4, K13
- ~~Building 4, Room 401, FLO1~~
- Building 4, Vault
- Building 4, Storage Pad located northwest of the building
- Building 4, B05
- Building 4, B45
- Building 185

Figure A-1 of the TA-55 Permit Application, Attachment A, shows the location of TA-55 within the LANL Facility. The locations of the ~~CSA~~CSUs within the TA-55 complex are shown in the TA-55 Permit Application, Attachment A, Figure A-2.

The Permittees may store up to ~~208,500~~225,960 gallons of hazardous, mixed low-level, and/or mixed TRU waste in the designated containers identified in Table 2-2 of the General Permit. The Permittees may store only those hazardous, mixed low-level, and/or mixed TRU wastes generated within the LANL Facility boundaries. The Permittees must dispose of their hazardous and mixed low-level wastes off-site through licensed treatment, storage or disposal contractors; mixed TRU waste must be disposed of at the U.S. Department of Energy Waste Isolation Pilot Plant near Carlsbad, New Mexico. The Permittees' primary hazardous waste generation activities are associated with research and development activities associated with the laboratory's mission.

IV.1 CONTAINER STORAGE UNITSAREAS (CSUA)

The Permittees shall manage and store hazardous waste in the CSUAs in accordance with this TA-55 Permit Application Attachment G and the following conditions.

IV.1.1 Storage Locations and Quantities

Carl – there are quite a few NODs related to this. The specific waste types should also be provided in Table IV-1. (General Comments 1 and 2, Specific Comments 2, 3, 4, 48, 103 and 104)

The Permittees shall manage and store hazardous and mixed waste in containers in the designated TA-55 CSUAs specified in Table IV-1 below. The Permittees shall not manage and/or store hazardous or mixed waste in excess of the maximum capacities for each individual CSUA identified in Table IV-1.

**TABLE IV-1
TA-55 Hazardous and Mixed Waste Container Storage UnitsAreas
Waste Types and Design Capacities**

TYPE OF STORAGE UNIT	EPA HAZARDOUS WASTE TYPE ^a	DIMENSIONS (ft) AREA (sq ft)	MAXIMUM VOLUME OF WASTE (gal.) ^a
<u>CSUA Areas Allowing Liquid and Solid Waste</u>			
Building 4, B40	<i>Hazardous, mixed low-level, and mixed TRU wastes</i> Insert specific wastes to be managed and stored, including EPA codes	L-shaped, 61.5 x 54.1 Area ^b : 2128	21,500
Building 4, K13	<i>Hazardous, mixed low-level, and mixed TRU wastes</i> Insert specific wastes to be managed and stored, including EPA codes	16 x 13 Area: 208	3,400
Building 4, Room 401, FLO1	Insert specific wastes to be managed and stored, including EPA codes	6 x 5.5 Area: 33	660
Building 4, Vault	<i>Mixed low-level and mixed TRU wastes</i> Insert specific wastes to be managed and stored, including EPA codes	79.7 x 50.6 Area ^c : 3936	4,000
Building 4, Storage Pad (northwest of building)	<i>Hazardous, mixed low-level, and mixed TRU wastes</i> Insert specific wastes to be managed and stored, including EPA	<u>Trapezoid</u> 102 x 86 x 156 x 105 Approx. Area: 10,580	135,000

	stored, including EPA codes	Adjacent Strip 70 x10 Area: 700 Total Area: 11,280	
<u>CSUA Areas Allowing Only Solid Waste</u>			
Building 4 B05	Hazardous, mixed low-level, and mixed TRU wastes Insert specific wastes to be managed and stored, including EPA codes	26 x 10 Area: 260	3,600 3,000
Building 4, B45	Hazardous, mixed low-level, and mixed TRU wastes Insert specific wastes to be managed and stored, including EPA codes	45.1 x 17.7 Area: 798	11,000 3,400
Building 185	Hazardous, mixed low-level, and mixed TRU wastes Insert specific wastes to be managed and stored, including EPA codes	60 x 40 Area: 2400	30,000 55,000
<p>^a Volume is based on the capacity of a standard 55-gallon drum (7.3 cu. ft.)</p> <p>^b Area calculated from TA-55 Permit Application Figure G-1</p> <p>^c Area calculated from TA-55 Permit Application Figure G-1</p>			

The Permittees shall comply with the following conditions:

Carl – There are several NODs concerning the design requirements for these areas and related to containment systems. This information when obtained from LANL should be incorporated into each subsection. (General Comments 1 and 2, Specific Comments 2, 3, 103 and 104)

IV.1.1.1. Building 4, B40: The Permittees shall store hazardous, mixed low-level, and mixed transuranic (TRU) waste, which may contain some liquids, in containers specified in the General Permit, Attachment G.1.1 and described in Section 2.1.2. These containers include but are not limited to 15-, 30-, 55-, and 85-gallon drums, large waste boxes, and standard waste boxes (SWBs). Containers fitting the descriptions provided in Tables IV.2 and IV.3 may also be used. Any other container must be identified and submitted~~provided~~ for approved use as described in Permit Condition IV.3, as outlined in the Module II, Attachment A, Container Storage Area Schedule of Compliance, A.2.2. Secondary containment systems shall be maintained in accordance with Permit Condition IV.7 and shall consist of self-containment pallets or epoxy-enamel-coated cabinets. The floor of the basement Building TA-55-4 shall serve as a tertiary containment system.

IV.1.1.2. Building 4, K13: The Permittees shall store hazardous, mixed low-level, and mixed TRU waste, which may contain some liquids, in containers specified in the General Permit, Attachment G.1.3 and described in Section 2.1.2. These containers include, but are not limited to, steel cans, 30-, 55-, and 85-gallon drums, and large waste boxes. Containers fitting the descriptions provided in Tables IV.2 and IV.3 may also be used. Any other container types must be specifically identified and submitted for approved use as described in Permit Condition IV.3 as outlined in the Module II, Attachment A, Container Storage Area Schedule of Compliance, A.2.2. Secondary containment systems shall be maintained in accordance with Permit Condition IV.77 and shall consist of self-containment pallets or epoxy-enamel-coated cabinets. The floor of the basement Building TA-55-4 shall serve as a tertiary containment system.

~~**IV.1.1.3. Building 4, Room 401, FLO1:** The Permittees shall store hazardous, mixed low-level, and mixed TRU waste, which may contain some liquids, in containers specified in the General Permit, Attachment G.1.6 and described in Section 2.1.2. These containers are limited to 30-, 55- and 85-gallon steel drums. Any other container must be specifically identified and submitted for approved use as outlined in the Module II, Attachment A, Container Storage Area Schedule of Compliance, A.2.2. Secondary containment systems shall be maintained in accordance with Permit Condition IV.77 and shall consist of self-containment pallets or epoxy-enamel-coated cabinets. The floor of the basement Building TA-55-4 shall serve as a tertiary containment system.~~

IV.1.1.4. Building 4, Vault: The Permittees shall store mixed low-level and mixed TRU waste, which may contain some liquids, in containers specified in the General Permit, Attachment G.1.5 and described in Section 2.1.2. These containers include, but are not limited to, glass bottles, plastic bottles, steel cans, and 30- and 55-gallon drums. Containers fitting the descriptions in Tables IV.2 and IV.3 may also be used. Any other container types must be specifically identified and submitted for approved use as described in Permit Condition IV.3 as outlined in the Module II, Attachment A, Container Storage Area Schedule of Compliance, A.2.2. Secondary containment systems shall be maintained in accordance with Permit Condition IV.77 and shall consist of self-containment pallets or epoxy-enamel-coated cabinets. The floor of the basement Building TA-55-4 shall serve as a tertiary containment system.

IV.1.1.5. Building 4, Storage Pad: The Permittees shall store hazardous, mixed low-level, and mixed TRU waste, which may contain some liquids, in containers specified in the General Permit, Attachment G.1.7 and described in Section 2.1.2. These containers include, but are not limited to, 0.25, 0.5, 0.75, 1, 2, 4, and 6 liter containers; 30-, 55-, and 85-gallon drums; SWBs; and large waste boxes. Containers fitting the descriptions in Tables IV.2 and IV.3 may also be used. Any other container types, such as "various small containers", must be specifically identified and submitted provided for approved use as described in Permit Condition IV.3 as outlined in Module II, Attachment A, Container Storage Area Schedule of Compliance, A.2.2. Secondary containment systems shall be maintained in accordance with Permit Condition IV.7 and liquid-bearing wastes shall be placed in a covered self-containment unit.

IV.1.1.6. Building 4, B05: The Permittees shall store only solid (no liquids) hazardous, mixed low-level, and mixed TRU waste in containers specified in the General Permit, Attachment G.1.2 and described in Section 2.1.2. These containers include, but are not limited to 30-, 55-, and 85-gallon drums, large waste boxes, and SWBs. Containers fitting the descriptions in Tables IV.2 and IV.3 may also be used. ~~Any Other container types must be specifically identified and submitted provided for approved use as outlined in the Module II, Attachment A, Container Storage Area Schedule of Compliance, A.2.2.~~

IV.1.1.7. Building 4, B45: The Permittees shall store only solid (no liquids) hazardous, mixed low-level, and mixed TRU waste in containers specified in the General Permit, Attachment G.1.4 and described in Section 2.1.2. These containers include, but are not limited to steel cans, 55- and 85-gallon drums, and SWBs. Containers fitting the descriptions in Tables IV.2 and IV.3 may also be used. ~~Any Other container types must be specifically identified and submitted for approved use as described in Permit Condition IV.3 as outlined in the Module II, Attachment A, Container Storage Area Schedule of Compliance, A.2.2.~~

IV.1.1.8. Building 185: The Permittees shall store only solid (no liquids) hazardous, mixed low-level, and mixed TRU waste in containers specified in the General Permit, Attachment G.1.8 and described in Section 2.1.2. These containers include, but are not limited to 30-, 55-, and 85-gallon steel drums, large waste boxes, and SWBs. Containers fitting the descriptions in Tables IV.2 and IV.3 may also be used. ~~Any Other container types must be specifically identified and submitted for approved use as described in Permit Condition IV.3 as outlined in the Module II, Attachment A, Container Storage Area Schedule of Compliance, A.2.2.~~

IV.1.1.9. Storage Container Emission Controls: All containers used to contain hazardous waste shall control air pollutant emissions from each container in accordance with 20.4.1.500 NMAC (incorporating 40 CFR 264 Subpart CC). Pursuant to 20.4.1.500 NMAC (incorporating 40 CFR 264.1086) all hazardous waste containers shall meet the appropriate container control, based on container capacity, of either Container Level 1, Container Level 2 or Container Level 3 standards.

All containers holding mixed TRU wastes shall be vented with high-efficiency particulate air (HEPA) filters to allow venting of gases, but preventing release of airborne particles as described in Table IV.3.

IV.1.22 Storage Time Limit

Carl – this is a permit condition from the TA-50 application. Is it applicable; as the waste is going to WIPP, do the RCRA time requirements apply here?

The Permittees shall not store any hazardous or mixed waste in the CSUAs for more than one (1) year from the date such waste was first placed into storage.

IV.1.33 Minimum Aisle Space

~~Carl—This is an NOD issue. (Specific Comments 4 and 118)~~

The Permittees shall maintain a minimum of two feet~~sufficient~~ of aisle space between storage containers in the CSACSUs to allow the unobstructed movement of personnel, fire protection equipment, spills control equipment and decontamination equipment to any area within the CSACSUs. [20.4.1.500 NMAC (incorporating 40 CFR §264.35)]

IV.1.44 Preparedness and Prevention

Pursuant to 20.4.1.500 NMAC (incorporating 40 CFR §264.35), the Permittees shall designed, constructed, maintain and operate the units to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous or non-hazardous waste constituents to the air, soil or surface water which could threaten human health or the environment.

IV.2 PERMITTED AND PROHIBITED WASTE IDENTIFICATION

IV.2.1 Permitted Waste

~~Carl—This is an NOD issue—they need to specify exactly which wastes will be stored at each unit. (Specific Comment #3)~~

The Permittees may store and manage hazardous, mixed low-level and mixed TRU wastes, which may contain some liquids, at B40, K13, FLO1, and the Storage Pad; hazardous, mixed low-level and mixed TRU solid wastes at B05, B45, and Building 185; and mixed low-level and mixed TRU wastes, which may contain some liquids, at the Vault. All waste containers shall be labeled with appropriate U.S. EPA Hazardous Waste Codes.

IV.2.1a The Permittees shall manage and store for subsequent transfer to a permitted treatment, storage, or disposal facility, only the hazardous wastes listed in LANL General Permit, Attachment __ (*Authorized Wastes*). Table IV-1 above shows the maximum amounts of hazardous waste that the Permittees shall manage or store at each individual TA-55 CSACSU subject to the terms of this Permit.

IV.2.2 Prohibited Waste

The Permittees are prohibited from managing and storing in the CSACSUs any hazardous or mixed waste that is not identified in Permit Condition IV.2.1 above. The Permittees shall not store more than a combined total of 225,960 gallons of the EPA Hazardous Wastes Codes in containers at the TA-55 CSACSUs at any one time. Table IV-1 above shows the maximum amounts of hazardous waste that the Permittees can manage and store at each individual CSACSU subject to the terms of this Permit.

IV.2.2.a The Permittees are prohibited from accepting or storing waste with the following F-listed waste codes: F020, F021, F022, F023, F026, F027.

IV.2.2.b The Permittees are prohibited from storing waste containing free liquids at CSACSUs B05, B45, and Building 185.

IV.3 ACCEPTABLE STORAGE CONTAINERS

Carl — This is an NOD issue. LANL did not provide all the types of containers — they said these were typical containers that may be used. This table should be updated when the information becomes available. (Specific Comments 3 and 104)

The Permittees shall only use containers that comply with the requirements of the U.S. Department of Transportation shipping container regulations (49 CFR §173 - *Shippers - General Requirements for Shipment and Packaging*, and 49 CFR §178 - *Specifications for Packaging*) for storage of hazardous and mixed waste at the subject TA-55 CSACSUs. The Permittees shall store hazardous waste in those container types identified in Tables IV-1-2 and IV-3 only. All materials of construction shall be compatible with the wastes to be stored in the containers.

Any other type of container used to store wastes at the TA-55 CSUs shall be identified and submitted to the Secretary for approval before it can be used.

**TABLE IV-1-2
ACCEPTABLE STORAGE CONTAINERS**

<u>Non-Bulk Performance-Oriented Packaging UN Marking Provided by Manufacturer in Accordance with 49 CFR § 178.503</u>	<u>Intermediate Bulk Performance-Oriented Containers Container Marked by the Manufacturer in Accordance with 49 CFR § 178.703</u>	<u>Cylinders Marked with the Applicable DOT Specification Number in Accordance with 49 CFR § 178.35</u>	<u>Containers Used for Transport of Radioactive Materials</u>
<u>Steel drums meeting the standards of 49 CFR § 178.504. Maximum capacity will not exceed 119 gallons (gal); maximum net mass will not exceed 882 pounds (lbs).</u>	<u>Metal intermediate bulk containers meeting the standards of 49 CFR § 178.705.</u>	<u>Seamless steel cylinders meeting the requirements of DOT Specification 3A, 3AX, 3AA, 3AAX, 3B, 3E, or 3T in 49 CFR, Part 178, Subpart C.</u>	<u>Containers meeting the requirements of DOT Specification 7A in 49 CFR § 178.350.</u>
<u>Aluminum drums meeting the standards of 49 CFR § 178.505. Maximum capacity will not exceed 119 gal; maximum net mass will</u>	<u>Rigid plastic intermediate bulk containers meeting the standards of 49 CFR § 178.706.</u>	<u>Welded or brazed steel cylinders meeting the requirements of DOT Specification 4B, 4BA, 4B240ET, 4AA480, 4L, or 4BW in 49 CFR, Part</u>	<u>Containers meeting the requirement of Industrial Packaging IP-1, IP-2, or IP-3</u>

<u>not exceed 882 lbs.</u>		<u>178, Subpart C.</u>	<u>in 49 CFR § 173.411.</u>
<u>Metal drums other than steel or aluminum meeting the standards of 49 CFR § 178.506. Maximum capacity will not exceed 119 gal; maximum net mass will not exceed 882 lbs.</u>	<u>Composite intermediate bulk containers meeting the standards of 49 CFR § 178.707.</u>	<u>Seamless or welded aluminum cylinders meeting the requirements of DOT Specification 3AL or 4E in 49 CFR, Part 178, Subpart C.</u>	<u>Containers meeting the requirements of excepted packaging and the requirements of 49 CFR § 173.410.</u>
<u>Fiber drums meeting the standards of 49 CFR § 178.508. Maximum capacity will not exceed 119 gal; maximum net mass will not exceed 882 lbs.</u>	<u>Fiberboard intermediate bulk containers meeting the standards of 49 CFR § 178.708.</u>	<u>Seamless nickel cylinders meeting the requirements of DOT Specification 3BN in 49 CFR, Part 178, Subpart C.</u>	
<u>Plastic drums meeting the standards of 49 CFR § 178.509. Maximum capacity will not exceed 119 gal; maximum net mass will not exceed 882 lbs.</u>	<u>Wooden intermediate bulk containers meeting the standards of 49 CFR § 178.709.</u>		
<u>Plastic Jerricans meeting the standards of 49 CFR § 178.509. Maximum capacity will not exceed 16 gal; maximum net mass will not exceed 265 lbs.</u>	<u>Flexible intermediate bulk containers meeting the standards of 49 CFR § 178.710.</u>		
<u>Steel or aluminum boxes meeting the standards of 49 CFR § 178.512. Maximum net mass will not exceed 882 lbs.</u>			
<u>Non-Bulk Performance-Oriented Packaging UN Marking Provided by Manufacturer in Accordance with 49 CFR § 178.503</u>	<u>Intermediate Bulk Performance-Oriented Containers Container Marked by the Manufacturer in Accordance with 49 CFR § 178.703</u>	<u>Cylinders Marked with the Applicable DOT Specification Number in Accordance with 49 CFR § 178.35</u>	<u>Containers Used for Transport of Radioactive Materials</u>
<u>Aluminum or steel Jerricans meeting the standards of 49 CFR 178.511. Maximum capacity will not exceed 16 gal; maximum net mass will not exceed 265 lbs.</u>			
<u>Plywood boxes meeting</u>			

<u>the standards of 49 CFR § 178.514. Maximum net mass will not exceed 882 lbs.</u>			
<u>Fiberboard boxes meeting the standards of 49 CFR § 178.516. Maximum net mass will not exceed 882 lbs.</u>			
<u>Composite packaging with inner receptacles meeting the standards of 49 CFR § 178.522. Maximum capacity is 66 gallons; maximum net mass is 882 lbs.</u>			
<u>Composite packaging with inner glass, porcelain, or stone receptacles meeting the standards of 49 CFR § 178.523. Maximum net capacity for liquids is 16 gal; maximum net mass for solids is 165 lbs.</u>			

Container Storage Area	Acceptable Containers by Type
Building 4, B40	15-, 30-, 55-, and 85-gallon drums, large waste boxes, and standard waste boxes (SWBs)
Building 4, B05,	30-, 55-, and 85-gallon drums, large waste boxes, and SWBs
Building 4, K13	Steel cans, 30-, 55-, and 85-gallon drums, and large waste boxes
Building 4, B45	Steel cans, 55- and 85-gallon drums, and SWBs
Building 4, Room 401, FLO1	30-, 55- and 85-gallon steel drums
Building 4, Vault	Glass bottles, plastic bottles, steel cans, and 30- and 55-gallon drums
Building 4, Storage Pad	30-, 55-, and 85-gallon drums, SWBs, and large waste boxes
Building 185	30-, 55-, and 85-gallon steel drums, large waste boxes, and SWBs

TABLE IV-3
STORAGE CONTAINERS USED AT TA-55 FOR MIXED TRANSURANIC WASTE
AWAITING CHARACTERIZATION AND TRANSPORT TO THE WASTE
ISOLATION PILOT PLANT (WIPP)

<u>Standard 55-gallon (208-</u>	<u>Standard Waste</u>	<u>Standard 85-gallon (322-liter)</u>	<u>Oversized Waste Box</u>
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liter) Drum	Box	Drum Over Pack	
Gross internal volume of 7.3 ft ³ (0.21 m ³) constructed of mild steel. May also contain ridge, molded polyethylene (or other compatible material) liner. Must meet requirements of DOT Specification & 7A in 49 CFR § 178.350.	Gross internal volume of 66 ft ³ (1.88 m ³). Must meet requirements of DOT Specification 7A in 49 CFR § 178.350.	Gross internal volume of 11.3 ft ³ (0.32 m ³). Used for overpacking contaminated 55-gallon drums containing mixed transuranic waste.	Gross internal volume greater than 11.3 ft ³ (0.32 m ³). Used for oversized mixed transuranic waste.
One or more filter vents installed on top of the container. Vents are high-efficiency particulate air (HEPA) grade filters to preclude container pressurization caused by gas generation and to prevent particulate material from escaping. Vents have an orifice approximately 0.375 inches (9.53 mm) in diameter through which internally generated gas may pass. Filter media can be any material (e.g., composite carbon, sintered metal).	One or more filter vents installed on top of the container. Vents are HEPA-grade filters to preclude container pressurization caused by gas generation and to prevent particulate material from escaping. Vents have an orifice approximately 0.375 inches (9.53 mm) in diameter through which internally generated gas may pass. Filter media can be any material (e.g., composite carbon, sintered metal).	One or more filter vents installed on top of the container. Vents are HEPA-grade filters to preclude container pressurization caused by gas generation and to prevent particulate material from escaping. Vents have an orifice approximately 0.375 inches (9.53 mm) in diameter through which internally generated gas may pass. Filter media can be any material (e.g., composite carbon, sintered metal).	Two or more filter vents installed on sides of container. Vents are HEPA-grade filters to preclude container pressurization caused by gas generation and to prevent particulate material from escaping. Vents have an orifice approximately 0.375 inches (9.53 mm) in diameter through which internally generated gas may pass. Filter media can be any material (e.g., composite carbon, sintered metal).

IV.4 CONDITION OF CONTAINERS

~~Carl~~— this is an NOD issue related to waste compatibility of overpacks, surface contamination, and container liners. (Specific Comment #5)

Containers must be in good condition without severe rust, dents, deep scratches, bulges, or other structural defects (e.g., no severe rusting, apparent structural defects). If a container holding hazardous or mixed waste is not in good condition (e.g., has severe rusting, apparent structural defects) or if it begins to leak, the Permittees shall transfer the hazardous or mixed waste from such a container to a container that is in good condition and is compatible with the waste and packaging material; -overpack the container in poor condition in a vessel that is compatible with

~~the waste, packaging material, and/or other container; or otherwise manage the waste~~
~~otherwise manage the waste~~ in accordance with the Conditions of this Permit. [20.4.1.500 NMAC (incorporating 40 CFR §264.171)]

The Permittees shall ensure that all containers are free of surface contamination through regularly scheduled inspections for evidence (e.g., corrosion, visible staining, bulges, rupture, dents, leaks) that may indicate surface contamination. If any evidence of surface contamination is detected, the waste container is either overpacked in an appropriate container or the waste is repackaged in a new container as discussed above.

IV.5 COMPATIBILITY OF WASTE WITH CONTAINERS

~~Carl—this is an NOD issue related to showing waste compatibility with containers and liners. (Specific Comment #6)~~

The Permittees shall use containers made of, or lined with, materials that will not react with, and are otherwise compatible with, the hazardous and mixed waste to be stored, so that the ability of the container to contain the waste is not impaired, as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.172). The Permittees shall ensure compliance with this requirement by:

- Conducting pre-acceptance characterization of waste, as specified in the General Permit, Appendix B (*Waste Analysis Plan*), considering the precautions specified in the subsection on prevention of accidental ignition or reaction of ignitable, reactive or incompatible wastes.
- Using the DOT shipping name of the waste to be stored and the DOT Hazardous Materials Table to identify the degree of danger presented by the waste and the appropriate container for the material.
- Inspecting all container components (e.g., lid, liner, and interior/exterior surface) to ensure container integrity as well as compatibility prior to filling the container. This inspection shall be performed by the waste generator as the “Los Alamos National Laboratory Waste Acceptance Criteria,” (LANL, 2002b) requires waste generators to ensure the compatibility of the waste container, including liners, with the waste to be containerized.

The Permittees shall ensure that all liners are compatible with the wastes and containers they contact through the following procedures:

- For procurement of lined containers, LANL procurement and quality control procedures are followed to ensure that purchased units meet U.S. Department of Transportation (DOT) (49 CFR 173.410) requirements for Type A/7A packages.
- For procurement of individual liners, a representative sample of the purchased liner is inspected for compliance with appropriate specifications. At the time of use, the

generator ensures the liner and its properties are inspected for compliance with the specification provided to the supplier. Containers that do not pass inspection are segregated from those that are acceptable to prevent inadvertent use.

IV.6 MANAGEMENT OF CONTAINERS

Carl—There are some NOD issues concerning waste enclosures for waste transfers, waste handling requirements, closure devices, container labeling, and waste profile forms. (Specific Comments 7 and 8)

The Permittees shall manage all containers as specified in the TA-55 Permit Application, Section 2.1.7 and Attachment G, and in accordance with the regulatory references listed in the TA-55 Permit Application Table G-1 of Attachment G. Examples of the waste profile forms that accompany all wastes to be stored in the TA-55 CSUs are provided in Attachment D, Waste Profile Forms.

The Permittees shall keep all containers closed during storage, except when it is necessary to add, remove or sample the waste. The Permittees shall not open, handle, or store containers in a manner that may rupture the container or cause it to leak. [20.4.1.500 NMAC (incorporating 40 CFR §264.173)] In addition to the containers being closed, the closing devices will be secured in a manner that provides no visible holes, gaps, or other open spaces into the interior of the container. [20.4.1 500 NMAC (incorporating 40 CFR § 264.1086(c)(1)(ii)] The Permittees will conduct inspections of the stored containers to verify that there are no visible holes, gaps, or other open spaces into the interior. The Permittees will perform these inspections in accordance with *Storage Area Inspections (NMT7-WI1-HCP-TA-55-001).*

Waste containers that are opened for waste addition, volume reduction, and/or repackaging shall be opened within a work enclosure that provides waste confinement and prevents release of waste constituents.

Material handling equipment (e.g., flatbed truck, trailers, forklifts, dollies, etc.) shall be used to transport waste containers to and from the various container storage units areas or other waste management units at TA-55.

Damaged containers shall be repaired or overpacked or the contents of the container repackaged in a new container prior to placement at any of the CSU container storage areas at TA-55.

Waste repackaging at TA-55 involves the addition of waste received from waste generators into partially filled secondary containers or movement of waste from one secondary container to another. With the exception of overpacking, the Permittees shall conduct all waste repackaging at the K13 and the B40 CSUs. Overpacking shall occur at all TA-55 CSU.

K13 and B40 shall also be used to package waste received from the waste generators. The following procedures shall be used to package and repackage waste:

- Packing TRU Waste Containers, NMT7-WI3-SOP-TA55-013 (LANL, 2002c).
- Managing Solid Low-Level Waste at TA-55, NMT7-HCP-TA55-DP-02L (LANL, 2002d).
- Certification and Disposal of Low-level, NMT7-SOP-TA55-DP-01L (LANL, 2002e).
- Certification and Disposal of Low-Level, Oversize Waste, NMT7-WI3-TA55-HCP-DP-02L (LANL, 1999a).

The Permittees shall ensure that these operations are conducted in areas where secondary containment and appropriate ventilation (via the TA-55-4 facility ventilation system) are provided.

IV.6.1 Storage Configuration

~~Carl — There are several NOD issues concerning storage configuration. These are in the schedule of compliance. (Specific Comment 4 and 103)~~

The Permittees shall maintain storage configurations at each CSU based on the configurations illustrated in Attachment E, Potential Storage Configurations for the TA-55 Container Storage Units ~~as submitted in accordance with Module II, Attachment A, Container Storage Area Schedule of Compliance, A.2.1.~~

The Permittees shall stack containers to a maximum height of 10 feet and not more than two containers high. 55-gallon drums and SWBs shall be stacked to a maximum of two high. 85-gallon drums shall not be stacked. Large waste boxes shall be stacked to a maximum of two high unless size and weight restrictions prohibit stacking due to safety concerns. The Permittees shall establish a maximum size and weight for the large waste boxes to be stacked no more than two high.

IV.7 SECONDARY CONTAINMENT SYSTEMS

~~Carl — There are NODs on design and storage configuration as well as on secondary containment. Secondary containment issues include calculations and design. We also need to set up who will receive the documentation of verification of free liquids (the Secretary?) and when (every month?). (Specific Comments 9 and 105)~~

The Permittees shall construct and maintain secondary containment systems for all containers containing free or residual liquids in the TA-55 ~~CSA~~ **CSUs** as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.175), and the procedures specified in the TA-55 Permit Application, Attachment G (*Container Management*).

Containers shall be stored in a manner preventing contact with any liquids that may be present within the secondary containment. Containers at ~~CSA~~CSUs B40, K13, FLO1, the Vault and the Storage Pad, which may contain liquid and/or potentially liquid-bearing wastes, shall be placed on self-containment pallets/units or in a cabinet, as described in the TA-55 Permit Application, Attachment G, Section G.2. Containers that are not elevated by design will be elevated to prevent contact with freestanding liquids, in accordance with the TA-55 Permit Application, Attachment G, Section G.2. Containers shall not be stored directly on a ground surface or other surface without an impervious base and secondary containment.

Pursuant to 20.4.1.500 NMAC (incorporating 40 CFR §264.175(b)) and as specified in Section 2.1.8 and Attachment G.2 of the TA-55 Permit Application, the Permittees shall maintain the secondary containment systems for all containers managed in ~~CSU~~container storage areas B40, K13, ~~FLO1~~, the Vault and the container storage pad. The Permittees shall ensure that the All secondary containment system for the CSUs located in the basement of TA-55-4 s is shall be designed to contain twenty two percent of the maximum total capacity of the CSUs, at a minimum, ten percent of the volume of potential liquid-bearing waste containers or the volume of the largest waste container, whichever is greater. At the container storage pad, covered self-containment pallets shall provide secondary containment. The Permittees shall ensure that each pallet provides 112 gallons of secondary containment capacity while holding a maximum of two 55-gallon drums (110 gallons) of waste. Secondary containment calculations are presented in the TA-55 Permit Application, Attachment H.

All containers holding hazardous or mixed low-level or mixed TRU waste shall be kept from contact with standing liquids within the secondary containment as described in the TA-55 Permit Application, Attachment G, Section G.2. The Permittees shall remove all accumulated liquid in a timely manner to prevent overflow of the collection systems. Control of accumulated liquids shall be accomplished by using the methods and equipment described in the TA-55 Permit Application, Attachment K, Section K.3.2.

Containers stored at the Building 4 ~~CSA~~CSUs B05 and B45, and Building 185 shall only be used to store solid wastes that are identified in TA-55 Part A Permit Application eemented, heterogeneous and/or vitrified. The Permittees shall prevent the containers at the B05, B45, and Building 185 CSUs from contacting liquids as described in the TA-55 Permit Application, Attachment G. The Permittees shall use existing facility databases as an initial source of acceptable knowledge (AK) information to determine the presence or absence of free liquids in waste containers. A detailed description of the AK process is provided in the "Response to Notice of Deficiency; RCRA Permit Application General Part A, April 1998, Revision 0.0; General Part B, October 1998, Revision 1.0; Los Alamos National Laboratory; May 16, 2002" (LANL, 2002f). In addition to AK, the Permittees shall use visual examination and verification in determining the presence of free liquids. Documentation shall be provided to the Secretary, which verifies the absence of free liquids in containers stored at the Building 4 CSAs B05 and B45, and Building 185.

IV.8 INSPECTION SCHEDULES AND PROCEDURES

The Permittees shall inspect the CSACSUs in accordance with the *Inspection Plan* specified in the TA-55 Permit Application, Attachment C (Attachment C - *Inspection Plan*). [20.4.1.500 NMAC (incorporating 40 CFR §264.174)] The Permittees shall maintain the original inspection records for a minimum of three years from the date of inspection.

For all CSACSUs with the exception of the storage rooms of the Vault, the Permittees shall conduct daily inspections on days of waste handling for the following items as specified in the TA-55 Permit Application Attachment C.2.1:

- Secondary containment structures;
- Run-on and run-off control;
- Covers and lids of containers;
- Labels;
- Accumulation start dates;
- Compatibility;
- Structural integrity of containers; and
- Unloading and loading area(s).

For all CSACSUs with the exception of the storage rooms of the Vault, the Permittees shall conduct weekly inspections when waste is in storage for the following items as specified in the TA-55 Permit Application Attachment C.2.2:

- Warning signs;
- Work surfaces and floors;
- Secondary containment structures;
- Run-on and run-off controls;
- Covers and lids of containers;
- Labels;
- Accumulation start dates;
- Compatibility;
- Structural integrity of containers;
- Unloading and loading area(s);
- Aisle space and stacking; and
- Pallets and raised containers.

Due to the presence of high levels of radiation, the Permittees shall inspect the storage rooms of the Vault following the non-intrusive inspection systems as provided in the TA-55 Permit Application Attachment C.2.3.1. Inspections shall include monitoring of the continuous air monitors (CAMs) and the CAM alarm system. Information obtained during the inspections shall be noted in the Vault Container Inspection Database (VCID).

The Permittees shall inspect the central hallway of the vault weekly when mixed waste is in storage. The following items shall be inspected, as listed in the TA-55 Permit Application Attachment C.2.3.2:

- VCID surveyed for receipt or transfer of waste;
- Communications equipment;
- Warning signs;
- Security;

- Work surfaces and floors in the central corridor;
- Spill and fire equipment;
- Secondary containment;
- Unloading and loading area(s);
- Visual inspection of storage rooms from the hallway; and
- Nuclear Materials Custodian contacted to verify no alarms or problems.

When containers are placed into or removed from a storage room within the vault, the Permittee shall inspect the following items as noted in the TA-55 Permit Application Attachment C.2.3.2:

- VCID surveyed for receipt or transfer of waste;
- Communications equipment;
- Warning signs;
- Security;
- Work surfaces and floors in the central corridor;
- Spill and fire equipment;
- Secondary containment;
- Unloading and loading area(s);
- Nuclear Materials Custodian contacted to verify no alarms or problems;
- Emergency equipment and lighting;
- Covers and lids of containers;
- Labels;
- Accumulation start dates;
- Compatibility;
- Structural integrity of containers;
- Aisle space and stacking; and
- Pallets and raised containers.

The Permittees shall conduct monthly inspections of the following items as listed in the TA-55 Permit Application, Attachment C.6 and NMT-8 shall document these inspections:

- Evacuation alarms;
- Ventilation alarms;
- Fire alarms;
- Fire pumps;
- Fire extinguishers;
- Communication equipment; and
- Eyewashes and safety showers.

IV.9 RECORD KEEPING

The Permittees shall place the results of all waste analyses and any other documentation showing compliance with General Permit Conditions 2.10.1 and 2.10.2 in the Facility operating record and the TA-55 operating record, in accordance with General Permit Condition 2.10 (*Record Keeping and Reporting*), as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.73(a)) and in accordance with the TA-55 Permit Application Attachment K4.

IV.10 CLOSURE

Carl – There are several NODs on closure. (Specific Comments 11 and 44-59)

During closure of the TA-55 CSUAs, the Permittees shall remove all hazardous and mixed waste and hazardous and mixed waste residues from the containment system in accordance with the closure procedures specified in Module III of this Permit, Attachment F.1 of the TA-55 Permit Application and Module II, Attachment A Compliance Schedule A.2.8, as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.178). All remaining containers, liners, bases and soils containing or contaminated with hazardous and mixed waste or hazardous or mixed waste residues shall be decontaminated or removed, as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.178).

Pursuant to 20.4.1.500 NMAC (incorporating 40 CFR §264.112(b)(2) and §264.113(a) and (b)), the Permittees shall ensure 1) all hazardous waste will be treated, removed off-site, or disposed of on-site within 90 days from receipt of the final volume of waste at each unit and 2) all closure activities will be completed within 180 days from receipt of the final volume of waste at each unit.

In the event that clean closure is not obtainable and pursuant to 20.4.1.5 NMAC (incorporating 40 CFR §264.117 through §264.120), the Permittees shall meet the requirements for submissions of a survey plat and a post-closure monitoring plan.

Pursuant to 20.4.1.500 NMAC (incorporating 40 CFR §264.113(a) and (b)), if the planned closure for TA-55 is expected to exceed the 90 days for treatment, removal or disposal of wastes and/or the 180 days for completion of closure activities, a petition for a schedule of closure that justifies a longer period of closure time will be submitted by the Permittees. An extension may only be granted by the Secretary if one of the following is demonstrated: closure activities require longer than 90 or 180 days as described above, the unit has the capacity to receive additional wastes, there is a reasonable likelihood that another person or operator will recommence operation of the site within one year, or closure would be incompatible with continued operation. The Permittees shall also demonstrate that all steps have been and/or shall be taken to prevent threat to human health and the environment from the unclosed, but inactive, unit.

The Permittees shall ensure that pursuant to 20.4.1.500 NMAC (incorporating 40 CFR §264.112(c)), written notification of a request for a permit modification to authorize a change in operating plans, facility design or the approved closure plan will be submitted to the Secretary for review and approval prior to implementation of any changes. The Permittees shall submit a request for a permit modification for use of any criteria to demonstrate compliance for closure that has not been permitted in the application.

IV.11 SPECIAL CONTAINER PROVISIONS FOR IGNITABLE OR REACTIVE WASTE

IV.11.1 Location of Ignitable and Reactive Waste

Carl – this is an NOD issue. (Specific Comments 10 and 106)

The Permittees shall not locate containers holding ignitable or reactive waste within 15 meters (50 feet) of the ~~facility TA-55~~ fence line. [20.4.1.500 NMAC (incorporating 40 CFR §264.176)] The physical location of this 50-foot boundary shall be permanently marked and maintained during the operational period of these CSACSU's. The Permittees shall store ignitable and reactive waste at the K13 CSU and on the container storage pad. The Permittees shall ensure that ignitable, reactive, and incompatible wastes are not stored at the B40, B05, B45, Vault, and TA-55-185 CSUs.

IV.11.2 Procedures to Prevent Ignition/Reaction

The Permittees shall take all appropriate precautions to prevent accidental ignition or reaction of ignitable or reactive waste and shall follow the procedures specified in their *Waste Analysis Plan* (General Permit, Attachment B), TA-55 Permit Application, Section 2.1.10, and TA-55 Permit Application, Attachment G (*Container Management*), as required by the requirements specified by 20.4.1.500 NMAC, incorporating 40 CFR §264.17 and §264.176.

IV.11.3 Stacking of Ignitable and Reactive Waste Containers

Carl – this was taken from the TA-50 Permit. Is it applicable?

Containers of ignitable and reactive wastes shall be stacked no more than two high, in order to comply with the National Fire Protection Association's *Flammable and Combustible Liquids Code*.

IV.12 SPECIAL CONTAINER PROVISIONS FOR INCOMPATIBLE WASTE

IV.12.1 Storage of Incompatible Wastes

The Permittees shall not place incompatible wastes in the same containers, as specified in the General Permit, Attachment B (*Waste Analysis Plan*) and TA-55 Permit, Attachment G (*Container Management*) and as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.177(a)).

IV.12.2 Management of Unwashed Containers

The Permittees shall not place hazardous waste in an unwashed container that previously held an incompatible waste or material. [20.4.1.500 NMAC (incorporating 40 CFR §264.177(b))]

IV.12.3 Separation of Hazardous Waste Containers

The Permittees shall separate containers of incompatible wastes as specified in their *Waste Analysis Plan* (Permit Attachment B) and TA-55 Permit, Attachment G (*Container Management*), as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.177(c)). Storage containers with incompatible waste shall be separated from other material or be protected from other materials by means of a berm, dike, wall or another device as defined in this permit and associated attachments. The Permittees shall ensure that in areas managing incompatible wastes, the incompatible wastes will not cause secondary containment systems to leak, corrode or fail.

MODULE V STORAGE TANK SYSTEM

DESCRIPTION

Carl – as in Module II, waste is not specified, and thus an NOD issue. Also need to verify which wastes are liquid waste streams. (General Comments 2, 3, and 4 and Specific Comments 12–16, 60–73, and 108-110)

This Module specifies the regulatory requirements that the Permittees shall follow when managing and storing mixed low-level and/or mixed transuranic (TRU) wastes in the TA-55 Storage Tank System. The Permittees are authorized to manage and store only those hazardous wastes listed in Permit Attachment H (*Authorized Wastes*). Specific TA-55 and process information for the management, storage, and transfer of hazardous waste and a description of the ~~storage tank system~~ Storage Tank System is provided in the TA-55 Permit Application, Section 2 and Attachments F.2 and H, and in the General Permit, Appendix ____.

The Permittees are authorized to store hazardous wastes in the following storage tank system locations at TA-55:

Building 4, Room 401
Building 4, Room 434A

Figure A-1 of the TA-55 Permit Application, Attachment A, shows the location of TA-55 within the LANL Facility. The locations of the storage tanks within the TA-55 complex are shown in the TA-55 Permit Application, Attachment A, Figure A-2.

The Permittees may store up to 336 gallons of mixed low-level and/or mixed TRU waste in the designated tank system discussed in Permit Condition V.1. The Permittees may store only those mixed low-level and/or mixed TRU wastes generated within the LANL Facility boundaries. The Permittees shall dispose of their mixed low-level wastes off-site through licensed treatment, storage or disposal contractors; mixed TRU waste shall be disposed of at the U.S. Department of Energy Waste Isolation Pilot Plant near Carlsbad, New Mexico. The Permittees' primary hazardous waste generation activities are associated with research and development activities associated with the laboratory's mission.

V.1 DESIGNATED STORAGE TANK SYSTEM

This module authorizes the storage and management of mixed low-level waste and/or mixed TRU waste in the TA-55 ~~storage tank system~~ Storage Tank System described below. Specific facility and process information for the storage and management of these wastes is incorporated in the TA-55 Permit Application, Storage Tank System, Section 2.2, and Attachments F.2 and H. [40 CFR §264.190 through §264.200]

The Permittees shall store and manage mixed low-level and/or mixed TRU waste in the ~~storage tank system~~ Storage Tank System, provided the Permittees comply with the following conditions:

V.1.1 Storage Locations and Quantities

Carl – this is an NOD issue. (General Comment #2 and Specific Comments 2 and 108)

The Permittees shall manage and store hazardous and mixed waste in tanks in the designated TA-55 ~~storage tank system~~ Storage Tank System specified in Table V-1 below. The Permittees shall not manage and/or store hazardous or mixed waste in excess of the maximum capacities for each individual tank identified in Table V-1.

**TABLE V-1
TA-55 Mixed Waste Storage Tank System
Waste Types and Design Capacities**

STORAGE TANK SYSTEM, LOCATION, NO. OF ASSOCIATED TANKS	DESIGN SPECIFICATIONS	EPA HAZARDOUS WASTE TYPE	SECONDARY CONTAINMENT	MAXIMUM VOLUME OF WASTE Gallons (Liters)
Evaporator Glove Box Tank, Building 4, Room 401 1 Tank	<i>Insert design specifications, dimensions, etc.</i>	<i>Insert specific wastes (hazardous and mixed) to be handled in tanks, including EPA waste type</i>	Yes, external liner system consisting of Rooms 401 and 434A in TA-55-4	71.5 (270 L)
Cementation Unit Pencil Tanks, Building 4, Room 401 5 identical tanks	<i>Insert design specifications, dimensions, etc.</i>	<i>Insert specific wastes (hazardous and mixed) to be handled in tanks, including EPA waste type</i>	Yes, external liner system consisting of Rooms 401 and 434A in TA-55-4	66 (250 L)
Pencil Tanks, Building 4, Room 401 10 identical tanks	<i>Insert design specifications, dimensions, etc.</i>	<i>Insert specific wastes (hazardous and mixed) to be handled in tanks, including EPA waste type</i>	Yes, external liner system consisting of Rooms 401 and 434A in TA-55-4	132.5 (500 L)

V.1.2 Storage Tank System

Carl – there are NOD issues on this. Specifically regarding the vague wording of the application. (General Comment #2 and Specific Comments 12 and 108)

The TA-55 ~~storage tank system~~ Storage Tank System consists of ~~three~~^{four} components: the evaporator glove box, Cementation Unit pencil tanks, and pencil tanks, which are located in Building 4 (also referred to as TA-55-4), Rooms 401 and 434A. The Permittees shall design, construct, operate, maintain, and close the ~~storage tank system~~ Storage Tank System according to the detailed plans and reports contained in the TA-55 Permit Application Section 2.2, Appendices F.2 and H, and Supplements H-1 through H-4.

The ~~storage tank system~~ Storage Tank System shall have a maximum capacity of ~~270~~³³⁶ gallons and shall be used to store evaporator bottom solutions prior to stabilization in the Cementation Unit. Waste solutions shall be stored in the evaporator glove box tank until radionuclide, oxide and metals sampling and analysis is conducted to confirm radionuclide concentrations and chemical concentrations. If radionuclide concentrations are below the discard limit, the waste shall be transferred to the cementation pencil unit tanks or the pencil unit tanks, depending on type of treatment (cementation), where the waste shall remain pending the chemical analysis results. Wastes to be treated via cementation shall be transferred directly from the cementation pencil unit tanks to the Cementation Unit. For any waste with radionuclide concentrations above the discard limit, the wastes shall be re-circulated.

The ~~storage tank system~~ Storage Tank System shall be connected to three main piping systems: solution feed, ventilation, and vacuum piping systems. Waste transfer and the piping system shall be used and maintained as described in the General Permit Attachment H.1.

V.1.2.1. Evaporator Glove Box Tank Component: The evaporator glove box tank component is considered an existing tank and shall be subject to the requirements of 20.4.1.500 NMAC (incorporating 40 CFR §264.191). The Permittees shall design, construct, operate, and maintain the evaporator glove box tank according to the detailed plans and reports contained in the TA-55 Permit Application, Attachment H.1.1 and Supplement H-1. The evaporator glove box tank shall be located in the northwest corner of Building 4, Room 401, and shall consist of two welded-steel trays, eight glass columns, and associated ancillary equipment. The Permittees shall ensure that no external portions of the tank system are in contact with either soil or water.

V.1.2.2. Cementation Unit Pencil Tanks Component: The Cementation Unit pencil tanks (5 identical tanks) are a new tank system and shall be subject to the requirements of 20.4.1.500 NMAC (incorporating 40 CFR §264.192). The Permittees shall design, construct, operate, and maintain the Cementation Unit pencil tanks, piping and ancillary equipment, and the foundation and support for the system according to the detailed plans and reports contained in the TA-55 Permit Application, Attachment H.1.2 and Supplements H-2A, H-2B, and H-2C. The Cementation Unit pencil tanks shall consist of five vertical tanks located perpendicular to the west wall of Building 4, Room 401.

V.1.2.3. Pencil Tanks Component: The pencil tanks (10 identical tanks) are a new tank system and shall be subject to the requirements of 20.4.1.500 NMAC (incorporating 40 CFR §264.192). The Permittees shall design, construct, operate, and maintain the pencil tanks, piping and ancillary equipment, and the foundation and tank support for the system according to the detailed plans and reports contained in the TA-55 Permit Application, Attachment H.1.3 and Supplement H-3. The pencil unit tanks shall consist of ten vertical tanks located perpendicular to the west wall of Building 4, Room 401.

V.2 PERMITTED AND PROHIBITED WASTE IDENTIFICATION

V.2.1 Permitted Waste

Carl – this is an NOD issue. We do not know the specific wastes. (Specific Comment #12 and 64)

The Permittees may store up to ~~270336~~ gallons of mixed low-level and/or mixed TRU waste solutions in the ~~storage tank system~~ Storage Tank System, including the evaporator glove box tank, the Cementation Unit pencil tanks, and the pencil tanks, prior to stabilization in the Cementation Unit. The Permittees shall ensure that all waste solutions bear the appropriate EPA Hazardous Waste Codes, as contained in the LANL General Part A Permit General Permit.

V.2.2 Prohibited Waste

The Permittees shall not store or manage any hazardous, mixed low-level or mixed TRU waste that does not comply with Permit Condition V.2.1.

The Permittees shall not store or manage any hazardous wastes with organic concentrations of 10 percent or greater by weight. [20.4.1.500 NMAC, incorporating 40 CFR §264.1080]

V.3 SPECIAL REQUIREMENTS FOR IGNITABLE AND REACTIVE WASTES

Carl – this is an NOD issue. (Specific Comments 14 and 110)

The Permittees shall not place ignitable or reactive waste in any part of the ~~storage tank system~~ Storage Tank System or the secondary containment system unless the Permittees demonstrate or provide the following:

- Provide the operating pressure and temperature of tanks;
- Demonstrate that waste is treated, rendered or mixed before or immediately after placement in the tank systems so that it no longer is ignitable or reactive;

- Demonstrate that the wastes are not placed in the same tank system unless there is compliance with 20.4.1.500 NMAC (incorporating 40 CFR §264.17(b));
- Demonstrate that the waste is stored or treated in a manner such that it protects against ignition or reaction;
- Demonstrate that the requirements for the maintenance of protective distances between waste management areas and any public ways, streets, alleys or adjoining property lines that could be built upon;
- Provide procedures assuring that hazardous waste will not be placed in a tank that previously held an incompatible waste or material unless it has been decontaminated or unless precautions have been taken per 20.4.1.500 NMAC (incorporating 40 CFR §264.17(b)) to prevent reactions; and/or
- Indicate whether the tank system shall be used for these wastes solely for emergencies.

V.4 SPECIAL REQUIREMENTS FOR INCOMPATIBLE WASTES

Carl – this is an NOD issue regarding using the same containment system for the tanks, Cementation Unit. (Specific Comment #13 and 109)

The Permittees shall not place incompatible wastes, or incompatible wastes and materials, in the same tank system or the same secondary containment system unless the requirements of 20.4.1.500 NMAC (incorporating 40 CFR §264.199) are met. The Permittees shall also ensure that no incompatible wastes or incompatible wastes and materials with the tank system and containment system are placed in the Cementation Unit, as the secondary containment system is shared between these two units.

V.5 SECONDARY CONTAINMENT AND INTEGRITY ASSESSMENT

Carl – there are NOD issues regarding this. (Specific Comments 13 and 109)

The Permittees shall maintain an external liner system for secondary containment. This system shall consist of Rooms 401 and 434A in TA-55-4. The containment system shall completely surround all of the storage tank components and associated ancillary equipment, including all piping.

Since the secondary containment system used for the tank system is shared with the Cementation Unit, the Permittees shall ensure the containment system is sufficient to contain 100 percent of the largest tank, of either the tank system, or Cementation Unit, within its boundary and is sloped to allow the collection of fluids.

The Permittees shall maintain the reinforced concrete floor, which will serve as the secondary containment, free of cracks and gaps.

Pursuant to 20.4.1.500 NMAC (incorporating 40 CFR §264.193(b)(3)), all hazardous wastes and/or accumulated liquids shall be removed from the secondary containment

system within 24 hours to prevent harm to human health and the environment. Adequate information shall be provided to the Secretary if removal of released waste or accumulated liquids cannot be accomplished within 24 hours. If approved by the Secretary, liquids and waste shall be removed in as timely a manner as possible.

V.6 OPERATING REQUIREMENTS

Pursuant to 20.4.1.500 NMAC (incorporating 40 CFR §264.194(a)), the Permittees shall not place hazardous, mixed low-level, mixed TRU waste, and/or treatment reagents into the tank system if they could cause the tank, its ancillary equipment, or containment system to rupture, leak, corrode, or otherwise fail. The Permittees shall prevent spills and overflows from the tank system and the containment system using the methods provided in the TA-55 Permit Application, Attachment H.3.

Pursuant to 20.4.1.500 NMAC (incorporating 40 CFR §264.193(b)(3)), the Permittees shall removed all hazardous wastes and/or accumulated liquids from the secondary containment system within 24 hours to prevent harm to human health and the environment. If the Permittees cannot remove released waste or accumulated liquids within 24 hours, the Permittees shall provide adequate information to the Secretary to justify a longer removal time. Upon approval by the Secretary, the liquids and waste shall be removed in as timely as manner a possible.

V.7 RESPONSE TO LEAKS OR SPILLS

Carl — this is an NOD issue. (General Comment 5)

If in the event there has been a leak or spill from any of the ~~storage tank system~~ Storage Tank System components, the Permittees shall immediately remove from service the affected component and initiate the requirements of 20.4.1.500 NMAC (incorporating 40 CFR §264.196):

- The Permittees shall stop the flow of waste into the system and inspect the system to determine the cause of the release;
- The Permittees shall remove waste from the system within 24 hours of the detection of the leak to prevent further release and to allow inspection and repair of the system. If the Permittees find it impossible to meet this requirement, the Secretary shall be contacted, wherein the Permittees shall provide adequate demonstration that a longer time period is required;
- All collected waste that is RCRA hazardous waste shall be managed in accordance with applicable requirements of 20.4.1.500 NMAC (incorporating 40 CFR §262 through §264);
- The Permittees shall contain visible releases to the environment and shall immediately conduct a visual inspection of all releases to the environment; and
- In the event there is a release to the environment, the Permittees shall prevent further migration of the leak or spill to soils or surface water and shall remove

and properly dispose of any visible contamination of the environmental media.

The Permittees shall close the system in accordance with the Closure Plan, contained in the TA-55 Permit Application, Attachment F.2 unless the following actions are taken:

- For a release or spill that has not damaged the integrity of the system, the Permittees shall remove the released waste and initiate repairs as necessary to fully restore the integrity of the system before returning the system to service; and
- For a release caused by a leak from the primary tank system to the secondary containment system, the Permittees shall repair the primary system prior to returning it to service.

For all major repairs to eliminate leaks or to restore the integrity of the tank system, the Permittees shall obtain a certification by an independent, qualified, State of New Mexico registered professional engineer that the repaired system is capable of handling wastes without releases for the intended life of the system, before returning the system to service.

V.8 INSPECTION SCHEDULES AND PROCEDURES

The Permittees shall inspect the storage tanks in accordance with the *Inspection Plan* specified in the TA-55 Permit Application, Attachment C. [20.4.1.500 NMAC (incorporating 40 CFR §264.174)]

The Permittees shall conduct daily inspections of the ~~storage tank system~~ Storage Tank System components and all associated ancillary equipment when the system is in operation. The Permittees shall inspect and record the review of the following items as listed in the General Permit, Attachment C.3.1:

- Work surfaces and floors;
- Secondary containment structures;
- Structural integrity of the tanks;
- Labels;
- Structural integrity of ancillary equipment;
- Unloading and loading area(s);
- All portions of the tank system to detect corrosion or releases of waste;
- All portions of the tank system to detect any possible malfunctions to overflow and spill control equipment, tank monitoring and leak detection systems and all data from these systems; and
- Proper operating conditions of the tank system.

The Permittees shall conduct weekly inspections of the ~~storage tank system~~ Storage Tank System and maintain a record of the inspection for the following items as listed in the TA-55 Permit Application, Attachment C.3.2:

- Warning signs;

- Work surfaces and floors;
- Secondary containment structures;
- Labels;
- Covers and lids of containers;
- Structural integrity of the tanks;
- Structural integrity of ancillary equipment;
- Unloading and loading area(s);
- All portions of the tank system to detect corrosion or releases of waste;
- All portions of the tank system to detect any possible malfunctions to overflow and spill control equipment, tank monitoring and leak detection systems and all data from these systems; and
- Proper operating conditions of the tank system.

The Permittees shall conduct monthly inspections of the following items as listed in the TA-55 Permit Application, Attachment C.6 and NMT-8 shall document these inspections:

- Evacuation alarms;
- Ventilation alarms;
- Fire alarms;
- Fire pumps;
- Fire extinguishers;
- Communication equipment; and
- Eyewashes and safety showers.

The Permittees shall maintain the original inspection records for a minimum of three years from the date of inspection.

The Permittees shall maintain security and access controls to the ~~storage tank system~~ Storage Tank System in accordance with the conditions outlined in the TA-55 Permit Application, Attachment K.

V.9 CLOSURE

Carl – many NODs on closure. (Specific Comments 15 and 60-73)

Upon closure of the ~~storage tank system~~ Storage Tank System at TA-55, the Permittees shall remove all hazardous, mixed low-level waste and/or mixed TRU waste and waste residues from the areas in accordance with the Closure Plan for the TA-55 ~~storage tank system~~ Storage Tank System, TA-55 Permit Application Attachment F.2 and Compliance Schedule B.2.4 and as required by 20.4.1.500 NMAC (incorporating 40 CFR §264). The Permittees shall ensure the adequate removal of wastes to meet the closure performance standards.

Pursuant to 20.4.1.500 NMAC (incorporating 40 CFR §264.112(b)(2) and §264.113(a) and (b)), the Permittees shall ensure 1) all hazardous waste will be treated, removed off-site, or disposed of on-site within 90 days from receipt of the final volume of waste at

each unit and 2) all closure activities will be completed within 180 days from receipt of the final volume of waste at each unit.

In the event that clean closure is not obtainable, including the decontamination and/or removal of the tank system, ancillary equipment, contaminated soils, and other associated media, and pursuant to 20.4.1.5 NMAC (incorporating 40 CFR §264.117 through §264.120), the Permittees shall meet the requirements for submittal of a survey plat and a post-closure monitoring plan.

Pursuant to 20.4.1.500 NMAC (incorporating 40 CFR §§264.113(a) and (b)), if the planned closure for the TA-55 ~~storage tank system~~ Storage Tank System is expected to exceed the 90 days for treatment, removal or disposal of wastes and/or the 180 days for completion of closure activities, a petition for a schedule of closure that justifies a longer period of closure time will be submitted by the Permittees. An extension may only be granted by the Secretary if one of the following is demonstrated: closure activities require longer than 90 or 180 days as described above, the unit has the capacity to receive additional wastes, there is a reasonable likelihood that another person or operator will recommence operation of the site within one year, or closure would be incompatible with continued operation. The Permittees shall also demonstrate that all steps have been and/or shall be taken to prevent threat to human health and the environment from the unclosed, but inactive, unit.

The Permittees shall ensure that pursuant to 20.4.1.500 NMAC (incorporating 40 CFR §264.112(c)), written notification of a request for a permit modification to authorize a change in operating plans, facility design or the approved closure plan will be submitted to the Secretary for review and approval prior to implementation of any changes. The Permittees shall submit a request for a permit modification for any deviation from closure that has not been permitted in this Permit.

MODULE VI MISCELLANEOUS UNIT: CEMENTATION UNIT

DESCRIPTION

Carl – several NODs concerning this unit. (General Comments 3 and 4, and Specific Comments 17-21, 31-38, 74-88, and 111-112)

This Module specifies the regulatory requirements that the Permittees shall follow when managing and treating mixed low-level and/or mixed transuranic (TRU) wastes in the TA-55 Cementation Unit. The Permittees are authorized to manage and treat only those mixed wastes listed in Permit Condition VI.2. Specific TA-55 and process information for the management and treatment of mixed waste and a description of the Cementation Unit are provided in the TA-55 Permit Application, Section 2.3, Attachments B.1, F.3 and I, and Supplements I-1 and I-2.

The Permittees are authorized to treat mixed low-level and/or mixed TRU wastes in the Cementation Unit in the following location at TA-55:

Building 4, Room 401, Glovebox GB-454

Figure A-1 of the TA-55 Permit Application, Attachment A, shows the location of TA-55 within the LANL Facility. The location of the Cementation Unit within the TA-55 complex is shown in the TA-55 Permit Application, Attachment A, Figure A-2.

The Permittees may batch treat mixed low-level and/or mixed TRU waste in the Cementation Unit discussed in Permit Condition VI.1. The Permittees shall treat only those mixed low-level and/or mixed TRU wastes generated within the LANL Facility boundaries. The Permittees shall dispose of their mixed low-level wastes off-site through licensed treatment, storage or disposal contractors; mixed TRU waste shall be disposed of at the U.S. Department of Energy Waste Isolation Pilot Plant near Carlsbad, New Mexico. The Permittees' primary hazardous waste generation activities are associated with research and development activities associated with LANL's mission.

VI.1 CEMENTATION UNIT

The Permittees shall treat and manage mixed low-level and/or mixed TRU waste in the Cementation Unit, provided the Permittees comply with the following conditions:

VI.1.1 Treatment Location and Quantity

Carl – NOD issues. (Specific Comments 78 and 79)

The Permittees shall manage and treat mixed waste in the designated Cementation Unit specified in Table VI-1 below. The Permittees shall not manage and/or treat mixed waste in excess of the maximum capacity for the Cementation Unit identified in Table VI-1.

**TABLE VI-1
TA-55 Miscellaneous Unit—Cementation Unit
Waste Types and Design Capacity**

TREATMENT UNIT AND LOCATION	EPA HAZARDOUS WASTE TYPE	MAXIMUM VOLUME OF WASTE Gallons (Liters)
Cementation Unit, Building 4, Room 401, Glovebox GB-454	<i>Insert specific wastes to be handled in the Cementation Unit along with EPA Waste Codes.</i>	150 (568 L) total component capacity

VI.1.2 Cementation Unit

The Cementation Unit shall be located in the glovebox GB-454, which is located along the west wall of Room 401 in Building 4. The unit shall consist of a pH adjustment column, a vacuum trap, two motor-driven mixers, four impellers, a glovebox, and associated support structures and piping. The Permittees shall design, construct, operate, maintain, and close the Cementation Unit according to the detailed plans and reports contained in the TA-55 Permit Application, Section 2.3, Appendices F.3 and I, and Supplements I-1 and I-2.

The Cementation Unit shall have a maximum batch capacity of 150 gallons. The Permittees shall ensure that treatment of mixed low-level and mixed TRU wastes effectively meets the treatment objectives in the TA-55 Permit Application, Attachment I.2 and as follows:

- Stabilization of mixed waste solutions that contain radionuclides and toxicity characteristic metals (primarily chromium, arsenic, cadmium, mercury and lead) in a cement matrix;
- Stabilization of mixed waste into a cement matrix, rendering the metals not leachable as determined by the Toxicity Characteristic Leaching Procedure (TCLP);
- Stabilization of mixed waste into a cement matrix that will no longer exhibit toxicity characteristics;
- Stabilization of mixed wastes in cement to form a non-corrosive solid matrix; and
- Production of solidified cement monoliths that meet the Waste Isolation Pilot Plant (WIPP) Waste Acceptance Criteria (WAC), which prohibits free liquids.

VI.1.3 Waste Analysis Plan

Carl – this is an NOD issue. (Specific Comments 31-38)

In addition to the waste analysis criteria specified in Permit Condition II.3, the Permittees shall follow the Cementation Unit specific waste analysis plan as contained in the TA-55 Permit Application Attachment B.1.

VI.2 PERMITTED AND PROHIBITED WASTE IDENTIFICATION

VI.2.1 Permitted Waste

Carl – this is an NOD issue. We do not know specific wastes to be treated. (Specific Comments 78 and 79)

The Permittees shall treat up to 150 gallons of solid and liquid mixed low-level and/or mixed TRU waste solutions in the Cementation Unit at one time. The Permittees shall ensure that all waste solutions bear the appropriate EPA Hazardous Waste Numbers, as contained in the LANL General Part A Permit Application. The Permittees shall apply the Cementation Unit-specific waste analysis plan, as contained in the General Permit, Attachment B.1.

VI.2.2 Prohibited Waste

The Permittees is prohibited from treating waste not identified in Permit Condition VI.2.1.

VI.3 SPECIAL REQUIREMENTS FOR IGNITABLE AND REACTIVE WASTES

Carl – this is an NOD issue. (Specific Comments 19 and 112)

As the secondary containment system for the Cementation Unit is shared with the tank system, the Permittees shall not place ignitable or reactive waste in any part of these three units or the secondary containment system unless the Permittees demonstrate or provide the following:

- Demonstrate that the operating pressure and temperature of the systems shall not cause ignition or reaction among wastes;
- Demonstrate that waste is treated, rendered or mixed before or immediately after placement in the Cementation Unit so that it no longer is ignitable or reactive;
- Demonstrate that the wastes are not placed in the same component unless they are compatible and are in compliance with 20.4.1.500 NMAC (incorporating 40 CFR §264.17(b));

- Demonstrate that the waste is treated in a manner such that it protects against ignition or reaction;
- Demonstrate that the requirements for the maintenance of protective distances between waste management/treatment areas and any public ways, streets, alleys or adjoining property lines that could be built upon;
- Provide procedures assuring that hazardous waste will not be placed in a component that previously held an incompatible waste or material unless it has been decontaminated or unless precautions have been taken per 20.4.1.500 NMAC (incorporating 40 CFR §264.17(b)) to prevent reactions; and/or
- Indicate whether the Cementation Unit shall be used for these wastes solely for emergencies.

VI.4 SPECIAL REQUIREMENTS FOR INCOMPATIBLE WASTES

Carl – this is an NOD issue. (Specific Comments 19 and 112)

As the secondary containment system for the Cementation Unit is shared with the tank system, the Permittees shall not place incompatible wastes, or incompatible wastes and materials, in any of these three units or the secondary containment system unless the requirements of 20.4.1.500 NMAC (incorporating 40 CFR §264.199 and §264.601) are met.

VI.5 CONTAINMENT SYSTEMS AND INTEGRITY

Carl – this is an NOD issue. (Specific Comment 18)

The Permittees shall maintain secondary containment, which shall consist of Room 401 in Building 4. The containment system shall completely surround the Cementation Unit and associated equipment.

As the secondary containment system is shared between the Cementation Unit, and the tank system, the Permittees shall ensure the containment system is sufficient to contain 100 percent of the largest component of either the Cementation Unit or tank system within its boundary and is sloped to allow the collection of fluids.

The Permittees shall maintain the reinforced concrete floor, which will serve as the secondary containment, free of cracks and gaps.

Pursuant to 20.4.1.500 NMAC (incorporating 40 CFR §264.193(b)(3) and §264.601), all hazardous wastes and/or accumulated liquids shall be removed from the secondary containment system within 24 hours to prevent harm to human health and the environment. Adequate information shall be provided to the Secretary if removal of released waste or accumulated liquids cannot be accomplished within 24 hours. If approved by the Secretary, liquids and waste shall be removed in as timely a manner as possible.

VI.6 OPERATING REQUIREMENTS

Pursuant to 20.4.1.500 NMAC (incorporating 40 CFR §264.194(a), §264.601 and §264.602), the Permittees shall not place mixed low-level waste, mixed TRU waste, and/or treatment reagents into the Cementation Unit if they could cause the Cementation Unit components, ancillary equipment, or containment system to rupture, leak, corrode, or otherwise fail. The Permittees shall prevent spills and overflows from the Cementation Unit and the containment system.

The Permittees shall ensure that all air pollution control equipment is functioning and operational prior to waste treatment.

The Permittees shall removed all hazardous wastes and/or accumulated liquids from the secondary containment system within 24 hours to prevent harm to human health and the environment. If the Permittees cannot remove released waste or accumulated liquids within 24 hours, the Permittees shall provide adequate information to the Secretary to justify a longer removal time. Upon approval by the Secretary, the liquids and waste shall be removed in as timely a manner as possible.

VI.7 RESPONSE TO LEAKS OR SPILLS

If in the event there has been a leak or spill from any of the Cementation Unit components and/or ancillary equipment, the Permittees shall immediately remove from service the affected component and/or ancillary equipment and initiate the requirements of 20.4.1.500 NMAC (incorporating 40 CFR §264.196, §264.601 and §264.602):

- The Permittees shall stop the placement of waste into the Cementation Unit for treatment and shall inspect the system to determine the cause of the release;
- The Permittees shall remove waste from the Cementation Unit within 24 hours of the detection of the leak to prevent further release and to allow inspection and repair of the unit. If the Permittees find it impossible to meet this requirement, the Secretary shall be contacted, wherein the Permittees shall provide adequate demonstration that a longer time period is required;
- All collected waste that is RCRA hazardous waste shall be managed in accordance with applicable requirements of 20.4.1.500 NMAC (incorporating 40 CFR §262 through §264);
- The Permittees shall contain visible releases to the environment and shall immediately conduct a visual inspection of all releases to the environment; and
- In the event there is a release to the environment, the Permittees shall prevent further migration of the leak or spill to soils or surface water and shall remove and properly dispose of any visible contamination of the environmental media.

The Permittees shall close the Cementation Unit in accordance with the Closure Plan, contained in the TA-55 Permit Application, Attachment F.3 unless the following actions are taken:

- For a release or spill that has not damaged the integrity of the Cementation Unit, the Permittees shall remove the released waste and initiate repairs as necessary to fully restore the integrity of the unit before returning it to service; and
- For a release caused by a leak from the Cementation Unit to the secondary containment system, the Permittees shall repair the Cementation Unit prior to returning it to service.

VI.8 INSPECTION SCHEDULES AND PROCEDURES

Pursuant to 20.4.1.500 NMAC (incorporating 40 CFR §264.602), and in accordance with Attachment C.4 of the TA-55 Permit Application, the Permittees shall conduct daily and weekly inspections of the Cementation Unit.

The Permittees shall conduct daily inspections of the Cementation Unit components and surrounding areas when the system is in operation. The Permittees shall inspect and record the review the following items as listed in the TA-55 Permit Application, Attachment C.4.1:

- Work surfaces and floors;
- Secondary containment structures;
- Labels;
- Structural integrity of the Cementation Unit;
- Air pollution control systems; and
- Unloading and loading area(s).

The Permittees shall conduct weekly inspections of the Cementation Unit and surrounding areas and maintain a record of the inspection for the following items as listed in the TA-55 Permit Application, Attachment C.4.2:

- Warning signs;
- Work surfaces and floors;
- Secondary containment structures;
- Labels;
- Structural integrity of the Cementation Unit; and
- Unloading and loading area(s).

The Permittees shall conduct monthly inspections of the following items as listed in the TA-55 Permit Application, Attachment C.6 and NMT-8 shall document these inspections:

- Evacuation alarms;
- Ventilation alarms;
- Fire alarms;
- Fire pumps;

- Fire extinguishers;
- Communication equipment; and
- Eyewashes and safety showers.

The Permittees shall maintain the original inspection records for a minimum of three years from the date of inspection.

The Permittees shall maintain security and access controls to the ~~storage tank system~~ Storage Tank System in accordance with the conditions outlined in the TA-55 Permit Application, Attachment K.

VI.9 CLOSURE

Carl – this is an NOD issue. (Specific Comments 20 and 81-88)

Upon closure of the Cementation Unit at TA-55, the Permittees shall remove all hazardous, mixed low-level, and/or mixed TRU waste and waste residues from the areas in accordance with the Closure Plan for the TA-55 Cementation Unit, TA-55 Permit Application Attachment F.3 and Compliance Schedule C.2.5, and as required by 20.4.1.500 NMAC and 20.4.1.900 NMAC (incorporating 40 CFR §264 and §270.14(b)(13), respectively). The Permittees shall ensure the adequate removal of wastes to meet the closure performance standards.

Pursuant to 20.4.1.500 NMAC (incorporating 40 CFR 264.112(b)(2) and §§264.113(a) and (b)), the Permittees shall ensure 1) all hazardous waste will be treated, removed off-site, or disposed of on-site within 90 days from receipt of the final volume of waste at each unit and 2) all closure activities will be completed within 180 days from receipt of the final volume of waste at each unit.

The Permittees shall ensure the environmental performance standards, pursuant to 20.4.1.500 NMAC (incorporating 40 CFR 264.601), are met.

In the event that clean closure is not obtainable, including the decontamination and/or removal of the Cementation Unit, secondary containment, contaminated soils, and other associated media, and pursuant to 20.4.1.5 NMAC (incorporating 40 CFR §264.117 through §264.120), the Permittees shall meet the requirements for submittal of a survey plat and a post-closure monitoring plan.

Pursuant to 20.4.1.500 NMAC (incorporating 40 CFR §§264.113(a) and (b)), if the planned closure for the TA-55 Cementation Unit is expected to exceed the 90 days for treatment, removal or disposal of wastes and/or the 180 days for completion of closure activities, a petition for a schedule of closure that justifies a longer period of closure time will be submitted by the Permittees. An extension may only be granted by the Secretary if one of the following is demonstrated: closure activities require longer than 90 or 180 days as described above, the unit has the capacity to receive additional wastes, there is a reasonable likelihood that another person or operator will recommence operation of the

site within one year, or closure would be incompatible with continued operation. The Permittees shall also demonstrate that all steps have been and/or shall be taken to prevent threat to human health and the environment from the unclosed, but inactive, unit.

The Permittees shall ensure that pursuant to 20.4.1.500 NMAC (incorporating 40 CFR §264.112(c)), written notification of a request for a permit modification to authorize a change in operating plans, facility design or the approved closure plan will be submitted to the Secretary for review and approval prior to implementation of any changes. The Permittees shall submit a request for a permit modification for any deviation from closure that has not been permitted in this Permit.

MODULE II – GENERAL FACILITY CONDITIONS
ATTACHMENT A – CONTAINER STORAGE UNIT AREA SCHEDULE OF COMPLIANCE

A.1 DEFINITIONS

For purposes of this Container Storage Unit Area Schedule of Compliance, the following definitions shall apply:

“Release” means any spills, leaks, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing of hazardous waste (including hazardous constituents), mixed low-level waste, or mixed TRU waste into the environment (including the abandonment or discarding of barrels, containers and other closed receptacles containing hazardous waste, hazardous constituents or radiological constituents).

“Solid waste management unit” means any discernible unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste. Such units include any areas at or around a facility at which solid wastes have been routinely and systematically released and include the container storage units areas.

“Hazardous waste” means a solid waste, or combination of solid wastes, which because of the quantity, concentration or physical, chemical, or infectious characteristics, may cause or significantly contribute to an increase in mortality or an increase in serious irreversible, incapacity reversible illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of or otherwise managed. Hazardous wastes include hazardous constituents, as defined below by the term “hazardous constituent”.

“Hazardous constituent” means any constituent identified in Appendix VIII of 40 CFR Part 261 and/or in Appendix IX of 40 CFR Part 264.

“Mixed low-level waste” means waste that contains radioactivity and is not classified as high-level waste, transuranic waste, spent nuclear fuel or 11(e)(2) by-product material as defined in DOE Order 5820.2A, “Radioactive Waste Management”.

“TRU waste” means waste that is contaminated with alpha emitting transuranic (TRU) radionuclides with half-lives greater than 20 years and concentrations greater than 100 nanocuries per gram at the time of assay and has atomic numbers greater than 92, as defined in DOE Order 5820.2A, “Radioactive Waste Management”.

“Mixed TRU waste” means waste that contains both a hazardous and a TRU waste component.

“Permittees” include Los Alamos National Laboratory and the University of California.

“Facility” applies to TA-55 at the Los Alamos National Laboratory.

“Secretary” means the Director of the New Mexico Environment Department, or his/her designee.

If subsequent to the issuance of this permit, regulations are promulgated which redefine any of the above terms, the Secretary may, at its discretion, apply the new definition to the permit.

A.2 COMPLIANCE SCHEDULES

The Permittees shall only be granted a permit after all compliance schedule issues have been approved by the Secretary. A summary of the compliance schedules is provided in Table A-1.

A.2.1 Storage Configuration

The Permittees shall provide to the Secretary within 90 calendar days storage configuration diagrams for each of the eight container storage ~~units~~ areas within TA-55. The diagrams shall be provided for each storage area identified in the Application and shall include the following information:

1. An engineering drawing for each specific storage location/structure showing basic design features (e.g., airlock personnel entry) and parameters, specific dimensions, specific materials of construction, sloping and direction of sloping and berms;
2. Materials for building/structure bases and foundations;
3. A layout of container placement, by container type;
4. Number of each type of container;
5. Location of aisles;
6. Location of containment systems; and
7. Volume of waste and waste container type.

A.2.2 Storage Containers

1. The Permittees shall provide to the Secretary within 30 calendar days a list of ~~any additional waste containers, not specifically identified in the TA-55 Permit Application Section 2.1.2 and Attachment G, which may be used to store waste at the container storage areas at TA-55. The type of waste to be stored in these~~

~~containers, the number of containers anticipated to store each type of waste at each CSU and the location (specific storage container area) where the containers will be used shall also be provided.~~

2. The Permittees shall provide to the Secretary within 30 calendar days the methodology, in addition to acceptable knowledge (AK), to determine the presence of free liquid in all container types and the criteria that will be used to designate a container as being free of liquids.
3. The Permittees shall provide to the Secretary within 60 calendar days details regarding containers (those elevated by design) that do not require elevation to prevent contact with accumulated liquids and containers that will require placement on either a self-containment unit or within a lined cabinet.

A.2.3 Condition of Containers

- ~~1. The Permittees shall provide to the Secretary within 30 calendar days the methodology that will be used to examine and/or survey the exterior surface of all waste containers to verify that the outside surfaces are free of contamination.~~
- 2.1. The Permittees shall provide to the Secretary within 30 calendar days information on the procurement, quality control, and inspection procedures used to ensure that liner materials will be compatible with the wastes and containers they contact, whether liners will be used for any/all containers. Provided information shall include a brief summary of the procedures and a bibliographic citation for the document(s) which describe the procedures in detail also include liner requirements and specifications describing the functional requirements of fitting inside the drum/container, liner material thickness and tolerances, and quality controls and required testing that will be in place to ensure liners meet the specifications (including waste and container compatibility) and quality control procedures to ensure compliance with the requirements.

A.2.4 Management of Containers

1. The Permittees shall provide to the Secretary within 30 calendar days a discussion of the handling methods and any special handling equipment that may be used for each type of container to ensure waste containers will be handled in a manner that will cause not ruptures or leaks.
- ~~2. The Permittees shall provide to the Secretary within 30 calendar days a plan for opening waste containers within a work enclosure that provides confinement, preventing any release of waste constituents. Included in this plan shall be an outline of specific waste handling requirements for opening waste containers and the work enclosure area, including any special ventilation systems and waste containment systems, for each type of waste container and waste type.~~

- ~~3.2.~~ The Permittees shall provide to the Secretary within 30 calendar days the maximum size and weight restrictions for large waste boxes to be stacked two high.

A.2.5 Containment Systems

1. Pursuant to 20.4.1.500 NMAC (incorporating 40 CFR §264.175(b)(1)), the Permittees shall provide to the Secretary within 60 calendar days information on the underlying base of the containment systems, and how it shall be demonstrated that the base will be free of cracks or gaps and will be sufficiently impervious to contain leaks, spills and accumulated precipitation until the collected material is detected and removed.
- ~~2. Pursuant to 20.4.1.900 NMAC (including 40 CFR §270.15(a)(3)), the Permittees shall provide to the Secretary within 60 calendar days the capacity of the containment system relative to the number and volume of waste containers to be stored in each container storage area. Calculations demonstrating the requirements for secondary containment at each storage area shall be provided. The Permittees shall also provide calculations of the surface area and the quantities of liquid that would cover the area for each container storage area.~~
- ~~3. The Permittees shall provide to the Secretary within 60 calendar days the details regarding the isolation of waste containers from contact with any potentially accumulated liquids. This shall include a discussion of how storage areas that will not store liquid wastes will be designed to drain and remove liquids and how these containers will be kept from contact with liquids, pursuant to 20.4.1.900 NMAC (incorporating 40 CFR §270.15(b)).~~

A.2.6 Ignitable, Reactive and Incompatible Waste

- ~~1. The Permittees shall provide to the Secretary within 30 calendar days an engineering drawing or other data that demonstrates that containers of ignitable or reactive waste will be located at least 50 feet from the TA-55 boundary.~~
- ~~2. The Permittees shall provide to the Secretary within 30 calendar days the policies that are in place to minimize the possibility of accidental ignition and the precautions that will be taken for prevention of ignition, spontaneous ignition and radiant heat.~~
- ~~3. The Permittees shall provide to the Secretary within 30 calendar days all processes that will be used to prevent reactions that may: generate extreme heat or pressure; fire, explosions, or violent reactions; produce uncontrolled flammable fumes, dust, or gases, in sufficient quantities to threaten human health or the environment; produce uncontrolled flammable fumes, dust, or gases in sufficient~~

~~quantities to pose a risk of fire or explosions; damage the structural integrity of the facility; and be a threat to human health or the environment.~~

4.1. The Permittees shall provide to the Secretary within 30 days safeguards that will be in-place to ensure the compatibility of incompatible wastes with secondary containment systems.

A.2.7 Corrective Action for Solid Waste Management Units

1. The Permittees shall provide to the Secretary within 90 calendar days the dimensions, materials of construction, dates of operation, engineering drawings, and quantity and/or volumes of waste placed in each container storage unitarea at TA-55.
2. The Permittees shall provide to the Secretary within 60 calendar days:
 - i. A listing of all releases that may have occurred within any of the container storage units in TA-55;
 - ii. The date of release, type of waste(s) released, quantity or volume of waste released, nature of release; and
 - iii. Any groundwater monitoring or other analytical data available to describe the nature and extent of the release.
3. The Permittees shall provide to the Secretary within 60 calendar days the methodology and data used to determine if there have never been any releases from the container storage units areas at TA-55.
4. Pursuant to 20.4.1.500 NMAC (incorporating 40 CFR §264.101 and §264 Subpart S) for RCRA permitted status, the Permittees shall address the closure and corrective action of the container storage units in TA-55. The Permittees shall provide to the Secretary within 60 calendar days a corrective action plan and a schedule of compliance for the corrective actions. This shall include remediation and closure of the asphalt-covered outdoor storage pad. The corrective actions must include implementation beyond area boundaries, where necessary, to protect human health and the environment.

A.2.8 Container Storage Unit Area Closure Plan

1. The Permittees shall provide to the Secretary within 90 Calendar days the maximum inventory of waste, by waste type, and the maximum number of containers by container type for each container storage unitarea at TA-55.
2. Pursuant to 20.4.1.500 NMAC (incorporating 40 CFR §264.112(b)(4)), a detailed description for the closure of each container storage area must include the steps needed to remove or decontaminate all waste (hazardous, mixed low-level, and mixed TRU) residues and contaminated containment system components;

~~equipment, structures and soils during partial and final closure, including, but not limited to, procedures for cleaning equipment and removing contaminated soils, methods for sampling and testing surrounding soils and criteria for determining the extent of decontamination required to satisfy the closure performance standard. The Permittees shall provide to the Secretary within 90 calendar days detailed descriptions of the closure procedures and decontamination techniques for each container storage area, a sampling and analysis plan for sampling and testing soils surrounding the container storage areas, and a plan for removing contaminated soils during either partial closure or closure of the container storage areas.~~

3.2. The Permittees shall provide to the Secretary within 90 calendar days a Quality Assurance and Quality Control (QA/QC) plan that references current facility outlining the procedures for all soil sampling, decontamination and decontamination verification. The QA/QC plan shall also state that detailed QA/QC procedures (including laboratory validation and data validation procedures) to be followed during unit closure will be furnished in the unit-specific closure sampling and analysis plan prepared at the time of unit closure.

~~4. The Permittees shall provide to the Secretary within 90 calendar days a revised schedule for closure activities for TA-55. The schedule shall be revised to be comprehensive of all closure and partial closure activities, including container storage areas that may be left in service during partial closure, sampling, analysis and potential removal of contaminated soils surrounding the container storage areas, data validation, treatment of wastes, and transporting wastes to disposal sites.~~

5.3. The Permittees shall provide to the Secretary within 90 calendar days a revised decontamination plan for TA-55. In addition to the information provided in the Application, this plan must address the following items, general to all container storage area container storage units within TA-55:

- i. Personal protective equipment (chemical and radiological) needed at each container storage unit area and a detailed discussion of the radiation and chemical monitoring equipment and monitoring requirements that will be used at each container storage unit area;
- ii. ~~Training requirements and~~ M-medical monitoring requirements for closure workers;
- iii. Expected contaminants of concern at each container storage unit area;
- iv. Types of monitoring equipment/instruments that will be employed for radiological and chemical monitoring/characterization and how these monitoring instruments will be used (e.g., scanning percent) to determine the presence of contamination and hot spots;
- v. Chemical make-up of the wash solution to be used in the decontamination of portable equipment and the appropriateness of this solution for organics, inorganics and radionuclides;

- vi. Pursuant to 20.4.1.500 NMAC (incorporating 40 CFR §264.112(b)(4) and 264.178), methods for sampling and testing surrounding and underlying soils (affected or unaffected) at each container storage unit area shall be provided. Verification of these soils to closure performance standards shall be performed in order to demonstrate that all soils surrounding the container storage unit areas are free of contamination or exhibit acceptable levels of contamination. Include the number and locations of background soil samples and the analytical parameters and appropriate analytical methods; and
- vii. Monitoring of storage structures and inspection for any cracks or conditions that would potentially lead to loss of decontamination liquids for any contamination present prior to sealing or other treatment.

6.4. The Permittees shall provide to the Secretary within 90 calendar days a revised decontamination plan for the indoor storage area at TA-55. In addition to the information provided in the Application, this plan must address the following items:

- i. Mitigative measures that will be used to ensure that potentially contaminated wash water is not absorbed into wooden pallets during decontamination;
- ii. In addition to a portable berm, all alternative methods for collecting and containing wash water;
- iii. Method for removal of wash water and decontamination and verification of recessed areas (sumps) where wash water is allowed to collect.
- iv. Monitoring of central drainage systems and other drain lines connected to the sumps and other recessed areas; and
- v. Decontamination and/or removal and disposal of items shown to have fixed contamination.

7.5. The Permittees shall provide to the Secretary within 90 calendar days a revised decontamination plan for the vault in TA-55. In addition to the information provided in the Application, this plan must address a detailed description of alternative decontamination measures that will be used in decontaminating the vault.

8.6. The Permittees shall provide to the Secretary within 90 calendar days a revised decontamination plan for the outdoor storage pad at TA-55. In addition to the information provided in the Application and in Compliance Schedule 8.e, this plan must address the following items:

- i. A detailed discussion of all procedures that will be used in decontaminating the asphalt-covered storage pad;
- ii. Pursuant to 20.4.1.500 NMAC (incorporating 40 CFR §264.112(b)(4)), if the asphalt is removed, sampling of the soil underlying the removed asphalt must be conducted and all contaminated soil must be removed. Include a

- discussion of sampling of underlying soils, removal methods for any contaminated soils, and verification procedures for remaining soils;
- iii Pursuant to 20.4.1.500 NMAC (incorporating 40 CFR §264.112(b)(4)), methods for sampling of soils surrounding the storage pad, number and locations for soil samples, and removal of contaminated soils, and verification of removal;
- iv Sampling and analysis methods to determine whether leaching of constituents from the asphalt is the source of contamination of wash water; and
- v A discussion and justification for alternative methods for demonstration of decontamination.

9-7. The Permittees shall provide to the Secretary within 90 calendar days a revised decontamination verification plan for the container storage structures within TA-55. In addition to the information provided in the Application, this plan must address the following items:

- i. Potential contaminants that may be present at each container storage unit area;
- ii. Significance of increase of analytes in contaminated wash water is to be determined using statistical methods defined in U.S. EPA's publication SW-846: *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods* (SW-846). The plan shall provide the specific statistical methods that will be used to determine if wash waters show a significant increase in analytical parameters when compared to clean wash water solutions. Also, the plan shall define a significant increase in accordance with SW-846;
- iii. Potential uncertainties associated with the wash water method of decontamination verification, including dilution of constituent and detection of hot spots;
- iv. Radiological decontamination verification. Include a discussion of swipes on structures and other equipment for loose contamination and hot spots (pursuant to Nuclear Regulatory Guide 1.86), number of swipes, amount of coverage of item requiring swiped, the method for swipe analysis, and all other radiological surveying to be used in verifying no fixed or loose contamination remains above acceptable limits;
- v. Verification for hazardous waste residues shall be verified using swipe analysis. Include how many swipes will be taken, percent surface coverage and method of analysis;
- vi. Pursuant to 20.4.1.500 NMAC (incorporating 40 CFR §264.112 (b)(4)), sampling of soils underlying the container storage units areas must be conducted. All contaminated soil must also be removed and verification sampling conducted. The plan shall include a discussion of sampling of underlying soil, particularly at the outdoor storage pad; removal methods for any contaminated soils; and verification procedures for the remaining soils;
- vii. Pursuant to 20.4.1.500 NMAC (incorporating 40 CFR §264.112 (b)(4)), soils surrounding the container storage units areas shall be sampled and

- tested for potential contamination. The plan shall discuss how soils surrounding the storage locations will be sampled and verified for potential cross-contamination as a result of decontamination activities;
- viii. References for all sampling and analysis procedures, in addition to those provided for SW-846, that will be used;
 - ix. Criteria that will be applied to determine when soil and/or sediment sampling is appropriate and required and the number and location for soil and/or sediment samples;
 - x. The frequency of analysis of used wash water and the minimum and maximum surface area that will be cleaned using one volume of wash water; and
 - xi. The methodology and instrumentation for screening sample containers surfaces for radiological contamination and the criteria that will be used to determine if decontamination is necessary.

Condition	Category	Summary	Compliance Schedule (days) ^a
A.2.1	Storage Configuration	Storage configuration for TA-55	90
A.2.2.1	Storage Containers	Comprehensive list of storage containers	30
A.2.2.2	Storage Containers	Methodology for determination of free liquids	30
A.2.2.3	Storage Containers	Container structure and elevation requirements	60
A.2.3.1	Condition of Containers	Visual examination and exterior examination	30
A.2.3.2	Condition of Containers	Container liners	30
A.2.4.1	Management of Containers	Container handling	30
A.2.4.2	Management of Containers	Work enclosures and opening of containers	30
A.2.4.3	Management of Containers	Size and weight restrictions	30
A.2.5.1	Containment Systems	Containment system bases	60
A.2.5.2	Containment Systems	Capacity of containment systems	60
A.2.5.3	Containment Systems	Separation of waste containers from accumulated liquids	60
A.2.6.1	Ignitable, reactive and Incompatible Waste	Location of waste	30
A.2.6.2	Ignitable, reactive and Incompatible Waste	Policies and precautions	30

A.2.6.3	Ignitable, reactive and Incompatible Waste	Processes for reaction prevention	30
A.2.6.4	Ignitable, reactive and Incompatible Waste	Safeguards for secondary containment	30
A.2.7.1	Corrective Action	Container storage <u>unit</u> area design, operation and waste information	90
A.2.7.2	Corrective Action	Releases and nature and extent of releases	60
A.2.7.3	Corrective Action	Releases	60
A.2.7.4	Corrective Action	Corrective action plan and closure for TA-55	60
A.2.8.1	Container Storage <u>Unit</u> Area Closure Plan	Waste inventory	90
A.2.8.2	Container Storage <u>Area</u> Container Storage <u>unit</u> Closure Plan	Soil sampling and analysis plan	90
A.2.8.3	Container Storage <u>Area</u> Container Storage <u>Unit</u> Closure Plan	Quality Assurance/Quality Control plan	90
A.2.8.4	Container Storage <u>Area</u> Container Storage <u>Unit</u> Closure Plan	Schedule for closure activities	90
A.2.8.5	Container Storage <u>Area</u> Container Storage <u>Unit</u> Closure Plan	Decontamination plan, general to all areas	90
A.2.8.6	Container Storage <u>Area</u> Container Storage <u>Unit</u> Closure Plan	Decontamination plan, Indoor Storage Area	90
A.2.8.7	Container Storage <u>Area</u> Container Storage <u>Unit</u> Closure Plan	Decontamination plan, Vault	90
A.2.8.8	Container Storage <u>Area</u> Container Storage <u>Unit</u> Closure Plan	Decontamination plan, Outdoor Storage Pad	90

A.2.8.9	Container Storage Area Container Storage Unit Closure Plan	Verification plan	90
Notes: ^a Compliance schedules are based on calendar days.			

**MODULE II – GENERAL FACILITY CONDITIONS
ATTACHMENT B – STORAGE TANK SYSTEM SCHEDULE OF
COMPLIANCE**

B.1 DEFINITIONS

For purposes of this Storage Tank System Schedule of Compliance, the following definitions shall apply:

“Release” means any spills, leaks, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing of hazardous waste (including hazardous constituents), mixed low-level waste, or mixed TRU waste into the environment (including the abandonment or discarding of barrels, containers and other closed receptacles containing hazardous waste, hazardous constituents or radiological constituents).

“Solid waste management unit” means any discernible unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste. Such units include any areas at or around a facility at which solid wastes have been routinely and systematically released and include ~~the container storage area~~ container storage units.

“Hazardous waste” means a solid waste, or combination of solid wastes, which because of the quantity, concentration or physical, chemical, or infectious characteristics, may cause or significantly contribute to an increase in mortality or an increase in serious irreversible, incapacity reversible illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of or otherwise managed. Hazardous wastes include hazardous constituents, as defined below by the term “hazardous constituent”.

“Hazardous constituent” means any constituent identified in Appendix VIII of 40 CFR §261 and/or in Appendix IX of 40 CFR §264.

“Mixed low-level waste” means waste that contains radioactivity and is not classified as high-level waste, transuranic waste, spent nuclear fuel or 11(e)(2) by-product material as defined in DOE Order 5820.2A, “Radioactive Waste Management”.

“TRU waste” means waste that is contaminated with alpha emitting transuranic (TRU) radionuclides with half-lives greater than 20 years and concentrations greater than 100 nanocuries per gram at the time of assay and has atomic numbers greater than 92, as defined in DOE Order 5820.2A, “Radioactive Waste Management”.

“Mixed TRU waste” means waste that contains both a hazardous and a TRU waste component.

“Permittees” include Los Alamos National Laboratory and the University of California.

“**Facility**” applies to TA-55 at the Los Alamos National Laboratory.

“**Secretary**” means the Director of the New Mexico Environment Department, or his/her designee.

If subsequent to the issuance of this permit, regulations are promulgated which redefine any of the above terms, the Secretary may, at its discretion, apply the new definition to the permit.

B.2 COMPLIANCE SCHEDULES

The Permittees shall only be granted a permit after the Secretary has approved all compliance schedule issues. A summary of the compliance schedules is provided in Table B-1.

B.2.1 Storage Tank System Design and Operation

1. The Permittees shall provide to the Secretary within 30 calendar days all of the types of wastes to be permitted for the ~~storage tank system~~ Storage Tank System.
2. The Permittees shall provide to the Secretary within 30 calendar days the criteria that will be used to determine whether wastes stored in the storage unit tank system will go through stabilization in the Cementation Unit.
3. The Permittees shall provide to the Secretary within 30 calendar days the radionuclide discard limit that will be used to determine if wastes will be transferred to the Cementation Unit pencil tanks or the pencil tanks.
4. If sample analysis indicates that concentrations are above the discard limit, the solutions will be re-circulated. The Permittees shall provide to the Secretary within 30 calendar days how solutions will be re-circulated and how the re-circulation process affects the radionuclide concentrations.

B.2.2 Containment Systems

1. Pursuant to 20.4.1.500 NMAC (incorporating 40 CFR §264.193), the Permittees shall provide to the Secretary within 60 calendar days information on the underlying base of the containment systems, and how it shall be demonstrated that the base will be free of cracks or gaps and will be sufficiently impervious to contain leaks, spills and accumulated precipitation until the collected material is detected and removed.
2. Pursuant to 20.4.1.900 NMAC (including 40 CFR §270.15(a)(3)), the Permittees shall provide to the Secretary within 60 calendar days the capacity of the containment system relative to the volume of waste to be managed in the storage

~~tank system~~Storage Tank System. Calculations to demonstrate the external liner system is designed to contain 100% of the capacity of the largest tank within its boundary shall be provided.

3. The containment system for the Storage Tank System is also the same containment system to be used for the Cementation Unit. In the unlikely event that a leak occurs in the Storage Tank System and the Cementation Unit, the containment system will have to be sufficient to contain liquids from ~~both up to all three units~~^{both up to all three units}. The Permittees shall provide to the Secretary within 60 calendar days a discussion regarding management of a simultaneous leak in the Storage Tank System and the Cementation Unit within the containment system.

B.2.3 Special Requirements for Ignitable, Reactive and Incompatible Wastes

The containment system for the Cementation Unit is the same system to be used for the Storage Tank System. The Permittees shall provide to the Secretary within 60 calendar days a discussion of the potential for incompatible wastes commingling as a result of a leak or spill from ~~either the Storage Tank System, and the Cementation Unit, or both~~.

B.2.4 Closure

1. The Permittees shall provide to the Secretary within 60 Calendar days the maximum inventory of waste, including waste type, maximum capacity based on area, and the maximum quantity of waste for each component of the ~~storage tank system~~Storage Tank System.
2. The Permit must address the requirements in 20.4.1.500 NMAC (incorporating 40 CFR §264.112(b)(4)), which states a detailed plan of how waste is to be removed shall be submitted. The Permittees shall provide to the Secretary within 90 calendar days a detailed discussion of how waste will be removed from each of the components of the ~~storage tank system~~Storage Tank System.
3. The Permittee must address how removed waste will be handled. Pursuant to 20.4.1.500 NMAC (incorporating 40 CFR §264.112(b)(3)), the types(s) of off-site hazardous waste management facilities to be used must be identified. The Permittees shall provide to the Secretary within 90 calendar days a plan for management of removed waste, and if waste is to be shipped to an off-site location, indicate the types of waste, by waste code, that will go to each specific off-site facility.
4. Pursuant to 20.4.1.500 NMAC (incorporating 40 CFR §§264.112(b)(3) and (4)), the Permittees shall provide to the Secretary within 90 calendar days a detailed description for the closure of each component of the ~~storage tank system~~Storage Tank System including the steps needed to remove or decontaminate all hazardous waste residues and contaminated containment system components,

equipment, structures, and soils during partial and final closure, including, but not limited to, procedures for cleaning equipment and removing contaminated soils, methods for sampling and testing surrounding soils, and criteria for determining the extent of decontamination as required to satisfy the closure performance standard.

5. The Permittees shall provide to the Secretary within 90 calendar days the Quality Assurance/Quality Control (QA/QC) procedures for all soil sampling, decontamination, and decontamination verification. The QA/QC plan shall also include laboratory validation and data validation procedures.
6. The Permittees shall provide to the Secretary within 90 calendar days a revised schedule for closure activities for the ~~storage tank system~~ Storage Tank System. The schedule shall be revised to include time for sampling, analysis and potential removal of contaminated soils surrounding/underlying the ~~storage tank system~~ Storage Tank System, time for proper data validation, time to treat wastes, and adequate time for transporting wastes to disposal sites. The schedule shall be comprehensive of all potential activities for closure and partial closure.
7. The Permittees shall provide to the Secretary within 90 Calendar days a revised decontamination plan for the ~~storage tank system~~ Storage Tank System. In addition to the information provided in the Application, Attachment F.2, the plan must address the following issues:
 - i. Personal protective equipment (chemical and radiological) needed for each component of the ~~storage tank system~~ Storage Tank System and a detailed discussion of the radiation and chemical monitoring equipment and monitoring requirements that will be used;
 - ii. Training requirements and medical monitoring requirements for workers;
 - iii. A detailed discussion of all the steps for disassembling the ~~storage tank system~~ Storage Tank System, removing all hazardous waste residue and contaminated containment system components, equipment, and structures of the ~~storage tank system~~ Storage Tank System, and containerizing pieces of the system;
 - iv. A detailed discussion regarding disassembly, decontamination, and management of ancillary equipment;
 - v. Radiological decontamination verification; and
 - vi. A comprehensive list of all expected constituents of concern in each component of the system, including the ancillary equipment.
8. The Permittees shall provide to the Secretary within 90 Calendar days a revised decontamination verification plan for the ~~storage tank system~~ Storage Tank System. In addition to the information provided in the Application, Attachment F.2, the plan must address the following issues:

- i. Chemical make-up of the wash solution to be used in the decontamination of portable equipment and the appropriateness of this solution for organics, inorganics and radionuclides;
 - ii. Uncertainties associated with the wash water method for decontamination verification, including the ability of this method to detect hot spots;
 - iii. Decontamination verification for radionuclides shall include swipe analyses of structures or other equipment that are to be left on-site per NRC Regulatory Guide 1.86 to verify that removal contamination has been adequately removed and that there are no remaining hot spots of unacceptable level. The plan shall include the use of swipes, and discuss how many swipes will be taken, the amount of coverage of the item to be swiped, and the method of analysis;
 - iv. Significance of increase of analytes in contaminated wash down waters is to be determined using statistical methods defined in SW-846. The plan shall provide the specific statistical methods that will be used to determine if wash down waters show a significant increase in analytical parameters when compared to clean wash water solutions. Also, the plan shall define a significant increase in accordance with SW-846. Verification for hazardous waste residues shall also be conducted using swipe analysis and discussion of how many swipes will be taken, percent surface coverage and the method of analysis;
 - v. Prescribed established levels and/or contaminant-specific levels for determining adequate decontamination of equipment;
 - vi. Surveying ancillary equipment and adjacent areas where radiological contamination is a suspected contaminant to verify that no fixed contamination above acceptable levels remains and that there are no unacceptable hot spots; and
 - vii. The frequency of analysis of the used wash water and the minimum and maximum surface area that will be cleaned using a specified volume of wash water.
9. The Permittees shall provide to the Secretary within 90 Calendar days a revised decontamination verification plan for the areas adjacent to the ~~storage tank system~~ Storage Tank System. In addition to the information provided in the Application, Attachment F.2, the plan must address the following issues:
- i. Random swipes shall be taken from the area adjacent to the ~~storage tank system~~ Storage Tank System. Indicate the number of swipes that will be taken, the percentage of area that will be swiped, and the size of the swipe samples. Also, indicate that swipes will be taken for both hazardous and radiological constituents;
 - ii. Swipes shall be taken for secondary containment;
 - iii. The extent of contamination in drains/sumps (e.g., to the trap or past the trap into the drain system) shall be determined. If the swipe analysis indicates the potential for contamination, discuss how sumps and drains past the trap will be sampled. Also, if drains are found to be contaminated, discuss how

drain systems will either be removed or decontaminated. Also, for any decontaminated drain system, soils surrounding the drain system shall be sampled to ensure that soils have not been contaminated as a result of drain leakages; and

- iv Drains shall be washed down. Indicate how wash water will be prevented from entering drain lines.

10. The Permittees shall provide to the Secretary within 60 calendar days the screening methodology for radiological contamination of sample container surfaces. Include the methodology and proposed instrumentation for screening of samples. Also provide the criteria for determining if decontamination is necessary and the methodology to determine decontamination effectiveness.

The Permittees shall provide to the Secretary within 60 calendar days the special labeling and shipping requirements for radiological samples.

Table B-1. Summary of Compliance Schedules			
Condition	Category	Summary	Compliance Schedule (days) ^a
B.2.1.1	Storage Tank System Design and Operation	Permitted wastes	30
B.2.1.2	Storage Tank System Design and Operation	Process criteria for determining cementation of waste	30
B.2.1.3	Storage Tank System Design and Operation	Radiological discard limits and feed into Cementation Unit pencil tanks or pencil tanks	30
B.2.1.4	Storage Tank System Design and Operation	Re-circulation of waste	30
B.2.2.1	Containment System	Containment system bases	60
B.2.2.2	Containment System	Capacity of containment system	60
B.2.2.3	Containment System	Multiple use and leaks in containment system	60
B.2.3	Special Requirements for Ignitable, Reactive, and Incompatible Wastes	Waste commingling	60
B.2.4.1	Closure	Waste inventory and capacity	60
B.2.4.2	Closure	Waste removal	90
B.2.4.3	Closure	Handling and transport of removed waste	90
B.2.4.4	Closure	System component closure, soils	90
B.2.4.5	Closure	Quality Assurance/Quality Control	90
B.2.4.6	Closure	Schedule for closure	90
B.2.4.7	Closure	Decontamination plan	90
B.2.4.8	Closure	Decontamination verification – storage tank system <u>Storage Tank System</u>	90
B.2.4.9	Closure	Decontamination verification – adjacent areas	90
B.2.4.10	Closure	Screening of sample containers	60
B.2.4.11	Closure	Radiological labeling and shipping requirements	60

^a Compliance schedules are based on calendar days.

MODULE II – GENERAL FACILITY CONDITIONS
ATTACHMENT C – CEMENTATION UNIT SCHEDULE OF COMPLIANCE

C.1 DEFINITIONS

For purposes of this Cementation Unit Schedule of Compliance, the following definitions shall apply:

“Release” means any spills, leaks, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing of hazardous waste (including hazardous constituents), mixed low-level waste, or mixed TRU waste into the environment (including the abandonment or discarding of barrels, containers and other closed receptacles containing hazardous waste, hazardous constituents or radiological constituents).

“Solid waste management unit” means any discernible unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste. Such units include any areas at or around a facility at which solid wastes have been routinely and systematically released and include ~~the container storage area~~container storage units.

“Hazardous waste” means a solid waste, or combination of solid wastes, which because of the quantity, concentration or physical, chemical, or infectious characteristics, may cause or significantly contribute to an increase in mortality or an increase in serious irreversible, incapacity reversible illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of or otherwise managed. Hazardous wastes include hazardous constituents, as defined below by the term “hazardous constituent”.

“Hazardous constituent” means any constituent identified in Appendix VIII of 40 CFR §261 and/or in Appendix IX of 40 CFR §264.

“Mixed low-level waste” means waste that contains radioactivity and is not classified as high-level waste, transuranic waste, spent nuclear fuel or 11(e)(2) by-product material as defined in DOE Order 5820.2A, “Radioactive Waste Management”.

“TRU waste” means waste that is contaminated with alpha emitting transuranic (TRU) radionuclides with half-lives greater than 20 years and concentrations greater than 100 nanocuries per gram at the time of assay and has atomic numbers greater than 92, as defined in DOE Order 5820.2A, “Radioactive Waste Management”.

“Mixed TRU waste” means waste that contains both a hazardous and a TRU waste component.

“Permittees” include Los Alamos National Laboratory and the University of California.

“Facility” applies to TA-55 at the Los Alamos National Laboratory.

“Secretary” means the Director of the New Mexico Environment Department, or his/her designee.

“Cementation” means the process used to stabilize mixed wastes that have been generated at TA-55 into a cement matrix.

If subsequent to the issuance of this permit, regulations are promulgated which redefine any of the above terms, the Secretary may, at its discretion, apply the new definition to the permit.

C.2 COMPLIANCE SCHEDULES

The Permittees shall only be granted a permit after the Secretary has approved all compliance schedule issues. A summary of the compliance schedules is provided in Table C-1.

C.2.1 Waste Analysis Plan

1. The Permittees shall submit to the Secretary within 60 calendar days all waste streams that will be treated in the Cementation Unit, including the source of waste, type of waste, and components of the waste. Address both chemical and radiological waste components.
2. Pursuant to 20.4.1.500 NMAC (incorporating 40 CFR §264.13(b)(2)), the Permittees shall submit to the Secretary within 60 calendar days all analytical test methods that will be used for the chosen parameters.
3. The Permittees indicate that acceptable knowledge (AK) will be used for waste characterization where possible. AK is acceptable only when adequate documentation/data from the process generator is available which shows consistency of the waste streams. However, where there is variability in waste streams, sampling must occur on a regular basis. The Permittees shall submit to the Secretary within 60 calendar days a schedule of the frequency of sampling and sampling methods (pursuant to 20.4.1.500 NMAC, incorporating 40 CFR §§264.13(b)(3) and (4)), as well as a specific decision-making process that describes when AK is acceptable and when sampling should be conducted.
4. The Permittees shall submit to the Secretary within 60 calendar days the sampling methods to be used to obtain a representative sampling of each waste stream and the appropriateness of these methods. If LANL-specific protocols are to be used for sample collection, preservation, QA/QC and health and safety issues, then the Permittees shall, within 60 calendar days, submit this information to the Secretary or shall provide specific references to the protocols to be followed.

5. The Permittees shall submit to the Secretary within 60 calendar days how and when waste stream verification for non-routinely generated wastes will be conducted. Include a decision tree outlining when and how reevaluation for non-routinely generated wastes will be done.

C.2.2 Containment Systems

1. The Permittees shall provide to the Secretary within 60 calendar days information on the underlying base of the containment systems, and how it shall be demonstrated that the base will be free of cracks or gaps and will be sufficiently impervious to contain leaks and spills until the collected material is detected and removed.
2. Pursuant to 20.4.1.900 NMAC (including 40 CFR §270.15(a)(3)), the Permittees shall provide to the Secretary within 60 calendar days the capacity of the containment system relative to the number and volume of waste to be managed and treated in the Cementation Unit. Calculations demonstrating that the external liner system is designed to contain 100% of the capacity of the largest tank within its boundary shall be provided.
3. The containment system for the Cementation Unit is also the same containment system to be used for the ~~storage tank system~~ Storage Tank System. In the unlikely event that a leak occurs in the Cementation Unit and the ~~storage tank system~~ Storage Tank System, the containment system will have to be sufficient to contain liquids from up to all three units. The Permittees shall provide to the Secretary within 60 calendar days a discussion regarding management of a simultaneous leak in the ~~storage tank system~~ Storage Tank System, and the Cementation Unit, within the containment system.

C.2.3 Special Requirements for Ignitable, Reactive and Incompatible Wastes

The containment system for the Cementation Unit is the same system to be used for the Storage Tank System. The Permittees shall provide to the Secretary within 60 calendar days a discussion of the potential for incompatible wastes commingling as a result of a leak or spill from ~~either the Storage Tank System, and the Cementation Unit, or both.~~

C.2.4 Protection of the Atmosphere

The Cementation Unit has a system of negative pressure zones and high-efficiency particulate air (HEPA) filters that are designed to work together to prevent releases of contaminants to the atmosphere. Attachment K.3.4 of the Application states that backup generators are available at TA-55 in the event of a power outage. However, it appears that there is no immediately available backup system for the Cementation Unit. The Permittees shall provide to the Secretary within 60 calendar days the procedures to prevent releases to the atmosphere in the event of a power outage, causing a temporary

shutdown of the negative pressure zones and HEPAs. In addition, address how long the system will be shut down until the backup generators can be put online with the Cementation Unit.

C.2.5 Closure

1. Pursuant to 20.4.1.500 NMAC (incorporating 40 CFR §264.112(b)(3)), the types(s) of off-site hazardous waste management facilities to be used must be identified. The Permittees shall provide to the Secretary within 90 calendar days a discussion of the management and disposal of removed waste. If waste will be shipped to an off-site location, describe the types of waste that will go to each specific off-site facility.
2. Pursuant to 20.4.1.500 NMAC (incorporating 40 CFR §264.112(b)(4)), a detailed description of all the steps needed to remove all hazardous waste residue and contaminated containment system components, equipment and structures shall be provided. The closure plan does not delineate how equipment/pieces of the Cementation Unit will be disassembled, broken down into container-sized pieces and managed. The Permittees shall provide to the Secretary within 90 calendar days a detailed discussion of all the steps for removing all hazardous waste residue and contaminated equipment components of the Cementation Unit, including the glove box, all associated/ancillary equipment and secondary containment systems.
3. The Permittees shall provide to the Secretary within 90 calendar days the methodology to determine radiological decontamination verification.
4. The Permittees shall provide to the Secretary within 90 calendar days a discussion of the potential uncertainties associated with the wash water method of decontamination verification and discuss how hot spots will be detected and verified decontaminated to acceptable levels. Also provide what control measures will be used to ensure consistency of area cleaned per unit of wash water.
5. Decontamination verification for radionuclides shall also include swipe analyses of structures or other equipment that are to be left on-site per NRC Regulatory Guide 1.86 to verify that radioactive contamination has been adequately removed and that there are no remaining hot spots of unacceptable level. The Permittees shall provide to the Secretary within 90 calendar days a revised plan that includes the use of swipes. Discuss how many swipes will be taken, the amount of coverage of the item requiring swiped, and the method of analysis.
6. Decontamination verification for hazardous waste residues shall also be verified using swipe analysis, similar to that as outlined in the above comment. The Permittees shall provide to the Secretary within 90 calendar days a revised plan that includes swipe sampling and analysis for hazardous waste residues. The plan

shall include the number of swipes, percent surface coverage and the method of analysis.

7. The Permittees shall provide to the Secretary within 90 calendar days the prescribed levels or contaminant-specific levels that will be the criteria for determining if equipment has been sufficiently decontaminated.
8. The Permittees shall provide to the Secretary within 90 calendar days a discussion of how cracks or fractures in the floors, walls or other surfaces will be addressed prior to decontamination activities. Include a discussion of corrective action measures that shall be taken to ensure decontamination activities do not result in contamination of flawed surfaces.
9. The Permittees shall provide to the Secretary within 90 calendar days the regulatory limits for hazardous constituents that will be used to verify decontamination.
10. The significance of increased concentration of analytes in contaminated washdown waters shall be determined using statistical methods defined in SW-846. The plan shall provide the specific statistical methods that will be used to determine if wash down waters show a significant increase in analytical parameters when compared to clean wash water solutions. The Permittees shall provide to the Secretary within 90 calendar days a definition of a significant increase in accordance with SW-846. Include a discussion regarding the verification of decontamination of hazardous waste residues through the use of swipe analysis; discuss how many swipes will be taken, percent surface coverage and the method of analysis.
11. Surveying, using appropriate radiation instruments, shall be conducted in areas where radiological contamination may have been present. If the radiological contaminants exist as fixed contamination, analysis of the washdown water will not indicate the presence of potential fixed radiological contamination. The Permittees shall provide to the Secretary within 90 calendar days a plan for surveying of equipment and adjacent areas where radiological contamination is a suspected contaminant to verify that no fixed contamination above acceptable levels remains and that there are no unacceptable hot spots.
12. The Permittees shall provide to the Secretary within 90 calendar days the methodology and proposed instrumentation for the radiological screening of samples. Include the criteria that will be used to determine if decontamination, special labeling and/or special shipping instructions are required.

Table C-1. Summary of Compliance Schedules			
Condition	Category	Summary	Compliance Schedule (days) ^a
C.2.1.1	Waste Analysis Plan	Waste streams	60
C.2.1.2	Waste Analysis Plan	Analytical test methods	60
C.2.1.3	Waste Analysis Plan	Acceptable knowledge and waste characterization	60
C.2.1.4	Waste Analysis Plan	Sampling protocol	60
C.2.1.5	Waste Analysis Plan	Non-routinely generated wastes	60
C.2.2.1	Containment Systems	Containment system bases	60
C.2.2.2	Containment Systems	Capacity of containment system	60
C.2.2.3	Special Requirements for Ignitable, Reactive and Incompatible Wastes	Capacity of containment system –simultaneous leak	60
C.2.3	Special Requirements for Ignitable, Reactive, and Incompatible Wastes	Waste commingling	60
C.2.4	Protection of Atmosphere	Control of atmospheric releases	60
C.2.5.1	Closure	Removed waste management, transport and disposal	90
C.2.5.2	Closure	Waste removal	90
C.2.5.3	Closure	Radiological decontamination verification	90
C.2.5.4	Closure	Decontamination uncertainty	90
C.2.5.5	Closure	Radiological verification	90
C.2.5.6	Closure	Hazardous waste residue verification	90
C.2.5.7	Closure	Equipment decontamination criteria	90
C.2.5.8	Closure	Decontamination of flawed surfaces	90
C.2.5.9	Closure	Regulatory limits	90
C.2.5.10	Closure	SW-846 methods for statistical analysis	90
C.2.5.11	Closure	Radiological surveying	90
C.2.5.12	Closure	Screening of samples	90

^a Compliance schedules in calendar days.

MODULE II – GENERAL FACILITY CONDITIONS
ATTACHMENT D – WASTE PROFILE FORMS

(Incorporate forms provided in Attachment E of LANL's Response to Notice of Deficiency; TA-55 Part B RCRA Permit Application, Revision 1.0, May 16, 2002 (LA-UR-02-5041), August 2002)

MODULE II – GENERAL FACILITY CONDITIONS
ATTACHMENT E – POTENTIAL STORAGE CONFIGURATIONS FOR THE
TA-55 CONTAINER STORAGE UNITS

(Incorporate drawings provided in Attachment D of LANL's Response to Notice of Deficiency; TA-55 Part B RCRA Permit Application, Revision 1.0, May 16, 2002 (LA-UR-02-5041), August 2002)