

**Site Treatment Plan for Mixed Wastes
On the U.S. Department of Energy
Oak Ridge Reservation**

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Date Issued: March 2012

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ABBREVIATIONS

CCP	Central Characterization Project
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR	Code of Federal Regulations
CH	contact-handled
CHOXD	chemical oxidation
CNF	Central Neutralization Facility
CPCF	Central Pollution Control Facility
CTF	Cyanide Treatment Facility
DARA	disposal area remedial action
DOE	U.S. Department of Energy
DOE-HQ	U.S. Department of Energy Headquarters
DOE-OR	U.S. Department of Energy Oak Ridge Facilities (ETTP, ORNL, Y-12)
DOE-ORO	U.S. Department of Energy Oak Ridge Operations
DTC	Dose-to-Curie
ECRWP	East Chestnut Ridge Waste Pile
EDL	Economic Discard Limit
EPA	U.S. Environmental Protection Agency
ETTP	East Tennessee Technology Park (formerly K-25 Site)
FAT	First Article of Testing
FFA	Federal Facility Agreement
FFCA	Federal Facility Compliance Agreement
FFCAct	Federal Facility Compliance Act
FY	Fiscal Year
INCIN	incineration
LDR	Land Disposal Restrictions of RCRA
LLW	low level waste
MACRO	macroencapsulation
MLLW	mixed low-level waste
MTRU	mixed transuranic waste
MWIR	Mixed Waste Inventory Report
NDA	Non-Destructive Assay
NEPA	National Environmental Policy Act
NEUTR	neutralization
NNSA	National Nuclear Security Administration
NNSS	Nevada National Security Site
NPDES	National Pollutant Discharge Elimination System
NRC	Nuclear Regulatory Commission
NTS	Nevada Test Site
OLFSCP	Oil Land Farm Soil Containment Pad
OMB	Office of Management and Budget
ORNL	Oak Ridge National Laboratory
ORR	Oak Ridge Reservation
PCBs	polychlorinated biphenyls
PRECP	precipitation
RCRA	Resource Conservation and Recovery Act

RH	remotely handled
ROD	Record of Decision
SNM	Special Nuclear Material
STABL	stabilization
STP	Site Treatment Plan
T.C.A.	Tennessee Code Annotated
TDEC	Tennessee Department of Environment and Conservation
TPF	TRU Processing Facility
TRU	transuranic
TSCA	Toxic Substances Control Act of 1976
TSCAI	TSCA Incinerator
TVS	transportable vitrification system
TWPC	Transuranic Waste Processing Center
U-235	Uranium-235
WAC	waste acceptance criteria
WETF	West End Treatment Facility
WIPP	Waste Isolation Pilot Plant

1. PURPOSE AND SCOPE

1.1 BACKGROUND

The U.S. Department of Energy (DOE) was required to prepare a plan for developing treatment capacities and technologies for each facility at which DOE generates or stores mixed waste, pursuant to Section 3021(b) of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. 6939C, as amended by Section 105(a) of the Federal Facility Compliance Act (FFCAct), P.L. 102-386. Section 3021(b)(2)(A) of RCRA required DOE to submit the plan for the Oak Ridge Reservation to Tennessee for review and either approval, modification or disapproval within six months after receipt of the plan. In reviewing and making a determination on the plan, the state has considered the need for regional treatment facilities, consulted with the Administrator of the U.S. Environmental Protection Agency (EPA) and any other state in which a DOE facility affected by the plan is located, sponsored a public workshop, participated in stakeholder meetings, and considered public comments. After modification, Tennessee approved a modified plan and issued an Order requiring compliance with the approved plan. In the Order, provisions were included to update the plan annually. This document describes the updated version to be in effect in FY 2012.

1.2 SCOPE

In accordance with RCRA Section 3021, this Site Treatment Plan (STP) delineates how DOE will treat the site's mixed wastes or develop technologies when technologies do not exist or when existing technologies need to be modified. For some waste streams, a plan and schedules for characterizing wastes for treatment, for undertaking technology assessments, and for providing the required plans and schedules for developing capacities and technologies, as appropriate, are provided. This STP applies specifically to mixed wastes on the Oak Ridge Reservation. Other facilities under the management of DOE have site-specific site treatment plans (STPs) for their mixed wastes.

1.3 PURPOSE

The purposes of this STP include the following:

1. Fulfilling the requirements of the FFCAct.
2. Establishing an enforceable framework, in conjunction with the Order, in which DOE will develop methods to treat [or otherwise meet RCRA Land Disposal Restrictions (LDR) for] all LDR mixed wastes currently in storage and to be generated or received on the Oak Ridge Reservation during the term of the STP.
3. Allowing for storage of current and projected LDR mixed wastes at the Oak Ridge Reservation, which in the absence of an STP would be in violation of RCRA Section 3004(j), pending the development of treatment technologies or capacity and ultimate treatment or other disposal of such wastes according to LDR requirements during the term of this STP.
4. Fulfilling a requirement of the June 1992 Federal Facility Compliance Agreement (FFCA) into which DOE entered with EPA Region IV. One of the key provisions of the FFCA was that DOE would prepare a treatment methods plan for all mixed wastes on the Oak Ridge

Reservation for which treatment capability did not exist. In lieu of the treatment methods plan, this STP is being provided to EPA.

1.4 ORGANIZATION OF THE SITE TREATMENT PLAN

This STP provides overall schedules, along with milestones and target dates for achieving compliance with the LDR, and a general framework for the establishment and review of milestones and target dates, the conversion of target dates into milestones, and other provisions for implementing this STP that are enforceable under the Order.

1.5 ORGANIZATION OF THE ANNUAL UPDATE

Because the Annual Update retains the contents of the STP, information no longer pertinent is presented in ~~strike through~~ and new information is presented in ***bold italic*** font. Milestones completed in the previous fiscal year are presented under a separate heading within the section and milestones no longer appropriate are presented separately as well.

2. IMPLEMENTATION OF THE SITE TREATMENT PLAN

This section establishes the mechanisms and procedures for administering and implementing the treatment plans and schedules in Chapters 3 through 5 of this STP.

2.1 COVERED MATTERS

This STP addresses LDR requirements pertaining to storage and treatment of LDR mixed wastes, which in the absence of an STP would be in violation of RCRA Section 3004(j), whether such wastes were generated or accumulated in the past, are currently generated or accumulated, or will be generated or accumulated in the future. This STP also requires DOE to submit information concerning generation and storage of LDR mixed wastes which are not in violation of RCRA Section 3004(j).

2.2 COMPLIANCE SCHEDULES

2.2.1 Purpose

This STP provides overall schedules for achieving compliance with LDR requirements for mixed wastes on the Oak Ridge Reservation. The schedules include activities that are required to bring existing waste treatment facilities or technologies into operation, and those required for the development of new facilities and treatment capacities. This STP shows target dates and milestones for treatment technologies and facilities for wastes covered under the STP. The schedules differentiate between (1) milestones and (2) target dates that will be converted to milestones.

2.2.1.1 Activities

For the purposes of this STP, milestones and target dates will identify dates or time frames by which a certain activity (including an event such as submittal of a deliverable) is scheduled to occur, or any other dates or deliverables that are properly incorporated into this STP.

2.2.1.2 Assumptions

The assumptions upon which individual schedules are dependent are contained in Chapters 3 through 5. The schedules may be affected if the underlying assumptions are incorrect or if they change.

2.2.1.3 Milestones

Milestones are fixed, firm, and enforceable dates as set forth in this STP. Milestones correspond to the categories of milestones set forth in Section 2.2.3. Changes or revisions to milestones are subject to approval, approval with modifications, or disapproval by the Tennessee Department of Environment and Conservation (TDEC) according to the process and framework set forth in this STP. Milestones are set based on target dates, defined in Section 2.2.1.4, in accordance with the process described in Section 2.2.2.

2.2.1.4 Targets

Target dates mark the anticipated completion of tasks that have not been designated as milestones. Target dates correspond to the categories of milestones set forth in Section 2.2.3. Target dates are not requirements and are not enforceable. Target dates are converted into enforceable milestones in accordance with the process described in Section 2.2.2.

2.2.2 Setting Future Milestones and Target Dates

Through the Annual Update process, milestones will be established for a three year rolling period consisting of the fiscal year (FY) plus two additional fiscal years (FY+1 and FY+2) as follows:

1. On the effective date of the Order requiring the implementation of this STP, enforceable milestones in applicable planning schedules are established for a three fiscal year period. After the expiration of the current fiscal year, what was previously FY+1 will become the current fiscal year, FY+2 will become FY+1, and FY+3 will become FY+2. On October 1 of each year, the target dates falling within the former FY+3 time period shall be automatically converted to FY+2 milestones. It is anticipated that DOE will submit notification of proposed changes in the Annual Update. The Annual Update notification will include any proposed adjustments to milestones for the three-year period, as well as proposed adjustments to targets dates. Proposed changes to milestones based upon funding received shall be subject to Section 2.9, "Funding." Nothing in this section precludes DOE or TDEC from proposing or requesting changes to milestones at other times.
2. In adjusting milestones pursuant to this section, funding availability including the amount of funds provided to the DOE-OR in its Approved Funding Program for the current fiscal year (FY) for environmental management activities, and the internal Review Budget for FY+1, and associated out-year funding targets for the DOE-OR, site priorities, cost estimates, new or emerging technologies, and other new information shall be considered.
3. The schedules established for years past these three years are non-enforceable target dates. DOE will propose milestones in the Annual Updates for FY+2 based on target dates provided in Chaps. 3-5 as updated by previous Annual Updates. If there is no ensuing target date to convert to a milestone within a given FY for a particular facility or treatment approach, the Semi-Annual Progress Reports will describe progress on interim activities.

2.2.2.1

Approval of the proposed conversion of target dates to milestones shall be in accordance with Section 2.8, "Submittal, Review, and Approval of Deliverables," except if DOE proposes the same or earlier date, the next target date shall be converted to a milestone automatically and such conversion shall not require approval and shall not constitute a revision to the STP. The conversion shall be reflected in the next scheduled Annual Update to STP.

2.2.3 Categories of Milestones and Target Dates

The categories of activities for which milestones and target dates will be provided for different types of treatment approaches in this STP are listed in Tables 2.1 through 2.4 and in other provisions below. To the extent appropriate, the categories of activities are based on Section 3021(b)(1)(B)(i), (ii) and (iii) of RCRA. Depending upon the status of the facility or treatment option (e.g., operating under interim status or at differing stages of development), certain types of target dates or milestones may not be necessary, the activities may appear in a different order, or

an alternative activity that is more appropriate to the facility or treatment approach may be designated as a target date or milestone.

2.2.3.1 Plans for wastes with existing treatment technologies

For some of the mixed wastes, treatment technologies have been identified and developed. For these wastes that will be treated on site, the categories of milestones and target dates identified in Table 2.1 will apply.

Table 2.1 Schedule for mixed wastes with existing treatment technologies

Categories of milestone and target activities

- Submit RCRA permit applications to TDEC
- Procure contracts
- Initiate construction
- Commence systems testing
- Commence operations
- Submit a schedule for processing backlogged and currently generated mixed wastes

2.2.3.2 Plans for waste for which treatment technology must be developed

For some mixed wastes, no treatment technologies have been identified and developed, or treatment technology must be modified or adapted to be made applicable for mixed waste. For these wastes that will be treated on site, the categories of milestones and target dates identified in Table 2.2 will apply.

Table 2.2 Schedule for mixed wastes without existing treatment technologies

Categories of milestone and target activities

- Identify and develop technology
- Submit treatability study exemption application
- Submit research, design, and development permit applications
- Submit schedule in accordance with Table 2.1 or new schedule for development of alternative treatment technologies in accordance with this section

2.2.3.3 Requirements pertaining to radionuclide separation through surface decontamination

The FFCA Act sets additional requirements for those instances when DOE intends to conduct radionuclide separation of mixed waste. Should DOE decide to conduct on-site radionuclide separation of mixed wastes through surface decontamination, DOE will establish milestone and target date categories as delineated in Table 2.3.

Table 2.3 Schedule for radionuclide separation of mixed wastes

Categories of milestone and target activities

- Complete an estimate of the volume of waste generated by each case of radionuclide separation
- Complete an estimate of the volume of waste that would exist or be generated without radionuclide separation
- Complete an estimate of the costs of waste treatment and disposal if radionuclide separation is used compared to the estimated costs if it is not used
- Provide the assumptions underlying such waste volume and cost estimates
- Provide a schedule for surface decontamination
- Submit a plan for treatment or management of residues, as appropriate, in accordance with this section

2.2.3.4 Plans for other types of activities

This STP may contain additional milestones and target dates for other types of situations related to treatment or storage of Oak Ridge Reservation (ORR) mixed wastes, including the following:

1. In the STP, the final target date or milestone to ship for treatment or disposal will be completed once the material is manifested and shipped to a commercial facility or another non-ORR DOE facility. Information supporting the development or use of commercial or non-ORR DOE site treatment capacity or technology for treatment of such wastes shall be provided in the Semi-Annual Progress Reports. If changes in the commercial or non-ORR DOE site treatment facility's schedule affect the schedule in this STP, DOE will notify TDEC, and DOE and TDEC will attempt to negotiate necessary changes in accordance with Section 2.5, "Revisions," or 2.6, "Duty to Perform; Delay in Performance," as appropriate and subject to Section 2.10, "Disputes." Additional milestones or target dates for completion of on-site activities may be established. Table 2.4 contains some categories of milestones and target dates that may be provided for mixed wastes to be shipped to commercial or non-ORR DOE site for treatment and/or disposal.

Table 2.4 Schedule for mixed wastes to be shipped to commercial or non-ORR DOE site treatment and/or disposal facilities

Categories of milestone and target activities

- Initiate preparation of waste(s) for transport
 - Transportation of waste(s)
 - Complete shipment of waste(s) off site
2. The DOE will also ensure that the regulatory agency of the receiving facility has approved the proposed shipment of DOE-OR waste before notifying TDEC of the acceptance (if approval by the regulatory agency is legally required). If DOE wishes to treat waste at a commercial or non-ORR DOE facility that was previously slated to be treated on site, DOE will propose necessary changes in accordance with Section 2.5, "Revisions" and subject to Section 2.10, "Disputes." When the waste is to be shipped to another DOE facility, DOE (or

TDEC, if so agreed) will ensure that the regulatory agency of the state in which the receiving facility is located is notified of the proposed shipment.

3. For mixed wastes that are not sufficiently characterized to allow identification of appropriate treatment, this STP will contain schedules for characterizing such wastes. The milestones or target dates for such a schedule may include, but not be restricted to, (a) DOE's identification of the facility to receive the waste and any resulting schedule changes or (b) DOE's submittal of a proposed treatment schedule as described in this section.

2.3 ANNUAL SITE TREATMENT PLAN UPDATES AND SEMI-ANNUAL PROGRESS REPORTS

2.3.1 Purpose

This section provides mechanisms for (1) communicating and exchanging information about schedules, technology development, funding, and other concerns that affect the implementation of this STP; (2) providing Annual Updates and Semi-Annual Progress Reports; (3) proposing and establishing subsequent milestones; and (4) updating and proposing revisions to this STP.

2.3.2 Timing of Updates

By October 31 of each year after this STP is issued and the accompanying Order executed, DOE will provide to TDEC an Annual Update to the STP for review and comment. When revisions to the STP are proposed, the Annual Update will allow input from the public, affected states, and EPA. Each Annual Update will bring the STP current to the beginning of the current year (October 1). The Annual Update will minimize the paperwork necessary to document changes and will be handled by page changes to the extent practicable, and the changes will be marked to facilitate comparison to the previous STP. DOE shall provide Semi-Annual Progress Reports to TDEC by April 30 and October 31 of each year, beginning on April 30, 1996.

2.3.3 Update of STP

Both the Annual Updates and the Semi-Annual Progress Reports will update this STP.

2.3.3.1 Semiannual Progress Reports

The Semiannual Progress Reports will provide the following:

1. The amount of each LDR mixed waste stored on the Oak Ridge Reservation as follows:
 - A. the estimated amount in storage at the end of the previous six month period and
 - B. the estimated amount anticipated to be placed in storage in the next five fiscal years.
2. A description of the progress made up to the end of the previous six month period on treatment or technology development of each treatment facility or activity scheduled in the STP. If applicable, DOE will also describe current or anticipated alternative treatment technology that is being evaluated for use in lieu of treatment technologies or capacities identified in the STP. This description will include potential alternate commercial treatment and off-site DOE treatment capacity or technology development.
3. A description of DOE's funding for STP-related activities and any funding issues that may affect the schedule.

4. The status of any pending or planned extension, treatability variance, or no-migration petition.
5. In accordance with Section 2.4.2, information that has changed or that has not been included previously regarding waste form, waste code, and technology and capacity needs, including new waste streams.
6. Notification of the deletion of waste streams in accordance with Section 2.7.1.
7. Status of any new wastes for which notification has been provided during the six month reporting period.
8. Progress on DOE/NRC/EPA efforts to establish standards for control and release of residual radioactive material.

2.3.3.2 Annual Updates

1. The Annual Updates of this STP may contain requests for approval of changes. These requests for approval may, as appropriate, include: (1) proposed revisions or conditionally approved revisions; (2) proposed new milestones, in accordance with Section 2.2; and (3) other changes to the overall schedules.
2. The Annual Updates shall clearly identify proposed changes requiring approval under Section 2.8, "Procedures for Review and Approval," and Section 2.5, "Revisions."
3. DOE will make the Annual Updates publicly available. When an Annual Update includes proposed revisions to this STP, the provisions of Section 2.5, "Revisions," also apply to such proposed revisions.

2.3.4 Additional Information

TDEC may request, at any time, additional information on the status of specific activities undertaken pursuant to this STP and any funding issues relevant to it.

2.4 INCLUSION OF NEW WASTE STREAMS

2.4.1 Purpose

This section establishes a method for including new mixed waste streams on the Oak Ridge Reservation in the STP, including mixed wastes that are newly discovered, identified, generated during a CERCLA clean-up, or received from off site in accordance with applicable permits, Orders and agreements, and mixed wastes that are generated through decontamination and decommissioning activities to the extent that such wastes cannot be included in an existing waste stream in Appendix A of this STP.

2.4.2 Notification

DOE shall, within forty-five days of its discovery, notify TDEC of newly found existing LDR mixed waste streams being generated or stored. DOE shall also notify TDEC of any new LDR mixed waste streams that are anticipated to be generated or stored on the Oak Ridge Reservation within forty-five (45) days of the decision to generate or store such waste. DOE will

provide a description of the waste code, waste form, volumes, technology and capacity needs, and similar pertinent information in the notification. Additional details about the waste stream and the proposed plan and schedules, consistent with Section 2.2, "Compliance Schedules," will be provided within 45 days of notification for waste which, in the absence of an STP, would be in violation of RCRA Section 3004(j). The information provided pursuant to this subsection is subject to TDEC's approval as provided for in Section 2.4.4.

2.4.3 Deliverables

If DOE cannot provide the information or schedules required by Section 2.4.2 because of inadequate characterization or because it is otherwise impracticable, DOE will include appropriate justification, supporting information, and proposed plans for approval as a deliverable under Section 2.8, "Procedures for Review and Approval," for developing such information and schedules consistent with Section 2.2, "Compliance Schedules."

2.4.4 Changes

DOE may propose changes to this STP to accommodate new waste streams. If such changes are required, DOE will submit the changes for approval as a deliverable under Section 2.8, "Procedures for Review and Approval." Also, DOE may propose revisions to this STP as necessary to accommodate new waste streams subject to Section 2.5, "Revisions."

2.5 REVISIONS

2.5.1 Definitions

A revision to this STP is (a) the addition of a treatment facility on the Oak Ridge Reservation or off-site, but within Tennessee, or technology development not previously included in this STP or (b) an extension to a milestone (including an extension by mutual agreement under Section 2.6 or a proposed milestone converting a target date under Section 2.2) for a period greater than one year. Changes in waste volume, the addition or deletion of waste streams or waste types, extensions, changes to milestones for a period less than a year, or changes to target dates will not by themselves constitute revisions.

2.5.2 Revision Methodology

Revisions to the STP may be made as follows:

2.5.2.1 Identification of revisions

DOE will indicate to TDEC the need to revise this STP and provide information supporting the basis for the revision as a deliverable pursuant to Section 2.8, "Procedures for Review and Approval." Under these procedures, within thirty (30) working days of receipt, TDEC may conditionally approve the revision, return it to DOE with comments so that changes can be made for resubmittal, or disapprove it. Conditional approval of a revision is a determination by TDEC that the revision is acceptable, subject to the results of public comment and consultation with affected states and EPA.

2.5.2.2 Review and approval of revisions

Within thirty (30) working days of granting conditional approval, TDEC will publish a notice of availability and make the revision to the STP available to the public for review and

comment and to affected states and EPA for consideration and consultation. Revisions will be approved, approved with modification, or disapproved by TDEC within 6 months after TDEC's receipt of the proposed revision. TDEC will notify DOE of its decision. If DOE does not agree with TDEC's decision it may invoke the procedures of Section 2.10, "Disputes."

2.5.3 Notifications

To the extent practicable, comments from the public, affected states, and EPA on conditionally approved revisions will be obtained in conjunction with the Annual Update to the STP, as governed by Section 2.3, "Annual Site Treatment Plan Updates and Semi-Annual Progress Reports." However, if a conditionally approved revision is proposed to become effective before it could be addressed in the regularly scheduled Annual Update, TDEC will publish a notice of availability and consult with the affected states and EPA, as appropriate, within thirty (30) working days of such conditional approval.

2.6 DUTY TO PERFORM; DELAY IN PERFORMANCE

2.6.1 Implementation

DOE will implement this STP in accordance with the milestones set forth in this STP and with milestones subsequently developed pursuant to this STP. DOE shall adopt all reasonable measures to avoid or minimize delays in the implementation of this STP.

2.6.2 Milestones

A milestone will be extended upon receipt of a timely request for extension when good cause exists for the requested extension. Any request for an extension will be made to TDEC prior to the milestone date, either in writing or orally with a written follow-up request within ten (10) working days of the request. Any oral or written request will be provided to the project manager responsible for implementation of this STP. The written request will specify (1) the milestone that is sought to be extended, (2) the length of the extension sought, (3) the good cause(s) for the extension, and (4) any related milestone or target date that would be affected should the extension be granted.

2.6.3 Good Cause

Good cause for an extension includes (1) an event of Force Majeure, as defined below in Section 2.6.4, provided written notice of the event is given to TDEC in accordance with Section 2.6.9; (2) a delay caused by TDEC's failure to meet any requirement of this STP; (3) a delay caused by the good faith invocation of dispute resolution or the initiation of administrative or judicial action; (4) a delay caused, or likely to be caused, by the grant of an extension in regard to another milestone; (5) a delay caused by additional work agreed to by DOE and TDEC; and (6) any event or series of events mutually agreed to by DOE and TDEC as constituting good cause.

2.6.4 Force Majeure

An event of Force Majeure means any event arising from causes beyond the control of DOE that causes a delay in or prevents the performance of any obligation under this STP. Examples of events that may constitute a Force Majeure include, but are not limited to, acts of God; fire; war; insurrection; civil disturbance; explosion; unanticipated breakage or accident to machinery, equipment, or lines of pipe, despite reasonably diligent maintenance; adverse weather conditions that could not reasonably be anticipated; unusual delay in transportation; restraint by court order

or order of public authority; inability to obtain, at reasonable cost and after exercise of reasonable diligence, any necessary authorizations, approvals, permits, or licenses due to action or inaction of any governmental agency or authority other than the DOE; lack of a sufficient appropriation to DOE for its nationwide environmental management activities despite good faith compliance by DOE with the procedures set forth in Section 2.9, "Funding;" and, delays caused by compliance with applicable statutes or regulations such as those governing contracting, procurement, or acquisition procedures, despite the exercise of reasonable diligence. The listing of examples of events that may constitute a Force Majeure does not create a presumption that such events will in every instance be a Force Majeure.

2.6.5 Dispute Resolution

Lacking agreement of DOE and TDEC with respect to the existence of good cause, the parties may seek and obtain a determination through the dispute resolution process, Section 2.10.

2.6.6 Extension Requests

For extension requests by DOE, the following procedures will apply.

1. Within fifteen (15) working days of receipt of a written request for an extension of a milestone, TDEC will advise DOE in writing of its position on the request. If TDEC does not concur with the requested extension, it will include in its statement of nonconurrence an explanation of the basis for its position.
2. If TDEC determines that the requested extension is warranted, then the affected milestone will be extended accordingly. If TDEC determines that all or part of the requested extension is not warranted, the milestone will not be extended except in accordance with a determination resulting from the dispute resolution process.
3. Within fifteen (15) working days of receipt of a statement of nonconurrence with the requested extension, DOE may invoke dispute resolution. If DOE does not invoke dispute resolution within fifteen (15) working days of receipt of a statement of nonconurrence, then DOE is deemed to accept TDEC's nonconurrence and the existing schedule.

2.6.7 Extension Requests by the Tennessee Department of Environment and Conservation

For extension requests by TDEC, if DOE does not invoke dispute resolution within fifteen (15) working days after receiving written notice of the requested extension, the extension will become effective.

2.6.8 Extension Request Toll Actions

A timely and good faith request for extension will toll the initiation of any action to enforce the affected milestone until a final decision is reached on whether the requested extension will be approved, or until the party requesting the extension fails to cooperate in good faith to resolve any dispute over the request.

2.6.9 Notification

DOE will notify TDEC in writing within fifteen (15) working days after it becomes aware of events that DOE knows or should know constitute a Force Majeure event that may delay or prevent the performance of an obligation under this STP. Such notice will describe the cause and anticipated length of delay and mitigation measures being taken. After such a notification, any

request for an extension based on a Force Majeure event will be made pursuant to Section 2.6.2, and the procedures of Section 2.6.6 will apply.

2.7 DELETION OF WASTES AND TERMINATION OF THE SITE TREATMENT PLAN

2.7.1 Deletion of Wastes

The requirements of this STP will terminate with regard to any mixed waste upon (1) completion of activities required pursuant to a milestone under this STP for treatment of such waste; (2) shipment of wastes off site for treatment and receipt of the certification of treatment to LDR standards, disposal or storage pending treatment, or disposal; (3) changes to statute or regulation or determinations of the regulatory authority that cause a waste or waste categories to be no longer subject to the requirements of RCRA or the LDR requirements of RCRA; (4) treatment in accordance with the conditions of an approved LDR treatability variance; or (5) mutual agreement between DOE and TDEC.

2.7.2 Termination of Plan

Inasmuch as the intent of the FFCAct requirement to develop an STP is to address noncompliance with RCRA Section 3004(j), this STP will terminate when there is no longer any LDR mixed waste, regardless of when generated, being stored on the Oak Ridge Reservation which, in the absence of an STP, would be in violation of RCRA Section 3004(j).

2.7.3 Notification

DOE will notify TDEC of such termination independently or in the Annual Updates to the STP. TDEC will provide DOE with a written response to the notification within 30 working days. TDEC's response to this notice will be subject to the provisions of Section 2.10, "Disputes."

2.8 PROCEDURES FOR REVIEW AND APPROVAL

2.8.1 Submission of Deliverables

Deliverables developed by DOE pursuant to this STP will be submitted by DOE to TDEC for review and comment as provided in this section. Deliverables include documents or notices signifying completion of milestones, identifying new wastes, and supporting proposed revisions as required or permitted under this STP. When TDEC approval of a deliverable is expressly required in this STP, the approval provisions in this section apply. Permit applications and National Environmental Policy Act (NEPA) documents will not be subject to the procedures of this section. Permit applications will be submitted and reviewed under applicable regulations, and NEPA documents will be submitted and reviewed under the DOE regulations implementing NEPA. Each submittal of a deliverable will specify the milestone or other provision of this STP that requires the submittal of that deliverable.

2.8.2 Transmittal of Deliverables

Unless otherwise noted, each deliverable will be transmitted directly to the TDEC project manager responsible for implementation of this STP.

Unless otherwise specified, any report or submittal provided pursuant to a schedule or deadline identified in or developed in this STP shall be sent by certified mail, return receipt

requested, or similar method (including electronic transmission) which provides a written record of the sending and receiving dates, or hand delivered, to the following persons:

Tennessee Department of
Environment and Conservation
Division of Solid Waste Management
STP Coordinator
2700 Middlebrook Pike, Suite 220
Knoxville, Tennessee 37921

Tennessee Department of
Environment and Conservation
DOE Oversight STP Manager
761 Emory Valley Road
Oak Ridge Tennessee 37830

2.8.3 Review of Deliverables

TDEC will promptly review each deliverable submitted by DOE that is required to be approved pursuant to this STP. In the course of its review, TDEC may consult with DOE regarding the adequacy of each deliverable. Oral comments made during these discussions will not require a written response.

2.8.4 Deliverables Not Requiring Approval

Deliverables that do not require TDEC approval will be provided to TDEC for review and comment. If DOE disagrees with TDEC's comments, DOE will respond to TDEC's comments in writing, explaining DOE's position. If DOE has not received comments from TDEC within thirty (30) working days of submittal of the deliverable, it will be deemed that TDEC has no comments.

2.8.5 Actions by the Tennessee Department of Environment and Conservation

For any deliverable that requires TDEC approval under the provisions of this STP, the following procedures will apply:

2.8.5.1 Tennessee Department of Environment and Conservation actions

Within thirty (30) working days of receipt of a deliverable, TDEC will (1) approve, conditionally approve (if the deliverable is a revision), or disapprove the deliverable as submitted or (2) return the deliverable to DOE with comments so that changes can be made for resubmittal. Conditionally approved revisions will be approved or approved with modification after public review and comment and consultation with affected states and EPA pursuant to Section 2.5, "Revisions." TDEC may extend this review period for an additional thirty (30) working days by notifying DOE. This period may be further extended as agreed to by TDEC and DOE. Comments on the deliverable will be specific enough to allow DOE to make appropriate changes to the document. To the extent applicable, comments should refer to specific paragraphs of any sources of authority or references on which the comments are based, and, upon the request of DOE, TDEC will provide a copy of the cited authority or reference.

2.8.5.2 Conditional approval

If TDEC extends the review period for a deliverable, any milestones or target dates dependent upon the results of deliverable review will automatically be extended for an equivalent period. DOE will notify TDEC in writing of any enforceable milestones that need to be extended or revised.

2.8.5.3 Incorporation of comments

If TDEC returns the deliverable to DOE with comments within thirty (30) working days of receipt, DOE will incorporate the comments and retransmit the deliverable to TDEC. DOE may extend this period an additional thirty (30) working days by notifying TDEC. This period may be further extended as agreed to by TDEC and DOE. If DOE disagrees with TDEC's comments, and the parties are unable to resolve their disagreement, DOE may invoke the dispute resolution provisions of Section 2.10, "Disputes."

2.9 FUNDING

DOE shall, in good faith, take all necessary steps to obtain sufficient funding to comply with the provisions of this Plan. This shall be accomplished, as set forth in this section, through consultation with the TDEC and submission of timely budget requests.

1. DOE shall consult with the TDEC in formulating its annual DOE-OR Environmental Management budget requests as set forth in this section. By February 15 of each year, DOE shall provide TDEC with information or a briefing on the proposed DOE-OR Environmental Management budget request, including appropriate supporting documents. In the process of formulating its annual budget request, DOE may be subject to target funding guidance directed by the Office of Management and Budget (OMB). The information or briefing will address the impacts of such OMB target funding guidance. Budget information which is designated by DOE as proprietary information, pursuant to T.C.A. §68-212-109, will not be released to any other person or entity prior to submission by the President of his budget request to Congress unless authorized by DOE or unless the TDEC is required to do so by court order. DOE may seek to intervene in any proceeding brought to compel or enjoin release of this information. If allowed to intervene, DOE shall assert its interest in, and the legal basis for, maintaining the confidentiality of this information.
2. The parties shall attempt to reach agreement regarding work scope, priorities, schedules/milestones, and funding levels required to accomplish the purpose of the Plan. These discussions shall be conducted before DOE-ORO submits its annual budget request to DOE-HQ. TDEC shall, to the extent practicable, identify in its comments to DOE whether additional or accelerated activities recommended by the TDEC are believed by the TDEC to be outside of target funding levels.
3. DOE shall revise its budget request and supporting documents to resolve the comments of the TDEC to the extent agreed by the Parties. DOE-OR will submit to DOE-HQ its budget request and shall forward with it the target budget level funding and any unresolved issues regarding funding for additional or accelerated activities submitted by the TDEC, and any other unresolved issues raised by the TDEC. If these issues are not subsequently resolved prior to DOE's submission of its budget request to OMB, DOE-HQ shall forward with its budget request any such unresolved issues and related funding information to OMB. If the TDEC and DOE are unable to agree on milestones by the time of DOE-HQ's receipt of the initial OMB passback, or submittal of the President's budget request to Congress, whichever occurs first, the issues shall be elevated to Dispute Resolution. DOE has the right to indicate which milestones in any decision of the TDEC that DOE believes cannot be accomplished within OMB target funding levels. Failure to agree on adjustments to FY+1 or FY+2 milestones, or FY+3 targets in one year shall not prejudice DOE's right to request adjustments to these milestones in subsequent fiscal years or to dispute any decision of the TDEC regarding such future requests.
4. Upon receipt of funding for the fiscal year, DOE shall determine whether it can meet the schedule for that fiscal year based on funding received. If funds appropriated to DOE are not

sufficient for its nationwide environmental management activities, then within fifteen (15) days of receipt of field allocation, DOE shall provide information on the allocation process and results to TDEC and may propose changes or revisions to the milestones or plan. If, within forty-five (45) days of receipt of field allocation, the Parties cannot agree to the adjustments of the milestones or plan based on funding received, the issue will be elevated to Dispute Resolution.

2.10 DISPUTES

2.10.1 Scope

Except as specifically set forth elsewhere in this STP, any action that leads to or generates a dispute regarding compliance with the STP is subject to resolution under this section.

2.10.2 Informal Resolution

DOE and TDEC will make reasonable efforts to resolve disputes informally as expeditiously as possible at the project manager level. If resolution cannot be achieved informally, the disputing party may elevate the dispute for resolution pursuant to this section.

2.10.3 Formal Resolution

To initiate formal dispute resolution, the disputing party will submit to the other party a written notice of dispute that specifies (1) the nature of the dispute, (2) the work affected by the dispute, (3) the disputing party's position with respect to the dispute, and (4) the information the disputing party is relying upon to support its position.

2.10.4 Dispute Resolution

Upon receipt of the notice of dispute, the appropriate DOE assistant manager and TDEC administrator for land and waste programs (or their respective delegates or successors) will engage in dispute resolution meetings or conference calls. If a resolution is not mutually agreed upon within 30 days, the dispute will be escalated to the Deputy Commissioner of TDEC. Within 30 days of escalation, the Deputy Commissioner will consult with the DOE manager and issue a final determination of TDEC. This 30-day period may be extended by mutual written agreement of the parties.

2.10.5 Schedule

DOE will incorporate the resolution and final determination into the appropriate plan, schedule, or procedure and proceed with implementation in accordance with the amended plan, schedule, or procedure within 45 days after resolution of a dispute, pursuant to the procedures specified in this STP, in order for Section 2.11, "Covenants and Reservations," to remain effective for the affected waste stream.

2.10.6 Consultation with Other Parties

EPA or states affected by a dispute may be consulted by the parties, as appropriate, as part of the dispute resolution process.

2.11 COVENANTS AND RESERVATIONS

2.11.1 Covenants

This STP and implementing Order will stand in lieu of any administrative, legal, and equitable actions that could otherwise be brought by TDEC against DOE, its contractors and subcontractors for violations of LDR by storage of mixed waste in excess of the time allowed, so long as DOE is in compliance with the STP and implementing Order as determined by TDEC or a court of competent jurisdiction.

3. LOW-LEVEL MIXED WASTE STREAMS

Two general radiological categories comprise the untreated [excludes the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) waste] mixed waste inventory of 4,584,130 kgs (10,106,265 lbs) addressed by the plan; mixed transuranic (MTRU) and mixed low-level waste (MLLW)¹. Contact-handled (CH) MLLW is discussed in this chapter and includes approximately 33,230 kgs (73,260 lbs) (~1%) of untreated mixed waste inventory. Refer to Chapter 4 for additional information regarding MTRU.

Treatment of MLLW will be implemented in accordance with the standards specified in Subpart D of Title 40, *Code of Federal Regulations*, Part 268 (40 CFR 268) and Tennessee Rule 1200-1-11-10. All MLLW that is not subject to an exemption or variance will be treated to meet the applicable concentration- or technology-based treatment standard listed in the 40 CFR 268.40 Table, "Treatment Standards for Hazardous Wastes" and Tennessee Rule equivalent. Also, MLLW that meets the description of wastes in 40 CFR 268.42, such as wastes containing polychlorinated biphenyls (PCBs) or halogenated organic compounds of specified limits, must be treated using specified technologies such as incineration.

This chapter presents the low-level mixed waste streams under the plan in relation to technology capability. The chapter is divided into 3 sections:

- Section 3.1 for low-level mixed waste streams for which technology capability exists. All waste streams covered under this section are compliant with the LDR storage prohibitions and deleted from the STP in accordance with Section 2.7.1 Deletion of Wastes.
- Section 3.2 for low-level mixed waste streams with no path to disposal that require private sector capacity. The waste covered in this section are characterized for treatment. Section 3.2.16 is a new section for Treatment Facility Returns.
- Section 3.3 for other low-level mixed waste streams for which milestones or target dates, have not been established. Also there are waste streams with zero inventories and therefore removed from the STP. Waste streams in this section are managed in accordance with the Federal Facility Agreement (FFA) between Tennessee, DOE, and EPA, and approved Records of Decision (RODs) pursuant to the FFA.

All tables with remaining inventory are provided at the end of this chapter. All mixed waste inventory in this section is compliant with the LDR storage prohibitions, or has zero inventory, with the exception of no path to disposal waste streams in Table 3.4 and a waste stream in Table 3.6 with uranium concentrations above the current Economic Discard Limit (EDL).

Schedules for mixed waste treatment are based on the time required to (1) characterize waste; (2) solicit and obtain private sector services; (3) design, procure, and construct new facilities; and (4) develop or adapt technologies for treating mixed waste. The objective of treatment will be to produce a final waste form that can be disposed.

3.1 MIXED WASTE STREAMS FOR WHICH TECHNOLOGY EXISTS

All waste streams covered under this section are compliant with the LDR storage prohibitions and deleted from the STP in accordance with Section 2.7.1 Deletion of Wastes.

¹Low-level radioactive waste is defined as waste that contains radioactivity and is not classified as high-level waste, transuranic (TRU) waste, or spent nuclear fuel, or the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content.

3.1.1 Wastewater Treatment Plants (CHOXD, NEUTR, PRECP)

All waste streams covered under this section and Table 3.1 are compliant with the LDR storage prohibitions and deleted from the STP in accordance with Section 2.7.1 Deletion of Wastes.

3.1.2 Toxic Substances Control Act Incinerator (INCIN)

All waste streams covered under this section and Table 3.2 are compliant with the LDR storage prohibitions and deleted from the STP in accordance with Section 2.7.1 Deletion of Wastes.

3.1.3 Private Sector Treatment

3.1.3.1 Private Sector stabilization of sludges (STABL)

All waste streams covered under this section and Table 3.3 are compliant with the LDR storage prohibitions and deleted from the STP in accordance with Section 2.7.1 Deletion of Wastes.

3.2 OTHER MIXED LOW-LEVEL WASTE

A total of 8 waste streams categorized as no path to disposal waste remain in Table 3.4. A total of 101 waste streams covered under this section and Table 3.4 are compliant with the LDR storage prohibitions and were deleted from the STP in accordance with Section 2.7.1 Deletion of Wastes.

3.2.1 Mixed Low-Level Waste Treated By the Balance of Inventory Project

Low-level mixed waste types (Table 3.4) in this section will be characterized and treated under the Balance of Inventory project including utilizing the private sector under the broad spectrum contracts or under separate contracts if there are cost and schedule benefits. The milestones and target dates under the balance of inventory project appear below.

On January 19, 2011, DOE notified TDEC during the quarterly meeting that there were two populations of waste that were shipped for treatment and needed to be accepted back into storage due to the lack of treatment available for these wastes and for their inclusion into the STP. On March 4, 2011, DOE issued a letter to TDEC documenting the two populations, described as mercury-contaminated waste and reactive waste. During a meeting on September 20, 2011, DOE proposed to TDEC updating the STP with the addition of a new waste category identified as Treatment Facility Returns, a new Section 3.2.16 for the new waste category, new MWIR Stream Numbers M1781 and M1782 to Table 3.4 and new milestones for these waste populations. During the meeting, TDEC concurred with the updates to the STP proposed by DOE.

FY 2012, 2013, and 2014 milestones - DOE shall accomplish the following:

1. Complete shipment of Classified MLLW and Classified MLLW with Dioxin and Furan Codes within one year after the appropriate treatment technology becomes available with the necessary permits and licenses, approval to receive classified material is in place, the treatment facility is operationally ready to receive the waste, and DOE Safeguards and Security has authorized shipment of the waste to the treatment facility.

2. Complete shipment of MLLW with Prohibited Codes (Dioxin and Furan Codes) to treatment facility within one year after the treatment facility notifies DOE that appropriate treatment technology becomes available with the necessary permits and licenses, approval to receive the waste is in place, and the treatment facility is operationally ready to receive the waste.
3. Complete shipment of reactive MLLW to a treatment facility within one year after appropriate treatment technology becomes available, including necessary permits and licenses, approval to receive the waste is in place, and the treatment facility is operationally ready to receive the waste.
4. Complete shipment of mercury-contaminated MLLW to a treatment facility within one year after appropriate treatment technology becomes available, including necessary permits and licenses, approval to receive the waste is in place, and the treatment facility is operationally ready to receive the waste.
5. By the 30th day after the end of each quarter, DOE will provide TDEC with a quarterly report providing the status of Table 3.4 disposition efforts. These quarterly reports should incorporate the following:
 - a. Complete listing of STP Table 3.4 waste populations as of October 1, 2011, including identification of the planned disposition facility for each waste population, amounts of waste shipped during the quarter per waste population, and the shipping destination of each.
 - b. For each waste population, provide the status of treatment technology availability, approval to receive waste, and operational readiness to receive the waste of the planned disposition facility.
 - c. Waste population inventories in kilograms and by container count with identification of the mass of U-235 in an enriched matrix for each population.
 - d. Footnotes for each waste transfer in or out of the table, as well as between the waste streams with an explicit explanation of the basis for the transfer.

FY 2011 milestones completed:

1. By September 30, 2011, complete shipments of Combustion Technology Code Mixed Waste to treatment and disposition. (This milestone was completed early on February 26, 2010)
2. By the 30th day after the end of each quarter, DOE will provide TDEC with a quarterly report providing the status of Table 3.4 and Table 3.6 disposition efforts. These quarterly reports should incorporate the following:
 - a. Complete listing of STP Table 3.4 and Table 3.6 waste populations as of October 1, 2010, including identification of the planned disposition facility for each waste population, amounts of waste shipped during the quarter per waste population, and the shipping destination of each.
 - b. For each waste population, provide the status of treatment technology availability, approval to receive waste, and operational readiness to receive the waste of the planned disposition facility.

- c. Waste population inventories in kilograms and by container count with identification of the mass of U-235 in an enriched matrix for each population.
- d. Footnotes for each waste transfer in or out of the table, as well as between the waste streams with an explicit explanation of the basis for the transfer.

(October 28, 2010; January 27, 2011; April 20, 2011; and July 25, 2011)

FY 2011 milestones carried over to FY 2012:

The following milestones were carried over from FY 2009 to FY 2011, and again from FY 2011 to FY 2012, because the conditions that set the required completion dates have not been met.

- 1. Complete shipment of Classified MLLW and Classified MLLW with Dioxin and Furan Codes within one year after the appropriate treatment technology becomes available with the necessary permits and licenses, approval to receive classified material is in place, the treatment facility is operationally ready to receive the waste, and DOE Safeguards and Security has authorized shipment of the waste to the treatment facility.
- 2. Complete shipment of MLLW with Prohibited Codes (Dioxin and Furan Codes) to treatment facility within one year after the treatment facility notifies DOE that appropriate treatment technology becomes available with the necessary permits and licenses, approval to receive the waste is in place, and the treatment facility is operationally ready to receive the waste.

Previous FY milestones completed:

- 1. By September 30, 2010, initiate shipments of Combustion Technology Code Mixed Waste to treatment and disposition. (December 08, 2009)
- 2. By the 30th day after the end of each quarter, DOE will provide TDEC with a quarterly report providing the status of Table 3.4 and Table 3.6 disposition efforts. These quarterly reports should incorporate the following:
 - a. Complete listing of STP Table 3.4 and Table 3.6 waste populations as of October 1, 2009, including identification of the planned disposition facility for each waste population, amounts of waste shipped during the quarter per waste population, and the shipping destination of each.
 - b. For each waste population, provide the status of treatment technology availability, approval to receive waste, and operational readiness to receive the waste of the planned disposition facility.
 - c. Waste population inventories in kilograms and by container count with identification of the mass of U-235 in an enriched matrix for each population.
 - d. Footnotes for each waste transfer in or out of the table, as well as between the waste streams with an explicit explanation of the basis for the transfer.

(October 13, 2009; January 29, 2010; April 28, 2010; and July 29, 2010)

3.2.2 Mixed Low-Level Waste/Contact-Handled—Soils

The Resource Conservation and Recovery Act (RCRA) closure for the East Chestnut Ridge Waste Pile (ECRWP) has been completed.

3.2.3 Mixed Low-Level Waste/Contact-Handled—Inorganic Homogenous Wastes

Inorganic homogenous wastes are composed of aqueous liquids requiring immobilization, wastewater treatment sludges and inorganic matrix solids contaminated with various radioactive and hazardous constituents. Although these wastes have a well-defined LDR treatment technology, they are contaminated with many radionuclides; thus, treatment options must be developed to address the concerns related to radioactive contamination. A total of two low-level mixed waste streams (Aqueous Liquids MWIR No. M1414 and Inorganic Solids MWIR No. M1513) are captured in STP Table 3.4, with an inventory of 8,968 kgs (19,772 lbs) and no generation. The inventory of these inorganic homogenous wastes requiring treatment will be treated by the private sector under the balance of inventory project in Section 3.2.1.

(See Section 3.2.1 for milestones and target dates for the balance of inventory for the inorganic homogeneous solids category in Table 3.4.)

3.2.4 Mixed Low-Level Waste/Contact-Handled—Containerized Soils

Contact-handled low-level mixed waste MLLW/CH containerized soils on the Oak Ridge Reservation are contaminated primarily with hazardous organic constituents, mercury, lead, and radionuclides. The current inventory of MLLW/CH containerized soils reported in Table 3.4 under the waste stream MWIR No. M1531 is approximately 817 kgs (1,801 lbs). There is no generation. Characterization of this mixed waste category has been completed. The inventory will be treated by the private sector under the balance of inventory project in Section 3.2.1.

3.2.5 Mixed Low-Level Waste/Contact-Handled—Inorganic Debris Waste

Debris waste on the Oak Ridge Reservation includes a variety of material types, including filter elements, metal dross, crushed light bulbs, light ballasts, and nonmetal inorganic debris. One low-level mixed waste stream (MWIR No. M1562) is captured in STP Table 3.4 to be treated by the Balance of the Inventory project in Section 3.2.1. The inventory of this waste is 10,063 kgs (22,184 lbs) and no generation.

3.2.6 Mixed Low-Level Waste/Contact-Handled—Lab Packs

All waste streams covered under this section and Table 3.4 are compliant with the LDR storage prohibitions and were deleted from the STP in accordance with Section 2.7.1 Deletion of Wastes.

3.2.7 Mixed Low-Level Waste/Contact-Handled—Elemental Mercury

All waste streams covered under this section and Table 3.4 are compliant with the LDR storage prohibitions and were deleted from the STP in accordance with Section 2.7.1 Deletion of Wastes.

3.2.8 Mixed Low-Level Waste/Contact-Handled—Elemental Hazardous Metals

All waste streams covered under this section and Table 3.4 are compliant with the LDR storage prohibitions and were deleted from the STP in accordance with Section 2.7.1 Deletion of Wastes.

3.2.9 Mixed Low-Level Waste/Contact-Handled—Beryllium Dust

All waste streams covered under this section and Table 3.4 are compliant with the LDR storage prohibitions and were deleted from the STP in accordance with Section 2.7.1 Deletion of Wastes.

3.2.10 Mixed Low-Level Waste/Contact-Handled—Batteries

All waste streams covered under this section and Table 3.4 are compliant with the LDR storage prohibitions and were deleted from the STP in accordance with Section 2.7.1 Deletion of Wastes.

3.2.11 Mixed Low-Level Waste—Reactive Metals

All waste streams covered under this section and Table 3.4 are compliant with the LDR storage prohibitions and were deleted from the STP in accordance with Section 2.7.1 Deletion of Wastes.

3.2.12 Mixed Low-Level Waste/Contact-Handled—Explosives

All waste streams covered under this section and Table 3.4 are compliant with the LDR storage prohibitions and were deleted from the STP in accordance with Section 2.7.1 Deletion of Wastes.

3.2.13 Mixed Low-Level Waste/Contact-Handled—Compressed Gases

All waste streams covered under this section and Table 3.4 are compliant with the LDR storage prohibitions and were deleted from the STP in accordance with Section 2.7.1 Deletion of Wastes.

3.2.14 Mixed Low-Level Waste/Contact-Handled—Uncategorized

All waste streams covered under this section and Table 3.4 are compliant with the LDR storage prohibitions and were deleted from the STP in accordance with Section 2.7.1 Deletion of Wastes.

3.2.15 Mixed Low-Level Waste/Contact-Handled—MLLW with Combustion Codes

All waste streams covered under this section and Table 3.4 are compliant with the LDR storage prohibitions and were deleted from the STP in accordance with Section 2.7.1 Deletion of Wastes.

3.2.16 Mixed Low Level Waste – Treatment Facility Returns

The intended purpose of “Treatment Facility Returns” is to separate the waste streams that have, and may be returned in the future, from the waste inventories identified elsewhere in the STP tables and sections. In order to better facilitate tracking of the balance of inventory and

establish target dates, milestone dates or make other decisions on additions to the Treatment Facility Returns section, this new section as approved by TDEC is created.

Waste streams (reported under MWIR Nos. M1781 and M1782) comprise the Oak Ridge Reservation inventory of treatment facility returns.

The M1781 inventory group is mercury contaminated mixed waste regulated under RCRA and contaminated with PCBs regulated under TSCA. This inventory group requires development of treatment capacity due to a conflict between the Land Disposal Restriction (LDR) requirements associated with treating mercury and the LDR requirements for treating organic contamination and/or PCBs.

The M1782 reactive waste inventory group consists of containers containing radioactively contaminated potassium, lithium, rubidium, cesium, and sodium. This inventory group requires development of treatment capacity due to safety concerns at current facilities.

(See Section 3.2.1 for milestones and target dates for the balance of inventory for the treatment facility returns category in Table 3.4.)

History

MWIR No. M1781 is the new tracking identification for waste that was returned to ORR storage from the treatment facility on November 24, 2010. Currently this waste has no path to disposal until a treatment option or treatment train can be identified which will address treatment of the mercury, organics, and PCBs in a manner compliant with LDR.

MWIR No. M1782 is the new tracking identification for waste that was shipped for treatment over a period of time (November 11, 2005, August 10, 2006, and September 26, 2008). Upon additional characterization and due to safety concerns, the treatment facility elected not to perform treatment of this waste and requested that the waste be returned to ORR storage. The waste was returned to ORR storage on March 17, 2011 after attempts to obtain a treatment variance failed. Currently, no treatment facility exists with the capacity to treat radioactively-contaminated reactive waste.

3.3 OTHER MIXED WASTE STREAMS

This section covers mixed low-level waste not covered in Table 3.4. Sections 3.3.1 and 3.3.2 include mixed low-level waste with no milestones or target dates. Table 3.5 lists the waste streams discussed in these sections. Section 3.3.3 includes National Nuclear Security Administration (NNSA) mixed low-level waste moved from Table 3.4 and put on Table 3.6, as approved by TDEC.

3.3.1 Comprehensive Environmental Response, Compensation, and Liability Act Waste

LDR mixed waste generated as a result of environmental restoration activities shall be managed in accordance with the Federal Facility Agreement (FFA) between Tennessee, DOE, and EPA, and approved Records of Decision (RODs) pursuant to the FFA.

One waste stream remains in Table 3.5, the disposal area remedial action (DARA) soils (MWIR No. M3306), consists of soils from a Y-12 Plant remediation action. The waste stream is contaminated with PCBs and waste solvents and has an inventory of 4,665,295 kg (10,263,649 lbs). The preferred method, facility, and schedule for treatment of the DARA soils from clean-up actions is specified in the CERCLA Record of Decision (ROD) document DOE/OR/01-1750&D4

signed in June 2000 developed under the DOE-OR FFA; therefore, no schedules (milestones and target dates) are provided in the STP for this waste. However, this does not preclude earlier treatment by other means, such as use of the DARA soils to support the treatment of combustible mixed waste solids.

3.3.2 Treated WETF and CNF Sludge

Disposal of this waste has been completed.

3.3.3 NNSA Mixed Low-Level Waste

As approved by TDEC, the NNSA waste tracked under MWIR streams M3303 (Uranium contaminated residues and combustibles) and M3308 (Uranium contaminated solutions) have been moved from Table 3.4 to Table 3.6.

The inventory identified in Table 3.6 for these MWIR streams was generated by uranium recovery operations at the Y-12 National Security Complex. Ultimate disposal will most likely be at either the Nevada National Security Site (NNSS) (previously known as Nevada Test Site (NTS)) or the EnergySolutions, LLC facility in Clive, Utah, or both. Several processing steps (e.g., establishing revised Economic Discard Limits (EDL), removing safeguards and/or treatment to meet waste acceptance criteria or land disposal restrictions) will most likely be necessary before disposition. The processing steps involved depend on the physical state of the waste, the hazardous constituents it contains and the uranium content. Proposed milestones and target dates have been prepared based on the time required to (1) characterize waste; (2) solicit and obtain private sector services; (3) design, procure, construct and permit facilities, as needed, for on-site treatment and/or packaging; and (4) develop or adapt technologies for treating mixed waste.

As approved by TDEC, MWIR Stream M3303 in Table 3.6 was split into MWIR Streams M3303a and M3303b. The uranium contaminated residues and combustibles grouping is comprised of two separate waste streams; those items with uranium concentrations above the Economic Discard Limit (EDL), Mixed Waste Inventory Report (MWIR) Stream M3303a, and those items below the EDL, MWIR Stream M3303b. The item count and approximate net weight associated with these waste streams are identified in Table 3.6. The baseline inventory for these waste streams is identified by the individual “batch numbers” assigned to each item at the time the inventory was compiled. Batch numbers and the mass associated with an individual item may change over time due to splits, consolidation or other operational activities. To ensure traceability and to effectively monitor progress in disposition of the inventory, milestones related to disposition are based upon treatment or disposal of a percentage of items from the baseline inventory. In the event an item is split into multiple items, credit will not be claimed until all “daughter” items resulting from the split have been sent for treatment or disposal. All containers in MWIR stream M3303b were shipped for treatment/disposal prior to the end of Fiscal Year 2011.

The remaining wastes in MWIR stream M3303a are residues (ash) from the enriched uranium recovery incinerator. All waste originated prior to the RCRA closure of that incinerator (completed in January 1992) and is both F-Listed and characteristically hazardous for metals content. Enrichment levels and U-235 gram quantities involved would constrain the rate at which the waste could be shipped for treatment and/or disposal. Therefore, some containers would require splitting into multiple “daughter” containers prior to shipment. All wastes covered in this section are adequately characterized for continued safe storage.

Inventory items in MWIR Stream M3303a that are contaminated with uranium levels exceeding the EDL are not currently scheduled for treatment and/or disposal.

MWIR streams M3308 and M3301 covered under this section and Table 3.6 are compliant with the LDR storage prohibitions and were deleted from the STP in accordance with Section 2.7.1 Deletion of Wastes.

All treatment of MLLW will be implemented in accordance with the standards specified in Subpart D of Title 40, Code of Federal Regulations, Part 268 (40 CFR 268) and Tennessee Rule 1200-1-11-10. All MLLW that is not subject to an exemption or variance will be treated to meet the applicable concentration- or technology-based treatment standard listed in the 40 CFR 268.40 Table, "Treatment Standards for Hazardous Wastes" and Tennessee Rule equivalent.

FY 2012, 2013, and 2014 milestones - DOE shall accomplish the following:

1. By the 30th day after the end of each quarter, DOE will provide TDEC with a quarterly report providing the status of Table 3.6 disposition efforts.
2. September 30, 2012 – Complete an evaluation of the existing MWIR 3303a inventory to determine the feasibility of raising the Economic Discard Limit to allow disposition of the remaining items. The evaluation will include an evaluation of alternatives to raising the Economic Discard Limit, such as processing for recovery, and a delisting petition; and will include a recommendation for disposition of the remaining inventory, including disposition milestones.

FY 2011 milestones completed:

September 30, 2011 – Ship a cumulative total of 100 percent of the items on the baseline inventory, not including MWIR stream M3303a (i.e. uranium contaminated residues and combustibles above the Economic Discard Limit), for treatment or disposal.

Previous FY milestones completed:

September 30, 2010 – Ship a cumulative total of 80 percent of the items on the baseline inventory, not including MWIR stream M3303a (i.e. uranium contaminated residues and combustibles above the Economic Discard Limit), for treatment or disposal.

Table 3.1 Mixed Low-Level Aqueous Waste Targeted for Onsite Treatment

All waste streams in Table 3.1 were compliant with the LDR storage prohibitions and were deleted from the STP in accordance with Section 2.7.1 Deletion of Wastes.

Table 3.2 Mixed Low-Level Waste Targeted for the TSCA Incinerator

All waste streams in Table 3.2 were compliant with the LDR storage prohibitions and were deleted from the STP in accordance with Section 2.7.1 Deletion of Wastes.

Table 3.3 Mixed Low-Level Waste Targeted for Private Sector Treatment

All waste streams in Table 3.3 were compliant with the LDR storage prohibitions and were deleted from the STP in accordance with Section 2.7.1 Deletion of Wastes.

Table 3.4 Mixed low-level waste requiring further characterization and technology demonstration

Site MWIR	National MWIR	Sub-Group	Description	INV11Q3 (kg) actual	INV11Q3 (m3) actual	GEN11 (kg) estimated	GEN11 (m3) est.	Treatment Option
Organic Debris (Section 3.1.2)								
M1324		-	Organic Debris (Outside TSCAI WAC)	745.00	0.497	0	0.000	Balance of Inventory
Stream Count:		1	Sub-Total:	745.00	0.497	0	0.000	
Organic Liquids (Section 3.1.3.1)								
M1327		-	Organic Liquids (Outside TSCAI WAC)	3,297.19	3.297	0	0.000	Balance of Inventory
Stream Count:		1	Sub-Total:	3,297.19	3.297	0	0.000	
Aqueous Liquids (Section 3.2.3)								
M1414		-	Aqueous Liquids for Immob	5,584.30	5.584	0	0.000	Balance of Inventory
Stream Count:		1	Sub-Total:	5,584.30	5.584	0	0.000	
Inorganic Solids (Section 3.2.3)								
M1513	DP-W157	P	Inorganic Particulates for Thermal Treatment	3,384.10	2.820	0	0.000	Balance of Inventory
Stream Count:		1	Sub-Total:	3,384.10	2.820	0	0.000	
Containerized Soils (Section 3.2.4)								
M1531	DP-W161	-	Soils for Immobilization	817.00	0.545	0	0.000	Balance of Inventory
Stream Count:		1	Sub-Total:	817.00	0.545	0	0.000	
Inorganic Debris (Section 3.2.5)								
M1562	DP-W171	-	Heterogeneous Debris for Sorting and Segregation	10,062.50	6.708	0	0.000	Balance of Inventory
Stream Count:		1	Sub-Total:	10,062.50	6.708	0	0.000	
Treatment Facility Returns (Section 3.2.16)								
M1781	DP-W174	N	Mercury Contaminated Returns	8,872.55	5.915	0	0.000	Balance of Inventory
M1782	DP-W178	N	Reactive Returns	214.00	0.143	0	0.000	Balance of Inventory
Stream Count:		2	Sub-Total:	9,086.55	6.058	0	0.000	
Stream Count:		8	Grand Total:	32,976.64	25.509	0	0.000	

A total of 101 waste streams in Table 3.4 were compliant with the LDR storage prohibitions and were deleted from the STP in accordance with Section 2.7.1 Deletion of Wastes.

Table 3.5 Mixed low-level waste with no milestones under the site treatment plan

Site MWIR	National MWIR	Sub-Group	Description	INV11Q3 (kg) actual	INV11Q3 (m3) actual	GEN11 (kg) estimated	GEN11 (m3) est.	Treatment Option
CERCLA Wastes - MLLW (Section 3.3.1)								
M3306	YP-W006	-	DARA Multisource Leachate Contaminated Soils - PCB	4,665,295.50	3,110.197	0	0.000	CERCLA Y-12
Stream Count:		1	Sub-Total:	4,665,295.50	3,110.197	0	0.000	
Stream Count:		1	Grand Total:	4,665,295.50	3,110.197	0	0.000	

A total of 9 waste streams in Table 3.5 were compliant with the LDR storage prohibitions and were deleted from the STP in accordance with Section 2.7.1 Deletion of Wastes.

The preferred method, facility, and schedule for treatment of the DARA soils from clean-up actions is specified in the CERCLA Record of Decision (ROD) document DOE/OR/01-1750&D4 signed in June 2000 to be developed under the DOE OR FFA; therefore, no schedules (milestones and target dates) are provided in the STP for this waste.

Table 3.6 NNSA Mixed Low-Level Waste

Site MWIR	Description		Baseline Inventory Item Count 9/30/2011	Baseline Inventory Net Weight (kg) 9/30/2011
NNSA Mixed Low-Level Waste (Section 3.3.3)				
M3303a*	Uranium Contaminated Residues and Combustibles - Above EDL		60	253.4
M3303b	Uranium Contaminated Residues and Combustibles - Below EDL		0	0.0
Stream Count:	2	Sub-Total:	60	253.4
Stream Count:	2	Grand Total:	60	253.4

MWIR streams M3308 and M3331 in Table 3.6 were compliant with the LDR storage prohibitions and were deleted from the STP in accordance with Section 2.7.1 Deletion of Wastes.

* The predominant container type associated with MWIR stream M3303a is the “residue can” typically used for the compliant storage of fissile material

4. TRANSURANIC MIXED WASTE STREAMS ²

Background:

The mixed transuranic wastes (MTRU) on the Oak Ridge Reservation are all located at the Oak Ridge National Laboratory. These wastes, discussed in this chapter, are divided into two primary waste streams, RH-TRU sludges consisting of approximately 1,733,980 kgs (3,822,767 lbs) and CH- and RH-TRU debris and solids consisting of approximately 2,224,910 kgs (4,905,081 lbs). These MTRU waste streams comprise approximately 86% of waste requiring treatment under this plan. Another 592,010 kgs (1,305,157 lbs) (~13%) of remotely handled (RH) mixed low level aqueous waste in active storage tanks at ORNL is reported in Table 4.3 because it is integrally associated with the management of RH-TRU sludges reported in Table 4.1.

The strategy for compliance for processing TRU debris and sludges is to repackage the debris and stabilize the sludges and ship the final waste form to the Waste Isolation Pilot Plant (WIPP) in Carlsbad, New Mexico or the NNSS, depending on the final characterization of the processed waste. DOE announced May 29, 1998, the selection of Foster Wheeler Environmental Corporation (Foster Wheeler) to retrieve, treat, package, and certify TRU waste stored at ORNL for disposal off-site. Under the contract, Foster Wheeler constructed an on-site processing facility to treat and package the waste. CH- and RH-TRU debris and solid waste will be processed for disposal at WIPP. Any MLLW discovered to be present in the TRU inventory will be processed to meet LDR treatment standards prior to disposal at NNSS or other disposal facility.

On September 21, 2000, DOE signed an agreement with the State of Tennessee to settle a dispute regarding the disposal of transuranic wastes in trenches within Melton Valley's Solid Waste Storage Area 5 North. A copy of the Dispute Resolution Agreement is shown in Appendix B. By the letter of September 7, 2006, TDEC agreed to modify the Dispute Resolution Agreement by extending the termination date for Trench 13 from September 30, 2006, to September 30, 2009, and to incorporate that letter in the annual revision of the STP.

Due to the unique challenges associated with management and disposition of the wastes contained in Trench 13, TDEC has agreed to allow further extension of the milestones related to Trench 13. Specifically, the existing milestone was deferred for five years and two additional milestones were added to the milestone table. The first of these milestones requires completion of a technical alternatives study to evaluate the feasibility, costs, and safety considerations associated with a range of alternatives for managing Trench 13. In addition a milestone was added to require submittal of a draft plan for disposition of the Trench 13 materials, to be followed by the existing milestone (deferred by five years) to submit a detailed plan for final disposition of the Trench 13 materials.

In October 2001, DOE notified TDEC of termination of requirements in the STP, including milestones, regarding transuranic mixed waste streams. In October 2001 TDEC rejected the proposed deletion indicating that mixed TRU wastes were still subject to Tennessee laws and regulations. In December 2001, DOE invoked informal dispute resolution at the project manager level. In December 2002, due to lack of progress towards resolution, TDEC recommended elevation of the disagreement to a formal dispute. In December 2003, TDEC escalated the dispute to the level of Deputy Commissioner and the DOE Oak Ridge Operations Office Manager.

² The milestones established in the Commissioner's Final Determination have been negotiated and revised accordingly and are hereby incorporated into the Site Treatment Plan (STP). Inclusion of these milestones does not affect the right of DOE to make any and all legal arguments it may have in any enforcement action brought by TDEC to enforce these milestones.

In a letter dated April 12, 2007, TDEC resolved the formal dispute by unilaterally imposing the STP milestones and target dates for TRU waste (listed in Appendix C). However, TDEC also agreed to negotiate milestones for mixed TRU waste based on good cause that includes capacity of the on-site processing facility.

DOE responded to the TDEC letter on May 1, 2007. In the letter, DOE proposed a set of principles which would form the basis for milestone negotiation.

Milestones for processing RH TRU waste were established in 2007 prior to start-up based on aggressive processing rate assumptions and the best available information regarding the physical and radiological properties of the waste. TWPC has gained knowledge and operating experience since processing operations began, including the discovery of significant technical issues related to the properties of the waste that have affected the initial processing rate assumptions. These issues have been the basis for repeated extensions of STP milestones for RH TRU waste and require the establishment of new RH TRU processing milestones under the STP.

Beginning in April 2011 DOE and TDEC corresponded and held discussions on the need to reevaluate milestones for the MTRU debris waste due to technical issues impacting TWPCs ability to meet the waste processing volumes required under the extended FY 2010 and FY 2011 milestones. The technical issues impacting TWPC were not anticipated at the time these original milestones were set and extended. After ongoing discussions, on October 24, 2011, DOE and TDEC outlined an approach to a new compliance schedule for CH and RH TRU debris and RH TRU sludge.

The new compliance schedule for RH TRU sludge is necessary primarily because of unexpected technical challenges which were not anticipated when the previous milestones were set. These challenges include the complex nature of processing the TRU sludge waste and newly identified technical issues associated with conflicts within the physical footprint of the facility between concurrent sludge operations and debris operation. This issue is further complicated by concerns associated with the need to minimize radiation dose rates to personnel working in the buildings. These considerations necessitate a redesign of the sludge processing facility in order to separate the sludge processing activities from the debris activities.

Resource issues that emerged in FY 2011 were also a consideration in the new compliance schedule, but were not the primary driver for change. The National TRU Program's Central Characterization Program (CCP), which accomplishes final certification of mixed transuranic wastes, prior to shipment to the Waste Isolation Pilot Plant, was reallocated away from the Oak Ridge Transuranic Waste Processing Center. In the absence of the CCP, the TWPC was able to focus on repackaging of TRU debris waste and eliminate MLLW/LLW from the TRU waste inventory. CCP is expected to return in fiscal year 2014 to resume the final certification and disposal of the TRU debris remaining in the inventory. The decision to reallocate the resources required for the final certification step of processing contributed to delays in the schedules and therefore affected established milestones and target dates. Also, in the second quarter of FY 2011, the funding required to proceed with the design and build out of the TRU sludge processing facility was reallocated away from the Oak Ridge TRU project. This delayed the expected build out of the facility and beginning of subsequent sludge processing to FY 2019. The removal of funding delayed the completion of processing the remote handled TRU sludge by approximately 5 years. The document DOE/CF-0061, Volume 5, Department of Energy FY 2012 Congressional Budget Request, dated February 2011 was submitted to TDEC for review. After review of the documentation for funding as required in Section 2.9, it was apparent that the funding was in place for the current FY and the next FY (2012). Pages 82 and 83 in the DOE budget document

committed to meeting STP milestones including “continue construction of the transuranic sludge processing facility build outs”.

The technical challenges and the resource limitations affected the STP assumptions, rendering the FY+1 & FY+2 milestones no longer appropriate as in Sections 1.5 & 2.2.1.2 of the STP. New milestones were established for the FY 2012 STP to reflect the new assumptions based on anticipated continued physical preparation and final WIPP certification of debris waste. Furthermore, a reevaluation of the sludge compliance schedule resulted in the establishment of new milestones and target dates. Two former sludge milestones were deemed no longer appropriate. The FY 2012 milestone "strategy document" was retained in the new compliance schedule. A new milestone "start construction" for the sludge processing annex was established for FY 2014 based on technical reasons. Target dates for sludge processing based on a midpoint and endpoint were established.

DOE worked with TDEC to develop the following definitions which would be used in measuring milestones:

Definitions:

Processing: For purposes of measuring the completion of milestones associated with processing a specific volume of waste from the stored legacy inventory, processing is defined as the physical steps required to prepare waste for final disposition as TRU waste to WIPP or LLW/MLLW to NNS or other disposal facility. Completion of processing is accomplished when all waste verification, remediation as required, repackaging as required, final Non Destructive Assay (NDA) or Dose-to-Curie (DTC) measurements as applicable are taken and the raw data are submitted to allow for quantification and final certification of the waste for disposal. Volumetric milestones will be met when these physical processing steps have been completed. Volumes of waste in stored inventory refer to the legacy plus projected newly-generated volume of approximately 1500 m³ of CH waste inventory, approximately 600 m³ of RH waste, and approximately 2000 m³ of RH sludge.

Regulatory requirements for MLLW: Waste that is determined to be MLLW during characterization and processing of the TRU inventory will be subject to full compliance with RCRA and will be treated, to meet Land Disposal Restrictions within one year of discovery, unless treatment capacity is not available.

Removal of waste inventory from STP: Waste will be removed from regulatory coverage under the STP when any of the following conditions are met:

1. Waste inventory determined to be Mixed Low-Level Waste will be removed from the STP when the waste has been treated, to meet Land Disposal Restrictions under RCRA.
2. Waste inventory determined to be TRU waste will be removed from the STP when the waste is shipped to WIPP.
3. Waste inventory determined to be Low-Level Waste will be removed from the STP.

Waste Streams: Streams include CH waste, RH waste, and RH sludge. The volume of TRU waste identified in the STP includes wastes confirmed during final characterization activities to be MLLW or LLW. The STP also includes milestones for the evaluation of options for the disposition of the material in Trench 13 and for the plans to implement the agreed upon outcome of the evaluation options.

FY 2012, 2013, and 2014 Milestones - DOE shall accomplish the following:

1. Within 30 days of the end of each quarter, and for the duration of the TRU waste processing campaign, submit a quarterly report to TDEC detailing the progress on the processing of the TRU waste inventory, including the status of WIPP certification for the processed waste and treatment of any MLLW discovered during processing.

TRU Debris Milestones:

1. By September 30, 2013, complete physical preparation of 283 m³ of the remaining 567 m³ of CH-TRU debris, enabling the final characterization of the waste for disposal. For purposes of this milestone, completion will be measured as accomplished when verification, appropriate remediation, and appropriate repackaging have been completed to support initial characterization.
2. By March 31, 2014, complete physical preparation of 275 m³ of the remaining 550 m³ of RH-TRU debris, enabling the final characterization of the waste for disposal. For purposes of this milestone, completion will be measured as accomplished when verification, appropriate remediation, and appropriate repackaging have been completed to support initial characterization.

TRU Sludge Milestones:

1. By June 30, 2012, submit to TDEC a documented strategy for processing the approximately 2000 cubic meters of RH sludge inventory. The strategy should describe the methodologies planned for processing the waste, steps required for final certifications of waste, expected waste throughput capacity, and any expected improvements to be made to the facilities for processing the waste.
2. By June 30, 2014, begin construction of the Sludge Processing Annex required for housing TRU Sludge.

Trench 13 Milestones:

1. By January 30, 2014, DOE shall submit to TDEC an engineering evaluation related to the disposition of the material in Trench 13 located in SWSA 5 North with analyses based on environmental risk, characterization of the material and cost breakdown for proposed options. These options will include retrieval in addition to short-term and long-term in-place management.
2. By August 1, 2014, DOE shall submit to TDEC a draft plan for disposition of the TRU waste remaining in Trench 13 located in SWSA 5 North in accordance with the agreed to outcome of the evaluation of options.
3. By September 30, 2014, DOE shall submit to TDEC a detailed plan for disposition of the TRU waste remaining in Trench 13 located in SWSA 5 North.

Target Dates:

TRU Debris Target Dates:

1. By March 31, 2015, complete physical preparation of the remaining inventory of 284 m³ of CH-TRU debris, enabling the final characterization of the waste for disposal. For

purposes of this milestone, completion will be measured as accomplished when verification, appropriate remediation, and appropriate repackaging have been completed to support initial characterization.

2. By September 30, 2015, accomplish final WIPP certification of 50% of the remaining RH-TRU waste inventory as shown in Table 4.1 of the STP.
3. By December 31, 2015, accomplish final WIPP certification of 50% of the remaining CH-TRU waste inventory as shown in Table 4.1 of the STP.
4. By September 30, 2016, complete physical preparation of the remaining inventory of 275 m³ of RH-TRU debris, enabling the final characterization of the waste for disposal. For purposes of this milestone, completion will be measured as accomplished when verification, appropriate remediation, and appropriate repackaging have been completed to support initial characterization.
5. By September 30, 2017, accomplish final WIPP certification of all remaining inventory of CH-TRU waste inventory as shown in Table 4.1 of the STP.
6. By September 30, 2017, accomplish final WIPP certification of all remaining RH-TRU waste inventory as shown in Table 4.1 of the STP.

TRU Sludge Target Dates:

1. By June 30, 2018, complete processing of 50% of the TRU sludge inventory.
2. By December 31, 2019, complete processing of the remaining inventory of TRU sludge.

Milestones No Longer Appropriate:

1. By September 30, 2010, complete processing of an additional 375 cubic meters of CH waste, for the project's total of 962 cubic meters.
2. By September 30, 2010, complete processing of an additional 85 cubic meters of RH waste, for the project's total of 105 cubic meters.
3. By March 31, 2009, DOE shall submit to TDEC a detailed plan for disposition of the TRU waste remaining in Trench 13 at SWSA 5 North.

In response to a DOE extension request of March 30, 2009, this milestone was extended and modified by TDEC with a letter of April 20, 2009. The modification included an addition of the milestone for submittal of a "draft plan." On August 20, 2009, TDEC agreed with a DOE's request to extend the existing milestones for submittal of the "detailed plan" to September 30, 2014, and the "draft plan" to August 1, 2014. Consequently DOE proposed to add an additional milestone for submittal by January 30, 2014, of an engineering evaluation related to the disposition of the material in Trench 13.

4. By September 30, 2011, complete processing of an additional 375 cubic meters of CH waste, for the project's total of 1337 cubic meters.

On August 30, 2011, DOE notified TDEC that DOE would be unable to process the required quantities of CH TRU waste by September 30, 2011. In the letter, DOE requested a revision of the current enforceable milestones and target dates due to the

technical issues impacting TRU waste processing at TWPC. Milestone not revised or extended by TDEC according to section 2.6.

5. By September 30, 2011, complete processing of an additional 140 cubic meters of RH waste, for the project's total of 245 cubic meters.

On August 30, 2011, DOE notified TDEC that DOE would be unable to process the required quantities of RH TRU waste by September 30, 2011. In the letter, DOE requested a revision of the current enforceable milestones and target dates due to the technical issues impacting TRU waste processing at TWPC. Milestone not revised or extended by TDEC according to section 2.6.

6. By May 31, 2011, complete processing of an additional 375 cubic meters of CH waste, for the project's total of 962 cubic meters.

After discussions between DOE and TDEC, DOE informed TDEC of the technical issues impacting the TWPC's ability to meet the previously extended milestones for FY 2010 under the STP. It was agreed that an extension of the milestones associated with FY 2010 waste processing would be requested. On May 27, 2011, DOE notified TDEC that this milestone would not be met as the technical issues impacting TWPC were not anticipated at the time this milestone was set and extended.

7. By May 31, 2011, complete processing of an additional 85 cubic meters of RH waste, for the project's total of 105 cubic meters.

After discussions between DOE and TDEC, DOE informed TDEC of the technical issues impacting the TWPC's ability to meet the previously extended milestones for FY 2010 under the STP. It was agreed that an extension of the milestones associated with FY 2010 waste processing would be requested. On May 27, 2011, DOE notified TDEC that this milestone would not be met as the technical issues impacting TWPC were not anticipated at the time this milestone was set and extended.

8. By September 30, 2012, complete processing of the remaining approximately 163 cubic meters of CH waste, for the project's total of approximately 1500 cubic meters.

On August 30, 2011, DOE requested a revision of the current enforceable milestones for CH waste due to the technical issues impacting TRU waste processing at TWPC. Target date not adjusted by TDEC according to section 2.2.

9. By September 30, 2012, complete processing of an additional 221 cubic meters of RH waste, for the project's total of approximately 466 cubic meters.

On August 30, 2011, DOE requested a revision of the current enforceable milestones for RH waste due to the technical issues impacting TRU waste processing at TWPC. Target date not adjusted by TDEC according to section 2.2.

10. By September 30, 2013, complete processing of an additional 81 cubic meters of RH waste, for the project's total of 547 cubic meters.

On August 30, 2011, DOE requested a revision of the current enforceable milestones for RH waste due to the technical issues impacting TRU waste processing at TWPC. Target date not adjusted by TDEC according to section 2.2.

11. By September 30, 2013, complete processing of 145 cubic meters of RH sludge.

On August 30, 2011, DOE requested a revision of the current enforceable milestones for RH waste due to the technical issues impacting TRU waste processing at TWPC. Target date not adjusted by TDEC according to section 2.2.

Target Dates No Longer Appropriate:

1. By September 30, 2014, complete processing of the remaining approximately 13 cubic meters of RH waste, for the project's total of 560 cubic meters.
2. By September 30, 2014, complete processing of an additional 436 cubic meters of RH sludge, for a total of 581 cubic meters.
3. By September 30, 2015, complete processing of an additional 436 cubic meters of RH sludge, for a total of 1017 cubic meters.
4. By September 30, 2016, complete processing of an additional 436 cubic meters of RH sludge, for a total of 1453 cubic meters.
5. By September 30, 2017, complete processing of an additional 436 cubic meters of RH sludge, for a total of 1889 cubic meters.
6. By September 30, 2018, complete processing of the remaining 111 cubic meters of RH sludge, for a total of 2000 cubic meters.

Table 4.1 ORR mixed transuranic waste streams under the site treatment plan

Site MWIR	National MWIR	Sub-Group	Description	INV11Q3* (kg) actual	INV11Q3* (m3) actual	GEN11 (kg) estimated	GEN11 (m3) est.	Treatment Option
MTRU to be treated at TPF under the site treatment plan (Section 4.1)								
M2305	OR-W044	-	CH-TRU Heterogeneous Debris	562,580	700	2,920	10	TWPC/WIPP
M2308	OR-W100	-	RH-TRU Heterogeneous Debris	1,662,330	560	82,400	25	TWPC/WIPP
M2344	OR-W097	-	Bethel Valley Evaporator Service Tanks (BVEST) -	154,850	100	0	0	TWPC/WIPP
M2345	OR-W098	-	Melton Valley Storage Tanks (MVST) - MTRU Sludge	1,579,130	1,050	0	0	TWPC/WIPP
Stream Count:		4	Sub-Total:	3,958,890	2,410	85,320	35	
Stream Count:		4	Grand Total:	3,958,890	2,410	85,320	35	

Streams M2306, M2307, M2313, M2320, and M2321 did not have an inventory and were deleted from the STP in accordance with Section 2.7.1 Deletion of Wastes.

Note: For the purpose of measuring the completion of milestones in Section 4 of the STP, Table 3.7 is reporting the entire TRU solids inventory in streams M2305 and M2308. This inventory includes waste tracked as TRU mixed

Table 4.2 ORR mixed transuranic waste with no milestones under the site treatment plan

The CERCLA activities supporting Table 4.2 have been completed. Streams M2311, M2341, and M2342 did not have an inventory and were deleted from the STP in accordance with Section 2.7.1 Deletion of Wastes.

Table 4.3 ORR Remote-Handled Liquid Low-Level Waste

Site MWIR	National MWIR	Sub-Group	Description	INV11Q3* (kg) actual	INV11Q3* (m3) actual	GEN11 (kg) estimated	GEN11 (m3) est.	Treatment Option
RH Liquids to be treated at TPF (Section 4.3)								
M2354	OR-W039A	-	Bethel Valley Evaporator Service Tanks (BVEST) -	283,160	240	0	0	TWPC/WIPP
M2355	OR-W039B	-	Melton Valley Storage Tanks (MVST) - MLLW RH	308,850	260	0	0	TWPC/WIPP
Stream Count:		2	Sub-Total:	592,010	500	0	0	
Stream Count:		2	Grand Total:	592,010	500	0	0	

Stream M2312 did not have an inventory and was deleted from the STP in accordance with Section 2.7.1 Deletion of Wastes.

* Inventory quantities are rounded for reporting purposes.

5. HIGH-LEVEL MIXED WASTE STREAMS

No high-level mixed waste is generated, processed, or stored by facilities on the Oak Ridge Reservation.

APPENDIX A

Inventory Data for the Oak Ridge Reservation Mixed Waste Streams

Pages A-1 through A-2

Appendix A - Inventory data for the Oak Ridge Reservation mixed waste streams

MWIR #	SUB	DESCRIPTION	MPC	RAD	MATRIX	FORM	EPA CODES	INV11Q3 (kg)	INV11Q3 (m3)	GEN11 (kg)	GEN11 (m3)	PREFERRED OPTION	OPTION #	SYSTEM #	PLAN CHAPTER
M1324	-	Organic Debris (Outside TSCAI WAC)	S3200	MLLW/CH	ORGANIC HOMOGENEOUS SOLIDS	solid	D008 D014 D017 D032 D037 D038 F002 F003 F027 U002 U007 U021 U044 U070 U081 U105 U106 U107 U127 U132 U144 U166 U167 U168 U169 U170 U188 U196 U201 U219 U221 U353	745.00	0.497	0	0.000	Balance of Inventory	DP-24		3.1.2
M1327	-	Organic Liquids (Outside the TSCAI WAC)	L2000	MLLW/CH	ORGANIC LIQUIDS	liquid	D001 D007 D008 D009 D010 D012 D015 D016 D018 D019 D020 D021 D022 D023 D024 D025 D026 D027 D028 D029 D030 D031 D032 D033 D034 D035 D036 D037 D039 D040 D041 D042 F001 F002 F003 F004 F005 F006 F007 F008 F023 F027 F039 P015 P022 P030 P075 P098 P105 P113 P123 U002 U003 U004 U005 U006 U007 U008 U010 U012 U018 U019 U020 U022 U028 U029 U031 U035 U036 U037 U044 U050 U052 U056 U057 U060 U061 U069 U070 U075 U076 U077 U078 U080 U081 U088 U103 U107 U108 U112 U115 U117 U119 U121 U122 U128 U129 U131 U140 U151 U154 U159 U161 U162 U165 U169 U170 U176 U188 U196 U208 U210 U211 U213 U220 U221 U222 U223 U226 U227 U228 U237 U239 U240 U247 U359	3,297.19	3.297	0	0.000	Balance of Inventory	DP-24		3.1.3.1
M1414	-	Aqueous Liquids for Immob	L1000	MLLW/CH	AQUEOUS LIQUIDS/SLURRIES	Liquid	D001 D002 D004 D006 D007 D008 D009 D010 D012 D013 D014 D015 D016 D017 D018 D019 D020 D021 D022 D023 D024 D025 D026 D027 D028 D029 D030 D031 D032 D033 D034 D035 D036 D037 D038 D039 D040 D041 D042 D043 F001 F002 F003 F004 F005 F006 F007 F008 F009 F020 F027 F039 P002 P003 P004 P010 P011 P012 P014 P015 P022 P028 P029 P030 P037 P039 P047 P048 P050 P051 P059 P071 P075 P082 P089 P094 P098 P105 P106 P113 P116 P123 U001 U002 U003 U004 U005 U006 U007 U008 U009 U010 U011 U012 U018 U019 U020 U021 U022 U024 U025 U028 U029 U030 U031 U033 U035 U036 U037 U039 U041 U042 U043 U044 U045 U047 U050 U052 U055 U056 U057 U058 U060 U061 U063 U064 U069 U070 U072 U075 U076 U077 U078 U079 U080 U081 U083 U086 U088 U102 U103 U105 U106 U107 U108 U111 U112 U113 U117 U118 U119 U120 U121 U122 U123 U124 U125 U127 U128 U129 U131 U132 U133 U134 U136 U138 U144 U147 U148 U150 U151 U154 U158 U159 U161 U165 U166 U167 U169 U170 U172 U176 U177 U180 U184 U187 U188 U190 U191 U196 U197 U201 U208 U209 U210 U211 U213 U218 U219 U220 U221 U222 U223 U225 U226 U227 U228 U235 U236 U237 U239 U240 U243 U244 U247 U249 U328 U353 U359 U404	5,584.30	5.584	0	0.000	Balance of Inventory	DP-24		3.2.3
M1513	P	Inorganic Particulates for Thermal Treatment	S3100	MLLW/CH	INORGANIC HOMOGENEOUS SOLIDS	Solid	D006 D007 D008 F001 F002 F003 F004 F005 F006 F007 F008 F009 F020 F023 F027 F039 P002 P003 P004 P010 P011 P012 P014 P015 P022 P028 P029 P030 P037 P039 P048 P050 P051 P059 P071 P075 P082 P089 P094 P098 P105 P106 P113 P123 U001 U002 U003 U004 U005 U006 U007 U008 U009 U010 U011 U012 U018 U019 U020 U021 U022 U024 U025 U028 U029 U030 U031 U033 U035 U036 U037 U039 U041 U042 U043 U044 U045 U047 U050 U052 U055 U056 U057 U058 U060 U061 U063 U064 U069 U070 U072 U075 U076 U077 U078 U079 U080 U081 U083 U086 U088 U102 U103 U105 U107 U108 U111 U112 U113 U117 U118 U119 U120 U121 U122 U123 U124 U125 U127 U128 U129 U131 U132 U133 U134 U138 U147 U150 U151 U154 U158 U159 U161 U165 U166 U167 U169 U170 U172 U176 U177 U180 U176 U177 U180 U184 U187 U188 U191 U196 U197 U201 U208 U209 U210 U211 U213 U218 U219 U220 U221 U222 U223 U225 U226 U227 U228 U236 U237 U239 U240 U243 U247 U249 U359 U404	3,384.10	2.820	0	0.000	Balance of Inventory	DP-24	DP-S814	3.2.3
M1531	-	Soils for Immobilization	S4000	MLLW/CH	SOIL/GRAVEL	Solid	D006 D007 D008 D009 D010 D011	817.00	0.545	0	0.000	Balance of Inventory	DP-24	DP-S814	3.2.4
M1562	-	Heterogeneous Debris for Sorting and Segregation	S5400	MLLW/CH	HETEROGENEOUS DEBRIS	Solid	D006 D007 D008 D009 D010 D011	10,062.50	6.708	0	0.000	Balance of Inventory	DP-24	DP-S814	3.2.5
M1781	-	Mercury Contaminated Returns		MLLW/CH	INORGANIC DEBRIS	Solid	F001 F002 F003 F004 F005 F006 F007 F009 F039 U002 U031 U037 U052 U070 U075 U080 U112 U117 U121 U131 U151 U154 U159 U196 U210 U211 U220 U226 U228 U239	8,872.55	5.915	0	0.000	Balance of Inventory	-	DP-S814	3.2.16
M1782	-	Reactive Returns		MLLW/CH	INORGANIC DEBRIS	Solid	D003	214.00	0.143	0	0.000	Balance of Inventory	-	DP-S814	3.2.16
M2305	-	CH-TRU Heterogeneous Debris	S5400	MTRU/CH	HETEROGENEOUS DEBRIS	Solid	D001 D003 D004 D005 D006 D007 D008 D009 D010 D011 D018 D031	562,580.00	700.000	2,920	10.000	TWPC/WIPP	OR-03	OR-S005	4.1

Appendix A (continued)

MWIR #	SUB	DESCRIPTION	MPC	RAD	MATRIX	FORM	EPA CODES	INV11Q3 (kg)	INV11Q3 (m3)	GEN11 (kg)	GEN11 (m3)	PREFERRED OPTION	OPTION #	SYSTEM #	PLAN CHAPTER
M2308	-	RH-TRU Heterogeneous Debris	S5400	MTRU/RH	HETEROGENEOUS DEBRIS	Solid	D006 D008 D009 SUSP	1,662,330.00	560.000	82,400	25.000	TWPC/WIPP	OR-03	OR-S005	4.1
M2344	-	Bethel Valley Evaporator Service Tanks (BVEST) -		MTRU/RH		solid		154,850.00	100.000	0	0.000	TWPC/WIPP	OR-05		4.1
M2345	-	Melton Valley Storage Tanks (MVST) - MTRU Sludge		MTRU/RH		solid		1,579,130.00	1,050.000	0	0.000	TWPC/WIPP	OR-05		4.1
M2354	-	Bethel Valley Evaporator Service Tanks (BVEST) -		MLLW/RH		liquid		283,160.00	240.000	0	0.000	TWPC/WIPP	OR-03		4.3
M2355	-	Melton Valley Storage Tanks (MVST) - MLLW RH Supernatant		MLLW/RH		liquid		308,850.00	260.000	0	0.000	TWPC/WIPP	OR-03		4.3
M3303a	-	Uranium Contaminated Residues and Combustibles - Above	S5300	MLLW/CH	ORGANIC DEBRIS	Solid	D005 D006 D007 F001 F002 F005	253.44	0.000	0	0.000	Balance of Inventory	DP-03	DP-S002	3.3.3
M3303b	-	Uranium Contaminated Residues and Combustibles - Below	S5300	MLLW/CH	ORGANIC DEBRIS	Solid	D005 D006 D007 F001 F002 F005	0.00	0.000	0	0.000	Balance of Inventory	DP-03	DP-S002	3.3.3
M3306	-	DARA Multisource Leachate Contaminated Soils - PCB	S4000	MLLW/CH	SOIL/GRAVEL	Solid	F001 F002 F005 F039	4,665,295.50	3,110.197	0	0.000	CERCLA Y-12	OR-40	YP-S801	3.3.1

APPENDIX B

Dispute Resolution Agreement with the State of Tennessee under the Federal Facility Compliance Act Site Treatment Plan for the Oak Ridge Reservation

Pages B-1 through B-39

Dispute Resolution Agreement with the State of Tennessee
under the Federal Facility Compliance Act Site Treatment Plan
for the Oak Ridge Reservation

Whereas, by letter dated April 27, 2000 (attached hereto as Attachment A and incorporated herein by this reference), TDEC directed DOE to, among other things, amend the Site Treatment Plan (STP) for the Oak Ridge Reservation in order to require the removal, treatment, and disposal of transuranic waste located in trenches within Melton Valley's Solid Waste Storage Area 5 North (SWSA 5 N);

Whereas, by said letter, TDEC also directed DOE to include the underlying regulatory basis for the STP, the storage prohibition of TDEC Rule 1200-1-11-.10 (Land Disposal Restriction (LDR) storage prohibition), as an Applicable or Relevant and Appropriate Requirement (ARAR) for the remedy selected for SWSA 5 N in the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Record of Decision (ROD) for Melton Valley;

Whereas, by letter dated May 3, 2000 (attached hereto as Attachment B and incorporated herein by this reference), DOE invoked the dispute resolution procedures of Section 2.10 ("Disputes") of the STP with respect to TDEC's direction to amend the STP to require the removal, treatment, and disposal of transuranic waste in SWSA 5 N;

Whereas, as set forth in said DOE letter, DOE takes the position that the transuranic waste in SWSA 5 N is not subject to the scope and jurisdiction of the STP or its underlying regulatory basis, the LDR storage prohibition;

Whereas, the U. S. Environmental Protection Agency (USEPA) has taken the position that the LDR storage prohibition does not constitute an ARAR for the waste in the 23 SWSA 5 N trenches;

Whereas, TDEC maintains that DOE has historically represented to TDEC that DOE intends to retrieve the TRU waste contained in the 23 SWSA 5 N trenches;

Whereas, one of the 23 SWSA 5 N trenches, Trench 27, is a RCRA permitted unit required to be closed per Tennessee hazardous waste regulations;

Whereas, the 23 SWSA 5 N trenches are listed as a Solid Waste Management Unit(s) under DOE's RCRA permit and are subject to corrective action requirements;

Whereas, DOE is undertaking the retrieval and disposal of TRU waste contained in casks in the 23 SWSA 5 N trenches (Trenches T-1 thru T-10, T-12, T-13, T-15, T-18

thru T-27 (as depicted in Attachment C) pursuant to the Atomic Energy Act (AEA) and the National Environmental Policy Act (NEPA) [Final Environmental Impact Statement for Treating Transuranic (TRU)/Alpha Low-Level Waste at the Oak Ridge National Laboratory, Oak Ridge, Tennessee and the follow-on NEPA Record of Decision].

Whereas, during a July 25-26, 2000, Senior Managers' Meeting, the USEPA, DOE, and TDEC Senior Managers reached an agreement (a list of attendees and meeting minutes reflecting the agreement are set forth in Attachment D) resolving differences among the three agencies regarding the remediation of the 23 SWSA 5 N trenches;

Whereas, this Dispute Resolution Agreement is consistent with the agreement reached by the Senior Managers during the July 25-26 meeting;

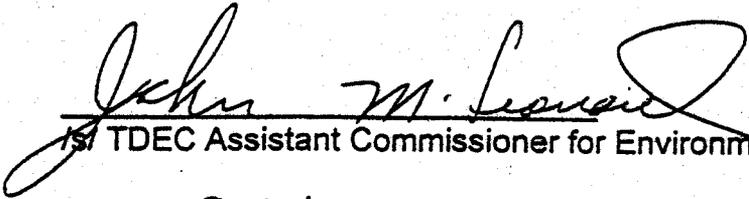
Whereas, DOE and TDEC (the parties) desire to settle the STP dispute without the adjudication of any law or fact;

Wherefore, pursuant to Section 2.10 of the STP, the parties agree as follows:

1. In light of the foregoing, the annual DOE-Oak Ridge funding request will categorize, as a regulatory commitment, the project to retrieve the TRU waste from the 23 SWSA 5 N trenches under DOE's AEA authority.
2. If DOE-Oak Ridge's annual funding request fails to categorize the retrieval project as a regulatory commitment, or if appropriated funds are not available to complete the retrieval project by the end of FY 2006, this dispute resolution agreement will be rendered null and void, and either party may, upon written notice to the other, resume the dispute resolution process of Section 2.10 of the STP. In such case, the parties preserve all of their respective rights, defenses, and legal positions with respect to the disputed matters.
3. This Dispute Resolution Agreement will be incorporated into the STP as an Appendix in the next semi-annual update of the STP.
4. The parties anticipate that the CERCLA ROD for Melton Valley will require DOE to conduct an engineering evaluation of the feasibility of removing transuranic waste located in the other four SWSA 5 N trenches (trenches T-11, T-14, T-16, and T-17) and five trenches in SWSA 5 South (trenches 128, 168, 188, 206, and 214). The parties agree that the waste in these nine trenches does not fall within the scope of the STP and is not subject to the LDR storage prohibition.
5. The parties agree that this Dispute Resolution Agreement shall not be construed as

an admission or evidence of any liability and shall not be used for any other purpose or in any judicial or administrative proceeding except for a proceeding by a party for the purpose of enforcing the terms and conditions herein.

In accordance with Section 2.10 of the STP, the parties so agree:


/s/ TDEC Assistant Commissioner for Environment

Date 9-21-2000


/s/ DOE Assistant Manager for Environmental Management

Date 9-21-2000

ATTACHMENT A



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
OFFICE OF GENERAL COUNSEL
312 8th Avenue North
25th Floor, Tennessee Tower
Nashville, Tennessee 37243-1548

Sent 4-28-00

April 27, 2000

Mr. C. Ray Miskelley
Office of Chief Counsel
United States Department of Energy
Oak Ridge Operations Office
P.O. Box 2001
Oak Ridge, Tennessee 37831

**RE: Mixed Transuranic Wastes in Retrievable Storage Trenches located in
Melton Valley, Solid Waste Storage Area (SWSA) 5 North**

Dear Mr. Miskelley:

I am writing this letter to you, as legal representative of the Department of Energy, to state the formal position of TDEC regarding this issue. As we have researched and discussed this issue, it has been discovered that the Mixed Waste Site Treatment Plan (STP) for the Oak Ridge Reservation, in its original form as of September 1995, reflected a larger volume of TRU waste than is currently shown in the table attached to the plan. Specifically, Table 4.1 on page 44 of the original version showed MWIR # 2308 having 932,048.00 kg. This is described as RH-TRU Heterogeneous Debris. Appendix A at p. A-7 of this version presents the same information. However, a comparison to the most recent version of the STP that I have available - October 1998 shows a change from the original 1995 plan. Page A-12 in Appendix A shows volume for the same waste stream, # MWIR 2308, as being 303,519.23 kg. Additionally, beneath the description - RH-TRU Heterogeneous Debris there has been added the word - "Bunker" in parenthesis. Table 4.1 appearing at p. 48 of this 1998 version of the STP has been revised in the same manner.

Other information that we have discussed shows that 646,876 kg of MWIR # 2308 was subtracted from the inventory for this waste stream with a notation - "Moved to Buried". This revision first appeared in March 1996. Neither DOE or TDEC has, to date, been able to locate any explanatory narrative in the plan revision, or any correspondence from DOE-OR associated with this change. TDEC maintains that it did not make any

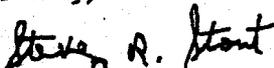
Mr. C. Ray Miskelley
April 27, 2000
Page 2

contemporaneous response and neither accepted or rejected this modification to the STP. Therefore, TDEC is raising, through this letter, the impropriety of the modification to the STP regarding this TRU waste. Moreover, it is TDEC's position, on information and belief, that the volume which was "Moved to Buried" roughly corresponds to the volume of mixed TRU waste in the trenches of SWSA 5 North.

DOE is hereby directed to revise the STP so as to reflect the original placement of this TRU waste within MWIR # 2308, designated for removal, treatment and shipment to WIPP. In light of this position, TDEC further identifies the Land Disposal Restrictions applying to mixed waste stored under the STP as an applicable or relevant and appropriate requirement (ARAR) for the CERCLA. Compliance with this ARAR should be treated as a threshold criterion under 40 CFR §300.430 that must be satisfied before any of the balancing factors such as cost-effectiveness are to be applied.

TDEC formally supports the position previously expressed by Mr. Earl Leming, Director of the Division of DOE Oversight (DOE- O), that the CERCLA Record of Decision for Melton Valley will not be signed until the state has assurance that there will be a removal of the contents of these trenches. The CERCLA Record of Decision should be revised based on the inclusion of this mixed TRU waste of these trenches into the original STP.

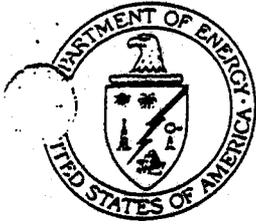
Sincerely,



Steven R. Stout
Assistant General Counsel

cc: Joe Sanders
Earl Leming
Mike Apple

ATTACHMENT B



Department of Energy

Oak Ridge Operations Office
P.O. Box 2001
Oak Ridge, Tennessee 37831—

Kay

May 3, 2000

Steven R. Stout
Assistant General Counsel
State of Tennessee
Department of Environment & Conservation
312 Eighth Avenue North
25th Floor, Tennessee Tower
Nashville, TN 37243-1548

Dear Steve:

NOTICE OF DISPUTE

I have received your letter dated April 27, 2000, "RE: Mixed Transuranic Wastes in Retrievable Storage Trenches Located in Melton Valley, Solid Waste Storage Area (SWSA) 5 North." By that letter, the Tennessee Department of Environment and Conservation (TDEC) directed the Department of Energy (DOE) to amend the Site Treatment Plan (STP) in order to require the removal, treatment, and disposal of mixed transuranic (TRU) wastes in retrievable storage trenches in SWSA 5 North.

The issue of whether these transuranic wastes should be included within the scope of the STP has been under discussion between DOE and TDEC for several weeks at the project manager level. DOE hereby gives notice that it is invoking its right to elevate this matter to formal dispute resolution pursuant to Section 2.10 of the STP.

In accordance with Section 2.10 of the STP, the disputing party is required to provide the other party with a written notice of dispute that specifies "(1) the nature of the dispute, (2) the work affected by the dispute, (3) the disputing party's position with respect to the dispute, and (4) the information the disputing party is relying upon to support its position." The following information is intended to fulfill these requirements:

Nature of Dispute

The issue in dispute is whether the STP should be amended in order to require the removal, treatment, and disposal of mixed TRU waste located in SWSA 5 North retrievable storage trenches.

Work Affected by the Dispute

The dispute affects the work that would be involved in the excavation, treatment at the TRU treatment facility, and transportation of the waste to WIPP for disposal.

DOE's Position with Respect to the Dispute

DOE takes the position that the TRU waste located in SWSA 5 North is not subject to the scope and jurisdiction of the STP. The scope of the STP is limited to the storage (and generation) of LDR mixed waste. The TRU waste located in SWSA 5 North is "disposed" within the meaning of RCRA. Historically, the TDEC Division of Solid Waste Management has also considered this waste to be "disposed" for RCRA purposes. Because the waste is "disposed," it is not being "stored" (or generated). Accordingly, it is not subject to the scope and jurisdiction of the STP or the underlying regulatory basis of the STP, the LDR storage prohibition.

The inventories of TRU waste in the most recent version of the STP do not appear to correspond to the volume of TRU waste estimated to be present in SWSA 5 North. Moreover, if the STP has ever referenced the subject TRU waste, DOE takes the view that such reference was intended for informational purposes only and did not expand the STP beyond its jurisdictional bounds and express scope.

Additionally, some of the TRU trenches in SWSA 5 North are not subject to inclusion in the STP because some of the trenches do not contain hazardous waste.

Information on Which DOE Is Relying

In support of its position, DOE relies, in part, on information contained in the documents referenced in the enclosure to this letter.

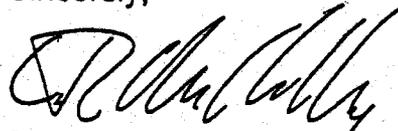
Steven R. Stout

-3-

May 3, 2000

I will call you to discuss next steps in the dispute resolution process. In the meantime, please feel free to call me at 865-576-1217.

Sincerely,



C. Ray Miskelley, Attorney
Office of Chief Counsel

Enclosure

cc w/enclosure:

Nancy Carnes, CC-10, ORO-DOE
Rod Nelson, EM-90, ORO-DOE

bcc w/enclosure:

Bill Seay, EM-91, ORO-DOE
Myrna Redfield, EM-91, ORO-DOE
John Ford, EM-91, ORO-DOE
Cavanaugh Mims, EM-93, ORO-DOE

ENCLOSURE

Oak Ridge National Laboratory Transuranic Retrievable Waste Storage Facilities (Buildings 7823, 7826, and 7834 and the RH-TRU Retrievable Storage Area) Closure Plan, December 7, 1991.

Letter, January 2, 1991, from Scarbrough to Tiesler, RE: Status of SWSA 5 Closure Plan (attached).

Letter, January 30, 1991 from Ozier to Scarbrough, RE: Status of SWSA 5 Closure Plan (attached).

Memorandum of Conference or Conversation, November 4, 1991 (attached).

Letter, July 8, 1991 from Rosenthal to Reafsnyder and Radcliffe, RE: Submittal of Revised Part A Permit Application for Oak Ridge National Laboratory (attached).

Letter, August 9, 1991 from Reafsnyder and Radcliffe to Ozier, RE: Submittal of Revised Part A Permit Application for Oak Ridge National Laboratory (ORNL) (attached).

Memorandum of Conversation, March 3, 1995 (attached).

Letter, March 17, 1995 from Tiesler to Radcliffe, RE: Regulatory Status of RH-TRU Retrievable Storage Area and Request for a Closure Plan Solid Waste Storage Area (SWSA) 5 North (attached).

Closure Plan for Trench 27 in the Remote-handled Transuranic Retrievable Storage Area in Solid Waste Storage Area 5 North at Oak Ridge National Laboratory, Oak Ridge, Tennessee, September 1995.

RCRA Part B Permit for ORNL.

Letter, July 8, 1998, from Skinner to Burroughs, RE: Summary of Meeting on Resource Conservation and Recovery Act/Comprehensive Environmental Response, Compensation, and Liability Act Integration Within Melton Valley Watershed, Oak Ridge National Laboratory (attached).



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

JAN 2 1991

4WD-RCRA&FFB

Mr. Tom Tiesler
Division of Solid Waste Management
Tennessee Department of Health and Environment
4th Floor, Customs House, 701 Broadway
Nashville, TN 37219-5403

RE: Status of SWSA 5 Closure Plan
Department of Energy
Oak Ridge National Laboratory (ORNL)

Dear Mr. Tiesler:

EPA is requesting an update on the RCRA status of SWSA 5. Our particular concern is the Closure Plan submitted to TDHE in December 1987, entitled Oak Ridge National Laboratory Transuranic Retrievable Waste Storage Facilities (Buildings 7823, 7826 and 7834 and the RH-TRU Retrievable Storage Area) Closure Plan.

It is EPA's understanding that DOE will request TDHE to remove the wastes contained in the RH-TRU retrievable casks and/or the RH-TRU Retrievable Storage Area from the Part A Application. We recently discussed this issue with TDHE and DOE staff. The State and DOE both conveyed their belief that this unit would be removed from interim status and that no RCRA closure plan will be required. However, no one appears to have taken any formal action to address this unit or process the closure plan.

Please provide a response to this letter by January 31, 1991. Richard Campbell of my staff may be reached at (404) 347-3016 if you have questions.

Sincerely yours,

for James H. Scarbrough, P.E., Chief
RCRA and Federal Facilities Branch
Waste Management Division



STATE OF TENNESSEE
CUSTOMS HOUSE
DEPARTMENT OF HEALTH AND ENVIRONMENT
NASHVILLE, TENNESSEE 37247

January 30, 1991

Mr. James H. Scarbrough, P.E., Chief
RCRA and Federal Facilities Branch
Waste Management Division
U.S. EPA, Region IV
345 Courtland Street, N.E.
Atlanta, GA 30365

RE: Status of SWSA 5 Closure Plan
Department of Energy
Oak Ridge National Laboratory (ORNL)

Dear Mr. Scarbrough:

The Tennessee Department of Health and Environment is in the process of reviewing the Closure Plan for Oak Ridge National Laboratory Transuranic Retrievable Waste Storage Facilities (Buildings 7823, 7826 and 7834 and the RH-TRU Retrievable Storage Area).

It is the State's belief that wastes handled in these units are not subject to RCRA. However, the State can not close the review process without a formal request from DOE to remove the RH-TRU retrievable casks and/or the RH-TRU Retrievable Storage Area from the Part A Application.

To date the Tennessee Department of Health and Environment has not received such a request.

Any justification you can provide us with, and which we can use in our final determination of this closure plan, will be highly appreciated.

If there are any questions, please contact Ms. Jacqueline Okoreeh-Bash of this office at (615) 741-3424.

Sincerely,

Dale Oxier, Manager
Hazardous Permitting Section
Division of Solid Waste Management

LDO/KWC/F1111030

B-13

cc: Richard Campbell, EPA, Region IV
Earl Lenting, TDHE, Knoxville

MEMORANDUM OF CONFERENCE OR CONVERSATION

11/4/91

TIME

pm

 TELEPHONE PERSONAL

ORIGINATING PARTY

OTHER PARTIES

Phone Call: Lacey Hyde, Lenny
Bates, Tom Perry, Heland Willis

J. Ken Greer

SUBJECT:

Info. on regulatory status of: SWA 5 North TRU Retriever
"Storage" trenches, and the New Hydrofracture Above-ground R

DISCUSSION:

- The above people called wanting to clarify:

- 1) ? Has Closure Plan been prepared for SWA 5 N. TRU trenches?
- 2) ? Closure Plan needed for New Hydrofracture Surface Facility

- On (1), I explained that Envir. Compl. had prepared a Closure Plan for the TRU trenches, but we requested that the State delete the TRU trenches from the RCRA Part A, to negate the need for submittal of Closure Plan.

- By conf. call, 7/ /91 (?), with Nancy O. + Jackie O-K Baker (DOE) we obtained TDEC's agreement that ORNL could delete from Part

- Letter was sent to TDEC requesting deletion from Part A; No wo

- 2) Closure Plan - New Hydrofracture has been prepared by Nancy/Baker for the above-ground building, 2 or 3 indoor tanks. The clean closure, if accepted by TDEC, would turn facility over to O+O prog

CONCLUSION OR AGREEMENTS

- The callers appeared satisfied.

- Call initiated by something that has happened at Paducah or Portsmouth

Carroll/Nancy - when can we hope to get an answer from TDEC on deleting SWA 5 N. TRU trenches from Part A?

DISTRIBUTION:

cc: Carroll N.
Nancy O.

B-14

SEARCHED

J. Ken Greer

July 8, 1991

Mr. James A. Reafsnyder, Deputy Assistant Manager
Energy Research and Development
DOE Field Office, Oak Ridge
Post Office Box 2008
Oak Ridge, Tennessee 37831-6269

Mr. Larry W. Radcliffe, Director
Waste Management Division
DOE Field Office, Oak Ridge
Post Office Box 2001
Oak Ridge, Tennessee 37831

Submission of Revised Part A Permit Application for Oak Ridge National Laboratory

- References:
1. Letter, T. Tiesler from J. H. Scarbrough, Subject: Status of SWSA 5 Closure Plan, January 2, 1991
 2. Letter, J. H. Scarbrough from T. Tiesler, Subject: Status of SWSA 5 Closure Plan, January 30, 1991
 3. Memo of Conversation, N. S. Dailey, J. K. Greer, E. Cox, K. Czartoryski, and D. Ozier, Concerning Transuranic Units, May 9, 1991

Enclosed are six sets of change pages for Oak Ridge National Laboratory's (ORNL) Part A Permit Application. Three changes are being made as follows.

1. Assign Building No. 7572 for the Contact-Handled Transuranic (CH-TRU) Waste Storage Facility.
2. Adding the proposed CH-TRU Storage Facility (Building 7574) for Nuclear Fuel Services mixed wastes.
3. Deleting the Remote-Handled Transuranic (RH-TRU) Retrievable Storage Area within Solid Waste Storage Area (SWSA) 5 North as suggested by staff from the Tennessee Department of Environment and Conservation (TDEC) on May 9, 1991 (Reference 3).

Recent discussions with TDEC and the Environmental Protection Agency indicated that they were amenable to the deletion of this unit from Resource Conservation and Recovery Act (RCRA) regulation. This deletion is justified because of the following reasons.

- Although the RH-TRU Retrievable Storage Area is considered a storage unit per Department of Energy (DOE) Order 5820.2A requirements, it is operated as a disposal site with 201 concrete casks, 13 wooden boxes, and 2 drums of pyrophoric transuranic wastes buried underground in soil trenches. As such, the unit is atypical of ORNL's other RH-TRU waste storage units and is atypical of hazardous waste storage units as a whole.

July 8, 1991

- All 23 trench units in the RH-TRU Retrievable Storage Area were listed on the Part A Permit Application solely because of their technical classification as storage areas (DOE Order 5820.2A).
- Only one trench, T-27, is known to contain waste that is RCRA-regulated, i.e., contains RCRA hazardous waste disposed after November 19, 1980. The RCRA-regulated material consists of a lead-shielded glove box (8 tons) and 400 pounds of lead bricks (wrapped in plastic) contained within a wooden box. An additional wooden box disposed after November 19, 1980, contained dry solids but no additional information on actual constituents exists.
- Since only one trench (T-27) contains RCRA-regulated material disposed after November 19, 1980, it is more appropriate to close the entire site under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) rather than implement dual regulatory standards. Such dual regulation would require closure of T-27 under RCRA while the remainder of the disposal area would be remediated under CERCLA.

In summary, ORNL believes that there are significant technical questions and uncertainties, including significant human safety issues concerning a closure of this unit that requires exhumation of all material from the 23 trenches within one year, beginning in November 1992. The major environmental and safety hazard results from the radioactive component of the waste. As a result, a variance from the RCRA operating requirements and closure requirements and removal from the Part A Permit Application is warranted. Further actions, including site investigation, risk analyses, and alternatives assessments, would be undertaken per the CERCLA Remedial Investigation/Feasibility Study (RI/FS) as part of the Federal Facilities Agreement. Those actions would provide the information needed to select the best available technology for the remediation of the RH-TRU Retrievable Storage Area, while also protecting human health and the environment.

After your review and joint certification (pages 7a and 7b), please forward this request and the four copies of the revised pages of the Application to the following address.

Mr. Dale Ozier, Manager
Hazardous Waste Management Program
Tennessee Department of Environment and Conservation
Customs House, Fourth Floor
701 Broadway
Nashville, Tennessee 37247-3530

I certify that all enclosures were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

Please return a copy of the signed certification pages and your transmittal letter to C. E. Nix of the Environmental Compliance Section for our files.

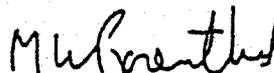
Messrs. Reafsnnyder and Radcliffe

3

July 8, 1991

If you have any questions or need additional information, please contact N. S. Dailey at 574-8774 or J. K. Greer at 574-9229.

Sincerely,


M. W. Rosenthal
Deputy Director

MWR-vmm

Enclosures

cc/enc: H. L. Adair
D. M. Carden, DOE-OR
N. S. Dailey
K. G. Edgemon, Jr.
J. K. Greer, Jr.
C. M. Kendrick
S. R. Michaud
C. E. Nix
T. P. A. Perry
J. R. Trabalka
A. W. Trivelpiece - RC
J. E. Van Cleve

cc: T. W. Burwinkle
R. N. Collier, DOE-OR
H. R. Gaddis
F. C. Komegay
C. P. Manrod
L. E. McNeese
S. Riddle, DOE-OR
T. H. Row
J. H. Swanks



Department of Energy

Oak Ridge Operations
P.O. Box 2001
Oak Ridge, Tennessee 37831-

August 9, 1991

Mr. Dale Ozier, Manager
Hazardous Waste Management Program
Tennessee Department of Environment
and Conservation
Customs House, Fourth Floor
701 Broadway
Nashville, Tennessee 37247-3530

Dear Mr. Ozier:

**SUBMITTAL OF REVISED PART A PERMIT APPLICATION FOR OAK RIDGE
NATIONAL LABORATORY (ORNL)**

Enclosed are four copies of change pages for ORNL's Part A Permit Application. Three changes are being made as follows:

1. Assign Building No. 7572 for the Contact-Handled Transuranic (CH-TRU) Waste Storage Facility.
2. Adding the proposed CH-TRU Storage Facility (Building No. 7574) for Nuclear Fuel Services mixed wastes.
3. Deleting the Remote-Handled Transuranic (RH-TRU) Retrievable Storage Area within Solid Waste Storage Area (SWSA) 5 North as suggested by the staff from Tennessee Department of Environment and Conservation (TDEC) on May 9, 1991.

The deletion of the RH-TRU Unit is justified because of the following reasons:

- Although the RH-TRU Retrievable Storage Area is considered a storage unit per Department of Energy (DOE) Order 5820.2A requirements, it is operated as a disposal site with 201 concrete casks, 13 wooden boxes, and 2 drums of pyrophoric transuranic wastes buried underground in soil trenches. As such, the unit is atypical of ORNL's other RH-TRU waste storage units and is atypical of hazardous waste storage units as a whole.
- All 23 trench units in the RH-TRU Retrievable Storage Area were listed in the Part A Permit Application solely because of their technical classification as storage areas.
- Only one trench, T-27 is known to contain waste that is Resource Conservation Recovery Act (RCRA)-regulated, i.e., contains RCRA hazardous waste disposed after November 19, 1980. The RCRA-regulated material consists of a lead-shielded glove box (8 tons) and 400 pounds of lead bricks (wrapped in plastic) contained within a wooden box. An additional wooden box disposed after November 19, 1980, contained dry solids, but no additional information on actual constituents exists.

Mr. Dale Ozier

- 2 -

August 9, 1991

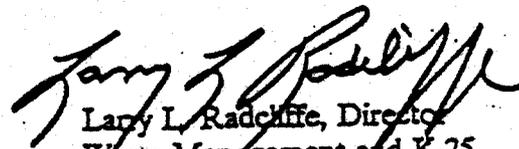
Since only one trench (T-27) contains RCRA-regulated material disposed after November 19, 1980, it is more appropriate to close the entire site under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) rather than implement dual regulatory standards. Such dual regulation would require closure of T-27 under RCRA while the remainder of the disposal area would be remediated under CERCLA.

In summary, it is believed that there are significant technical questions and uncertainties, including significant human safety issues concerning a closure of this unit that requires exhumation of all material from the 23 trenches within one year, beginning in November 1992. The major environmental and safety hazard results from the radioactive component of the waste. As a result, a variance from the RCRA operating requirements and removal from the Part A Permit Application is warranted.

If you have any questions, please contact Janice Greer at (615) 576-1801 or R. N. Collier at (615) 576-0639.

Sincerely,


James A. Reafsnyder
Deputy Assistant Manager for Energy
Research and Development


Larry L. Radcliffe, Director
Waste Management and K-25
Operations Division

Enclosures

cc w/o enclosures:

C. Nix, 6026-C, MS 6395
F. Kornegay, 4500-S, MS 6103
R. Collier, 4500-N, MS 6269
N. Dailey, 6026-C, MS 6395
C. Manrod, 3047, MS 6023

Memorandum of Conversation

Date: 3/3/95 Time: 9:30 am Telephone: X Conversation:

Originating Party:

Mac Roddys (DOE)
Jerry Bohannon
Terry Boxine
Nancy Dailey
Courtney Marrod

Other Parties:

Wayne Gregory (TDEC-N)
Ed Cox (TDEC-N)
David Moran (TDEC-N)
John Dickinson (EPA/TDEC-N)
Bill Childress (TDEC-DOE-O)
Chudi Nwanga (TDEC-DOE-O)

Subject: Status of ORNL's Remote-Handled Transuranic (RH-TRU) Waste Retrieval Storage Area in Solid Waste Storage Area (SWSA) 5N under the Resource Conservation and Recovery Act (RCRA)

Discussion: John Dickinson provided a brief history of the regulatory history of the site; noting that previously the U.S. Environmental Protection Agency and the Tennessee Department of Environment and Conservation (TDEC) had agreed the unit could be taken off the Part A. However, in the DOE letter which requested the unit's removal off the Part A, DOE indicated that one trench contained RCRA wastes (lead bricks) that were excavated after Nov. 8, 1980. No further action had been taken by EPA because EPA expected DOE to withdraw the request recognizing the "confirmed" RCRA status of the one trench. John stated that EPA and TDEC could not release the trench from RCRA, but would agree that the RCRA closure should not proceed separate from remediation under Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Both EPA and the state would allow the remediation of the site to be handled using CERCLA as the lead. He noted that the RCRA Closure Plan should provide a deferred schedule for closure and that the dates for closure could be tied to CERCLA activities. John said that EPA and/or TDEC would write a letter confirming the trench's RCRA status and confirming their interest to tie the RCRA closure to the CERCLA remediation process for the site.

Mac Roddys asked if the RCRA Closure Plan need only address the "unit" (for example, the RCRA regulated trench or the entire site) that received RCRA-regulated waste. John indicated that was correct. Mac said that the proposed approach for handling the RCRA closure of the site under the CERCLA process (like ORNL's SWSA-6) would be amenable to DOE. Ed Cox noted that the steps for completing closure could be tied to the Federal Facilities Compliance Agreement and the Site Treatment Plan. It was agreed that ORNL/DOE would submit an updated Closure Plan covering the RCRA-regulated wastes in SWSA-5N and that the schedule can "float" based on actions taken under CERCLA.

Issues related to "container storage" vs "disposal", legacy wastes, and DOE plans to excavate TRU wastes for processing and shipment to the Waste Isolation Pilot Plant were discussed. John indicated that EPA currently considered the rest of the trenches in SWSA-5N as disposal and, therefore, not regulated under RCRA. Only trench 27 would be deemed to be RCRA by EPA at this time. ORNL/DOE agreed to review and evaluate the options for handling the site (and the other legacy wastes) versus the trench as either storage or disposal under RCRA. That evaluation would need to include meeting RCRA groundwater monitoring standards if it is decided to handle as disposal. ORNL/DOE would address the final strategy on RCRA status in the Closure Plan so that EPA/TDEC would have a clear understanding of the extent of RCRA coverage for the site.

Page 2

Once the Closure Plan has been submitted, TDEC would ask Charlie Burroughs to look at the groundwater monitoring requirements and see if ORNL's program is acceptable. They indicated that they would try to be flexible. Terry Bonine explained that perimeter wells were in place and were routinely monitored, but that additional evaluation was needed to see if the system meets the RCRA standards.

When asked about the CERCLA priority for the site, Courtney Manrod indicated that Waste Area Grouping 5 was currently ranked 91 out of 255 actions for the ORR. She stated that groundwater monitoring suggests that the radiological discharges from SWSA-SN have little or no impact on White Oak Lake and helped lead to the existing remediation. In comparison, SWEA-6 would have even a lower priority than SWSA-SN.

Activities related to post-closure could also be deferred to the CERCLA process according to John. He indicated that TDEC would not issue a Post-Closure Permit. He added that TDEC was already using the 11/94 proposed rule ["Closing and Closed Hazardous Waste Management Units"] as a guide now, even though it's not been finalized.

Conclusion or Agreement:

It was agreed that EPA/TDEC would issue a letter (to Larry Radcliffe/DOE) stating that trench 27 was fully regulated under RCRA. The letter would ask for a revision of the existing Closure Plan. Because the original Closure Plan addressed 4 units [Building 7E26 (closed), Building 7E34 (closed), Building 7E23 (being permitted), and SWSA-SN], the new Closure Plan should redefine the RCRA status of SWSA-SN and the other three units as well. The letter would allow DOE/ORNL up to 6 months to revise the Closure Plan. DOE/ORNL proposed having an interim meeting with TDEC/EPA to outline our proposed RCRA strategy (disposal vs storage) for SWSA-SN and the direction of the Closure Plan.

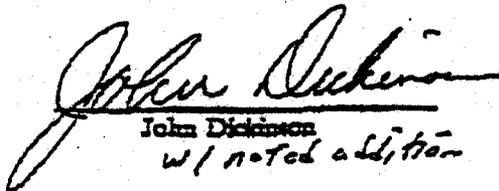
Action Items:

EPA/TDEC - issue letter to DOE asking for revised Closure Plan.
ORNL/DOE - prepare revised Closure Plan and corresponding Part A Permit Application.

Distribution:

T. F. Scanlan, T. Allen, T. Perry, J. Gullford,
C. L. Baker/D. Gibby, E. Leming (DOE-O), B. Childress (DOE-O),
M. Balvin, M. Roddy/G. Reiner, R. Frountelker,
M. Burris, L. Krizer/H. Boston, B. McClalland,
B. McMillan, I. Bohannon, C. Schraf, C. Manrod,
J. L. Reid, D. W. Frazier, A. D. Parker, D. F. Hall,
D. Appiano, J. Swoney, C. Mims, C. Nwanga (DOE-O),
T. Bonine, I. Powell/C. Laberde, J. Dickinson (TDEC/EPA),
W. Gregory/E. Cox/D. Moran (TDEC), C. D. Goins

Signed: Nancy S. Daxley 4-8714


John Dickinson
w/ noted addition

Agreed

3/22/95
Date

Please call: KRIS Lippert EPA Region 4
RCRA Compliance Section

TOTAL P.003



MLC. 1/57
MAR 28 1995

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

Division of Solid Waste Management
Fifth Floor, L & C Tower
401 Church Street
Nashville, TN 37243-1535

Certified Mail No. P 198 160 783
Return Receipt Requested

March 17, 1995

Mr. Larry Radcliffe, Director
Waste Management and Technology
Development Division
U. S. Department of Energy
Oak Ridge Operations
Post Office Box 2001
Oak Ridge, Tennessee 37831-8620

RE: Regulatory Status of RH-TRU Retrievable Storage Area
and Request for a Closure Plan
Solid Waste Storage Area (SWSA) 5 North
Oak Ridge National Laboratory (X-10)
TN1 89 009 0003

Dear Mr. Radcliffe:

On March 3, 1995, the Tennessee Department of Environment and Conservation participated in a teleconference with staffs of both the U. S. Department of Energy (DOE) and Martin Marietta Energy Systems, Inc. (MMES) to resolve the regulatory status of the Remote-Handled Transuranic (RH-TRU) Waste Retrievable Storage Area in Solid Waste Storage Area (SWSA) 5 North. The necessity for this resolution was prompted by the need to define the limit of activities identified for a land disposal unit under the Resource Conservation and Recovery Act (RCRA) that is located in an area primarily taken care of under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

Mr. Larry Radcliffe
March 17, 1995
Page 2

One trench within the RH-TRU area labeled as Trench T-27 is determined by this Department to be under RCRA jurisdiction. The basis for this decision is:

- a. Notwithstanding the fact that the RH-TRU Retrievable Storage Area is considered a storage unit per Department of Energy (DOE) Order 5820.2A requirements, the trenches in the RH-TRU area were operated in such a way to meet the definition of a land disposal unit under RCRA; and
- b. This Department received information from the Oak Ridge National Laboratory that a lead-shielded glove box (8 tons) and 400 pounds of lead bricks (wrapped in plastic and contained within a wooden box) were placed into Trench T-27 after November 19, 1980.

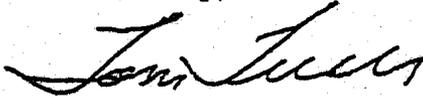
By virtue of the fact that Trench T-27 meets the definition of a RCRA land disposal unit, but can not meet the criteria to remain open as an operating unit, this letter is also being sent as a request for a revision of the closure plan submitted in December of 1987 entitled Oak Ridge National Laboratory Transuranic Retrievable Waste Storage Facilities (Buildings 7823, 7826 and 7834 and the RH-TRU Retrievable Storage Area) Closure Plan. However, instead of including the entire RH-TRU Retrievable Storage Area, the only area of concern should be Trench T-27. Since this plan should be tied into the study and remediation activities conducted under the CERCLA program, the plan is due in this office within 180 days from the date you receive this letter.

As was discussed during the teleconference, the State agrees that closure of Trench T-27 should be scheduled to coincide with remedial action under CERCLA. Therefore, we are willing to consider a closure date that is tied to the CERCLA activities at SWSA 5 North. We will defer sending the closure plan to public notice until the CERCLA activities at SWSA 5 North are defined; however, the revised closure plan will more accurately reflect the RCRA regulatory status of Trench T-27.

Mr. Larry Radcliffe
March 17, 1995
Page 3

If you have any questions or concerns, please contact Mr. John Dickinson (615-532-0861) or Mr. Edward Cox (615-532-0827) of my staff.

Sincerely,



Tom Tiesler, Director
Division of Solid Waste Management

JTT/mec

cc: Mr. John Dickinson, TDEC
Mr. Wayne Gregory, TDEC
Mr. David Moran, TDEC
Mr. Bill Childress, TDEC
Mr. Chudi Nwangwa, TDEC
Mr. Mac Roddy, DOE
Ms. Nancy Dailey, MMES
Mr. Victor Weeks, EPA, Region IV
Ms. Kris Lippert, EPA, Region IV
Mr. Otis Johnson, EPA, Region IV



Department of Energy

Oak Ridge Operations Office
P.O. Box 2001
Oak Ridge, Tennessee 37831—

cc: T. Parry N. Knight
H. Daulton R. Ferguson
S. Walsh K. Cook
E. Knidim
D. Skinner
ATTN: D.M. Bumbustin

July 8, 1998

- Mr. Charlie Burroughs
Tennessee Department of Environment
and Conservation
Division of Solid Waste Management
L&C Tower, 3rd Floor
401 Church Street
• Nashville, Tennessee 37243-1532

Dear Mr. Burroughs:

**SUMMARY OF MEETING ON RESOURCE CONSERVATION AND RECOVERY
ACT/COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND
LIABILITY ACT INTEGRATION WITHIN MELTON VALLEY WATERSHED, OAK RIDGE
NATIONAL LABORATORY**

Enclosed is a summary of our understandings of the guidance provided by the Division of Solid Waste Management in our meeting in Nashville on May 18, 1998. All participants have had an opportunity to review this summary and no comments were received from your office.

The Department of Energy appreciated the opportunity to meet with you and your staff to discuss the Resource Conservation and Recovery Act/Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) integration for Solid Waste Storage Area (SWSA) 6 (including the Hill Cut Test Facility) and Trench 27 in SWSA 5 North. We will be drawing upon this guidance as we progress through the CERCLA process.

If you have any questions regarding the enclosure, please contact John Ford at (423) 576-0623 within the next two weeks. If we do not hear from you within that period we will assume that the summary accurately reflects the results of the meeting.

Sincerely,

Ralph Skinner, Leader
Melton Valley Team

Enclosure

(cc's on page 2)

Mr. Charlie Burroughs

- 2 -

cc w/enclosure:

Bill McMillan, EM-921

Ralph Skinner, EM-913

David Buxbaum, Bechtel Jacobs Company LLC

Greg Eidam, Bechtel Jacobs Company LLC

Doug McCoy, TDEC-DOE O

Ed Carreras, EPA, Region 4

ATTACHMENT C

Summary of Meeting on RCRA/CERCLA Integration for Melton Valley

Date: May 18, 1998

Place: Nashville, Tn.

Time: 1:00pm-3:00pm

Attendees: John Ford DOE, David Buxbaum BJC, Charlie Johnson BJC, Ken Cook BJC, Bill Krispin and Charlie Burroughs TDEC DSWM Land Section

Purposes of Meeting

Obtain guidance from TDEC DSWM on the extent to which applicable RCRA closure/post-closure requirements will be met in the Melton Valley CERCLA action for SWSA 6 (which includes Hillcut Test Facility) and Trench 27 (in SWSA 5 North).

Discuss need for installation of final cover at some of the eight Interim Corrective Measure (ICM) areas of SWSA 6, Hillcut Test Facility and Trench 27 considering the relative effectiveness of the existing soil covers, limited release(s) from the units and/or the limited risk from the contaminated groundwater.

Summary of Understandings:

SWSA 6: DOE will perform final closure/post-closure of SWSA 6 under CERCLA which meet TDEC Rule 1200-1-11-05(14)(k). Depending upon which alternative under CERCLA is selected, closure may include capping some but not all of the eight ICM areas.

The existing soil covers for the uncapped areas can be viewed by TDEC as meeting TDEC Rule 1200-1-11-05(7)(b) closure performance standard.

Note: DOE must provide some rationale in CERCLA document, (e.g. RI/FS or Proposed Plan) explaining why certain ICM areas not requiring capping meet the closure performance standard considering the relative effectiveness of the existing soil covers, limited release(s) from the units and/or the limited risk from the contaminated groundwater.

Post-closure care will include: maintaining capped areas, preventing run-on/run-off and performing groundwater compliance monitoring program in accordance with 1200-1-11-06(6)(f) for at least thirty years.

Establishment of a groundwater protection standard for yet to be specified hazardous constituents based upon MCLs. This will also include establishment of a risk-based alternate concentration limit (ACL) for certain volatile organics contaminating groundwater associated with ICM #3 area in accordance with TDEC rule 1200-1-11-06(6)(e)(2). *Note:* ACL will be specified in the ROD and in the post-closure permit which is expected to be issued after ROD.

Existing groundwater monitoring wells will be utilized as Point-of-compliance (POC) wells for the compliance monitoring. *Note:* TDEC raised the issue of DOE decreasing the number of monitoring wells over the past several years. DOE viewed TDEC's review of the Groundwater Quality Assessment Report and their failure to negatively comment as an implicit agreement. TDEC agreed to withhold issuance of any noncompliance since the ROD and post-closure permit is forthcoming.

Perform final closure of Hillcut Test Facility (HTF), but no additional capping since existing soil cover meets closure performance standard. Post-closure requirements would be limited and include utilizing existing leak detection system for groundwater compliance monitoring to determine existence of release(s) from the unit.

Trench 27: Perform final closure of Trench 27, but no additional capping since existing soil cover meets closure performance standard. Post-closure requirements would be limited and since TDEC DSWM does not expect leaching of lead, the groundwater monitoring could be waived. *Note:* Depending on FFA parties resolution of issue re: removing or capping trenches in SWSA 5N under CERCLA, Trench 27 could be capped or excavated which would supersede our understanding.

General: TDEC DSWM has decided that a post-closure permit will be necessary for SWSA 6 which will wrap-up loose-ends with the outstanding closure plans and cross-reference the CERCLA ROD. A post-closure permit application is expected to be submitted by DOE either shortly before issuance of final ROD or after approval of the ROD which will specify the requirements for post-closure care. The permit will, among other things, include details of the groundwater compliance monitoring program, inspection frequency of the caps and run-on/run-off system, etc.

TDEC would like to review the basis for the ACL either independently or included in a draft version of the RI/FS, Proposed Plan, or ROD to ensure that they concur with the proposed concentration and analysis. Although this could be viewed as administrative, DOE agreed that conferring with TDEC DSWM would help ensure establishment of a reasonable concentration especially considering EPA will also review.

*** TX REPORT ***

TRANSMISSION OK

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SUBADDRESS		
CONNECTION ID		
ST. TIME	05/03 13:38	
USAGE T	10'28	
PGS.	22	
RESULT	OK	

FACSIMILE FROM
DOE OFFICE OF CHIEF COUNSEL

FACSIMILE NO.: (423) 576-1556

VERIFICATION NO.: (423) 576-1906

URGENT X
PRIORITY _____
ROUTINE _____

DATE: May 3, 2000

TO: Steve Stout TELEPHONE NO.: 615-532-0131

LOCATION: _____

FACSIMILE NO.: 615-532-0145 VERIFICATION NO.: _____

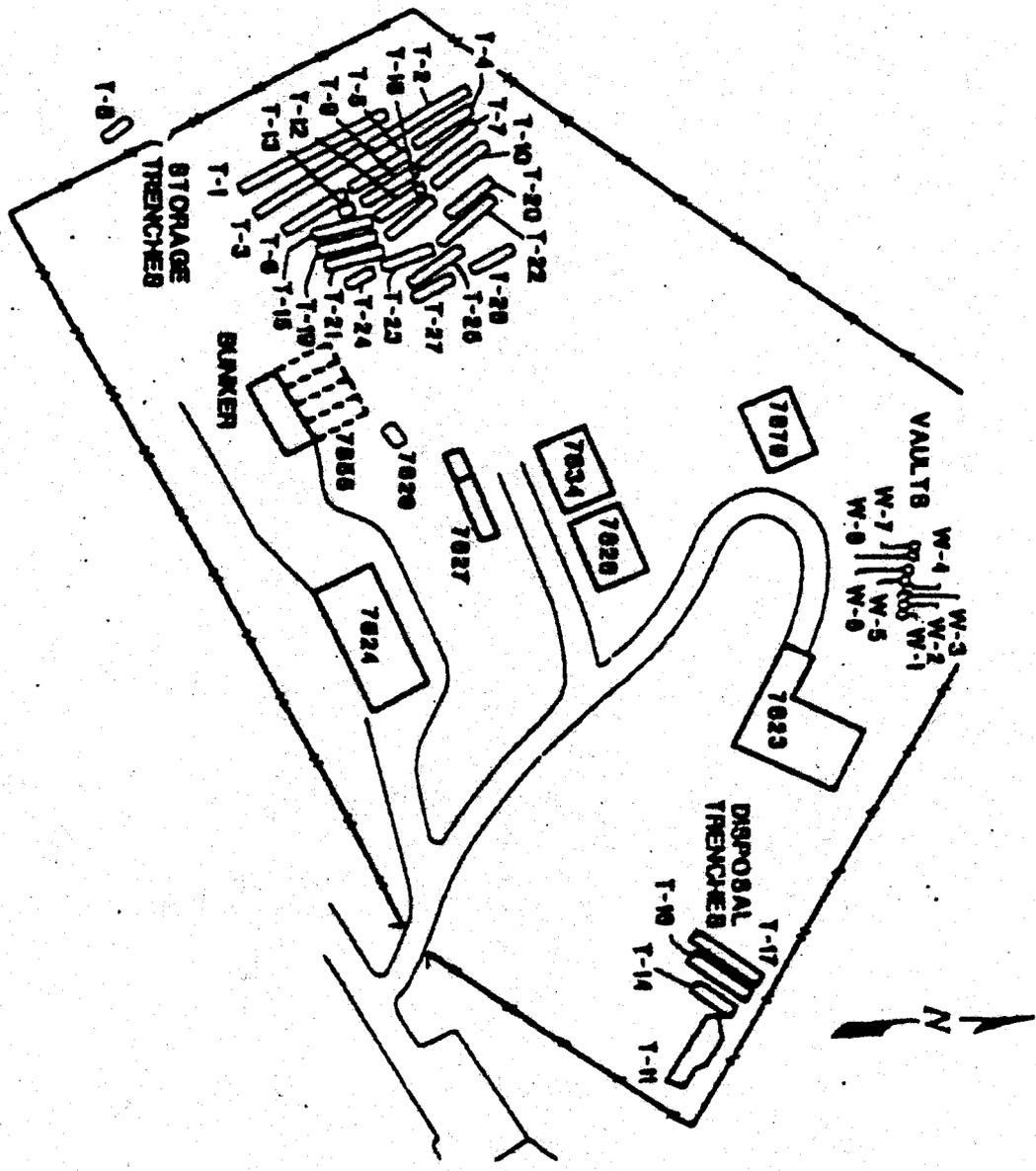
FROM: C. Ray Miskelley TELEPHONE NO.: 423/576-1217

THIS TRANSMITTAL CONSISTS OF 21 UNCLASSIFIED PAGES(S),
EXCLUDING THIS COVER SHEET.

SPECIAL NOTE(S) TO RECIPIENT:

Hard copy to follow.

Fig. 2. Transuranic waste storage and disposal areas in the north area of Solid Waste Storage Area Five in 1991.



ATTACHMENT D

Faura, Tom

Distribution List Name: Sr Manager Meeting

Members:

- connie Jones
- David Adler (E-mail)
- David Harbin (E-mail)
- Dick Green (E-mail)
- Donna Perez (E-mail)
- Doug McCoy (E-mail)
- Earl Leming (E-mail)
- John Blevins (E-mail)
- John Leonard (E-mail)
- John Ousley (E-mail)
- Jon Johnston (E-mail)
- Laura Wilkerson (E-mail)
- Martha Berry (E-mail)
- Myma Redfield (E-mail)
- Ray Miskelley (E-mail)
- Robert Brown (E-mail)
- Rod Nelson (E-mail)
- Steve Stout (E-mail)
- Susan Cange (E-mail)

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- nelsonr@oro.doe.gov
- sstout@mail.state.tn.us
- cangeem@oro.doe.gov

Greer Tidwell

Miskelley, C Ray

From: Faure, Tom [TFaure@jnj.com]

Sent: Friday, July 28, 2000 9:53 AM

To: Judson, Gil; Goddu, Mike; Brown-Leibner, Sondra; David Harbin (E-mail); Dick Green (E-mail); Perez, Donna M; Doug McCoy (E-mail); Earl Leming (E-mail); John Blevins; John Leonard (E-mail); John Ousley (E-mail); Jon Johnston (E-mail); Wilkerson, Laura O; Martha Berry (E-mail); Redfield, Myrna E; Miskelley, C Ray; Brown, Robert J; Nelson, Rod R; Steve Stout (E-mail); Cange, Susan M; Tom Faure (E-mail)

Subject: Revised Meeting Notes



MtgNotes2.doc

The attached document has an additional entry re: UEFPC that was omitted from the earlier version. Please keep this file and delete the previous email. Thanks and have a great weekend. Tom <<MtgNotes2.doc>>

Attributes Of Moving From Paper Work To Field Work

- Mid Managers/FFA Managers meet to support core teams
- Construction dates are identified
- Signed ROD's
 - Melton Valley
 - ETPP
 - UEFPD
- Design work under way
- Staff time and effort is in the field
- Project Core Team Identified and work load distributed
- Waste Management is into construction phase
- SIOW is in completion
- Projects (demolition) moving as scheduled
- Increased public information re: status and accomplishments
- Construction and doing work necessary to move into design and construction
- Dramatic landscape changes
- Clean up gets greater publicity than SNS
- Using accelerated versus generic assumptions

Senior Manager Meeting - Key Actions and Decisions
July 25-26, 2000

Item	By When
<u>ETTP:</u> <ul style="list-style-type: none"> • Core Team for ETTP Strategy will identify common definitions for commercial/industrial park and present at Mid Mgrs. Meeting 8/8 • FFA Mgrs. Meeting to discuss the RI/interim soil approach, if ready • FFA Mgrs. Meeting scheduled for August 8 • FFA/Mid Managers meeting 2nd week in September 	<p align="center">August 8</p> <p align="center">August 8</p>
<u>Melton Valley TRU Waste SWSA 5N:</u> <ul style="list-style-type: none"> • Settlement under STP • Recognize excavation per AEA • Commit to placing excavation in regulatory commitment category • Once material excavated, subject to RCRA as newly generated waste • If funding is not obtained by FY 2003-2004, then dispute re-opened • EPA will endorse excavation and treatment • Settlement at same time as ROD – target 9/01/00 • DOE Headquarters approval required 	
<u>Fernald Findings:</u> <ul style="list-style-type: none"> • Fernald update is deferred to next Sr. Mgr. meeting 	
<u>Looking Ahead:</u> <ul style="list-style-type: none"> • Agenda item on next meeting will relate to how to begin managing exclusions in future ROD's • FFA Project Managers will present Appendix C – Out Years Project Planning(Martha B.) 	
<u>UEFPC:</u> <ul style="list-style-type: none"> • Proposed plan approved • ROD signed 	<p align="center">11/01/00</p> <p align="center">02/01/01</p>
<p>Next Senior Managers Meeting – week of October 9. Myrna will coordinate setting specific date within DOE</p>	



STATE OF TENNESSEE
 DEPARTMENT OF ENVIRONMENT AND CONSERVATION
 DOE OVERSIGHT DIVISION
 761 EMORY VALLEY ROAD
 OAK RIDGE, TENNESSEE 37830-7072

August 11, 2006

Stephen H. McCracken
 Assistant Manager
 for Environmental Management
 U.S. Department of Energy
 PO Box 2001
 Oak Ridge TN 37831-2001

Dear Mr. McCracken

Interim Management of Transuranic Waste in Trench 13 of the 22 Solid Waste Storage Area 5 North Trenches

- References:
1. July 28, 2006, letter from S.H. McCracken, DOE-ORO, to J. Owsley, TDEC, entitled, "*Interim Management of Transuranic Waste in Trench 13 of the 22 Solid Waste Storage Area 5 north trenches.*"
 2. "*Dispute Resolution Agreement with the State of Tennessee under the Federal Facility Compliance Act Site Treatment Plan for the Oak Ridge reservation*", dated September 21, 2000

The Tennessee Department of Environment and Conservation (TDEC) has received Department of Energy (DOE) letter dated July 28, 2006, proposing modification to the Dispute Resolution Agreement with the State of Tennessee under the Federal Facility Compliance Act Site Treatment Plan.

TDEC acknowledges DOE's efforts in completing retrieval of 204 concrete casks and non-pyrophoric loose materials that have been packaged and staged in above-ground facilities pending treatment at DOE's Transuranic (TRU) Waste Processing Center.

TDEC also acknowledges DOE's efforts to retrieve drums containing jars of pyrophoric metallic carbides of uranium and plutonium with methane, and agrees to the temporary storage approach as proposed by DOE. This interim storage is meant to allow DOE to secure adequate funding and to acquire design process by which explosive conditions of the methane and pyrophoric material contained in the glass jars can be safely mitigated.

'06 AUG 11 PM3:40

Stephen H. McCracken

August 11, 2006

Page 2

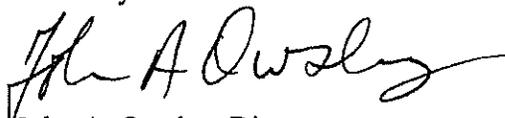
While recognizing that currently there is no permitted storage available for this material on the Oak Ridge Reservation, TDEC remains prepared to work with DOE on any necessary modifications to the existing storage permits. This information was shared with DOE on several occasions that culminated with the April 10, 2006, meeting held at TDEC DOE oversight office. Further, TDEC understands that the technology is available to safely remove methane from the glass jars and that DOE has an experience in working with the pyrophoric materials.

Accordingly, TDEC agrees with the proposal to maintain Trench 13 in-situ storage until the removal of the methane and the safe storage of the pyrophoric content, pending final treatment of the materials, is addressed. TDEC agrees to modify the referenced Dispute Resolution Agreement by extending the termination date for Trench 13 from September 30, 2006, to September 30, 2009, and to incorporate this letter in the annual revision of the Site Treatment Plan. This agreement retains all other applicable clauses as signed on September 21, 2000.

Additionally, TDEC agrees to include copies of the original September 2000 Dispute Resolution Agreement, DOE's letter of July 28, 2006, and this response letter, in the Project Construction Completion Report for the Melton Valley TRU Waste Retrieval Project.

If you or your staff have any questions, please contact me or Kristof Czartoryski of my staff at (865) 481-0995.

Sincerely



John A. Owsley, Director

cc Chuck Head, TDEC
Mike Apple, TDEC
Joe Sanders, OGC
Steve Stout, OGC

Jao832.99



RF

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DOE OVERSIGHT DIVISION
761 EMORY VALLEY ROAD
OAK RIDGE, TENNESSEE 37830-7072

September 7, 2006

David Adler
DOE FFA Project Manager
PO Box 2001
Oak Ridge TN 37831-8540

Dear Mr. Adler

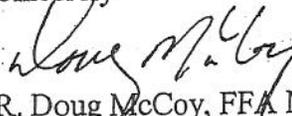
Phased Construction Completion Report for the 22 TRU Trench Waste Retrieval Project at Oak Ridge National Laboratory, Oak Ridge, Tennessee (DOE/OR/01-2305&D1)

The Tennessee Department of Environment and Conservation, DOE Oversight Division, has reviewed the above referenced submittal pursuant to the remedial actions taken at the 22 TRU Trench Waste Area in SWSA 5 North. Because DOE has successfully removed most of the waste material from the area and has provided an adequate plan for how the remaining waste will be addressed, the State approves the completion report.

As stated in the report, TDEC agrees to modify the Dispute Resolution Agreement by extending the termination date for Trench 13 from September 30, 2006, to September 30, 2009, and to incorporate this letter in the annual revision of the Site Treatment Plan.

Questions or comments concerning the contents of this letter should be directed to Randy Young at (865) 481-0995.

Sincerely


R. Doug McCoy, FFA Manager
Environmental Restoration Program

cc Jeff Crane, EPA
Ralph Skinner, DOE
Vince Adams, DOE

er752.10

APPENDIX C

STP TRU Mixed Waste Formal Dispute Resolution

1. April 12, 2007 Letter from TDEC, “Mixed Transuranic (TRU) Waste – Formal Dispute Resolution Under the Site Treatment Plan (STP)” (C-1 to C-5)
2. May 1, 2007 Letter from DOE, “Formal Dispute Resolution for Mixed Transuranic Waste Under the Site Treatment Plan”(C-6 to C-7)
3. TRU Milestones Proposed by DOE on July 24, 2007 (C-8 to C-11)
4. July 29, 2008 Letter from DOE, “Submittal of Site Treatment Plan Milestone Document: Quarterly Report for Transuranic Waste Processing Activities, Third Quarter Fiscal Year 2007” (C-12 to C-14)
5. TRU Mixed Waste Formal Dispute Chronology (C-15 to C-16)

Pages C-1 through C-16



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
NASHVILLE, TENNESSEE 37243-0435

JAMES H. FYKE
COMMISSIONER

PHIL BREDESEN
GOVERNOR

CORRECTED COPY

April 12, 2007

RECEIVED
OFFICE OF THE MANAGER

4/24/07

Gerald G. Boyd
Manager
U.S. Department of Energy
PO Box 2001
Oak Ridge TN 37831-2001

Dear Mr. Boyd:

**MIXED TRANSURANIC (TRU) WASTE – FORMAL DISPUTE RESOLUTION UNDER
THE SITE TREATMENT PLAN (STP)**

- References:
1. October 19, 2006, letter from R. Awasthi, TDEC, and K.W. Czartoryski, TDEC, to M.S. Lopez-Ferre, DOE, entitled, "*Site Treatment Plan (STP) Milestones for Processing of the U.S. Department of Energy (DOE) Oak Ridge Transuranic (TRU) Waste.*"
 2. March 30, 2004, letter from S.H. McCracken, DOE-ORO, to A.M. Leiserson, TDEC, entitled, "*Mixed Waste Site Treatment Plan – Escalation of Formal Dispute Resolution Procedure.*"
 3. December 9, 2003, letter from A.M. Leiserson, TDEC, to G.G. Boyd, DOE-ORO, entitled, "*Mixed Waste Site Treatment Plan – Escalation of Formal Dispute Resolution Procedure.*"
 4. March 18, 2003, letter from G.G. Boyd, DOE-ORO, to B.L. Child, TDEC, entitled, "*Invocation of Formal Dispute on the Removal of Transuranic Waste from the U.S. Department of Energy Oak Ridge Reservation Site Treatment Plan.*"
 5. November 30, 2001, letter from W.H. Childres, TDEC, to R.C. Sleeman, DOE-ORO, entitled, "*Mixed Waste Site Treatment Plan – Submittal of the Annual Update and Semi-annual Progress Report.*"
 6. October 31, 2001, letter from R.C. Sleeman, DOE-ORO, to W. Childres, TDEC, entitled, "*Mixed Waste Site Treatment Plan – Submittal of the Annual Update and Semiannual Progress Report.*"

Following our consultation and in accordance with the STP Section 2.10.5, "*Dispute Resolution*" please find this letter as a final determination for the dispute invoked by U.S. Department of Energy (DOE) concerning the rejection by the State of Tennessee to the proposed deletion of mixed TRU wastes from the STP.

RECORD COPY

On behalf of TDEC, I have reviewed DOE's arguments and find them unpersuasive. As explained in the paragraphs below, I have determined that the uncharacterized and unprocessed mixed waste inventories on the Oak Ridge Reservation, referred to as the STP mixed TRU waste streams, are subject to the Oak Ridge Site Treatment Plan and Order authorized by Section 3021(b) of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C.A 6939c, as amended by Section 105(a) of the Federal Facility Compliance Act (FFCAct), P.L. 102-386.

In accordance with the STP Section 2.10.5, "*Schedule*," I further request and compel DOE to incorporate this resolution and final determination into an amended version of the STP and to proceed with implementation of the amended plan and schedules for processing and disposition of the mixed TRU wastes. Specifically, this resolution contains modified milestones in the TDEC October 19, 2006 letter (reference #1) that attempted to resolve this formal dispute. By recognizing DOE's recent delays in processing mixed contact-handled (CH) TRU waste, the state once more provides DOE with a reasonable and attainable schedule to properly manage the mixed TRU wastes by extending several milestones by six (6) months. Please see the attached Enclosure for the final mixed TRU waste processing milestones to be incorporated into the STP.

Failure to implement this determination will result in noncompliance with the STP for mixed wastes under the September 26, 1995 TDEC Commissioner's Order and may result in further actions brought against DOE, its contractors and subcontractors for violations of Land Disposal Restrictions (LDR) as explained by the STP Section 2.11, "Covenants and Reservations."

This final determination is based on the following:

- DOE's argument that pursuant to the 1996 Waste Isolation Pilot Plant (WIPP) Land Withdrawal Amendments Act (P.L. 104-210), transuranic mixed waste is exempt from RCRA's LDR's, and consequently, from the LDR storage prohibition of RCRA, is unconvincing since the applicability of the 1992 Land Withdrawal Act is clearly limited to the operation of the WIPP facility. The 1996 WIPP Land Withdrawal Amendments Act does not change the applicability of the original legislation.
- DOE's reliance on the STP Section 2.7.1(3), "*Deletion of Wastes*" to justify termination of STP requirements with regard to mixed TRU waste inventories in Tennessee is inappropriate.

Specifically, the WIPP Land Withdrawal Amendments Act did not result in a "change to statute or regulation that causes a waste or waste categories to no longer be subject to the requirements of RCRA or the LDR requirements of RCRA." There has been no amendment to the RCRA statute itself, or any specific mention of eliminating RCRA LDR requirements for mixed TRU waste other than to remove the requirement that the waste would need to meet RCRA LDR treatment requirements prior to disposal at WIPP. Additionally, Tennessee has an authorized hazardous waste management program, and the statutory and regulatory provisions under the Tennessee law operate in lieu of the provisions of the federal RCRA statute. The language of the 1996 amendment to the WIPP Withdrawal Act did not make any reference to provisions in authorized state programs which operate in the authorized states in place of RCRA.

- DOE's position, that since the mixed TRU waste inventories on the Oak Ridge Reservation are "designated" for disposal at WIPP they are not subject to the STP, is unacceptable.

Gerald G. Boyd
April 12, 2007
Page 3 of 3 Pages
Corrected Copy

Specifically, initial processing of Oak Ridge's uncharacterized mixed TRU waste inventories confirmed that the majority of the stored waste is actually a mixed low-level waste (MLLW) that is clearly not intended to be disposed at WIPP. The entire inventory cannot be designated for WIPP since a substantial portion of the mixed transuranic waste inventory is actually mixed low-level waste (MLLW). DOE has been aware of the fact throughout this dispute that it needed to characterize and separately handle the MLLW within the inventory which has been identified as mixed transuranic. Consequently, it is TDEC's position that this prolonged dispute delayed characterization and processing for disposal of not only mixed TRU waste but also MLLW within the mixed TRU waste inventory.

Although recent discussions with DOE have revealed an intent to place a priority for disposal of mixed transuranic waste, past experience with DOE has shown that enforceable commitments are carried out whereas other priorities that are identified as strictly internal to DOE are not always handled in a timely and effective manner. Consequently Tennessee intends to impose this revised set of enforceable milestones related to mixed transuranic waste. Tennessee has found that DOE requires a regulatory "drive" in order to properly manage its radioactive and mixed hazardous wastes. The LDR storage prohibition under RCRA is a regulatory requirement in Tennessee's authorized program and the STP is a regulatory vehicle to assure DOE's compliance with RCRA through Tennessee's statutes and regulations.

It is especially important now that the WIPP facility can receive remote-handled mixed transuranic waste that the remote-handled waste stored in Oak Ridge be readied for eventual disposal at WIPP in the next few years. As you know, the design of the WIPP facility space is such that the remote-handled transuranic waste needs to be disposed of at the same time as the rooms are being filled with the much larger volume of contact-handled transuranic waste. It is our concern that DOE's failure to move the mixed TRU waste to the WIPP will result in even longer storage of this waste at ORR and that valuable space for mixed TRU waste at the WIPP will not be properly utilized.

Please contact me at (615) 532-0102 or via e-mail at Paul.Sloan@state.tn.us should you have questions or concerns.

Sincerely,



Paul L. Sloan
Deputy Commissioner

Cc: Chuck Head
Mike Apple
John Owsley
Joe Sanders
Steven Stout

Enclosure

STP Milestones for processing the mixed Transuranic Waste

FY 2007, 2008 and 2009 Milestones – DOE shall accomplish the following:

1. By June 30, 2007, complete a schedule for processing of 1,375 cubic meters of CH-TRU wastes, and an optional volume of 125 cubic meters, complete with disposition schedule of all resultant non-TRU components.
2. By the 30th day of each month following the end of FY 2006, and for the duration of the CH-TRU project, submit a monthly report to TDEC detailing the progress on the processing of CH-TRU wastes, including the status of WIPP-ready* certification for the processed waste.
3. By September 30, 2007, complete processing of 400 cubic meters of CH-TRU wastes.
4. By September 30, 2007, complete a schedule for the processing of approximately 700 cubic meters of RH-TRU wastes, complete with disposition schedule of all resultant non-TRU components.
5. By December 31, 2007, complete all requirements for WIPP-ready* certification for the processing CH-TRU wastes.
6. By March 31, 2008, complete the processing of an additional 325 cubic meters of CH-TRU wastes for the project's total of 725 cubic meters.
7. By September 30, 2008, complete the processing of an additional 325 cubic meters of CH-TRU wastes for the project's total of 1050 cubic meters.
8. By December 31, 2008, complete all requirements for WIPP-ready* certification for the processing of RH-TRU wastes.
9. By March 31, 2009, complete the processing of 150 cubic meters of RH-TRU solids.
10. By April 30, 2009, complete the processing of an additional 325 cubic meters of CH-TRU wastes for the project's total of 1375 cubic meters.
11. By the 30th day of each month following the end of FY 2008, and for the duration of the RH-TRU project, submit a monthly report to TDEC detailing the progress on the processing of RH-TRU wastes, including the status of WIPP-ready* certification for the processed waste.
12. By September 30, 2009, complete the processing of an additional 150 cubic meters of RH-TRU solids for the project's total of 300 cubic meters.
13. (Reserved)
14. (Reserved)
15. (Reserved)

Target Dates:

1. By September 30, 2010, complete the processing of an additional 150 cubic meters of RH-TRU solids.
2. By September 30, 2011, complete the processing of the remaining approximately 100 cubic meters of RH-TRU solids.
3. By September 30, 2010, complete the processing of 750 cubic meters of RH-TRU sludge.
4. By September 30, 2011, complete the processing of an additional 300 cubic meters of RH-TRU sludge.
5. By September 30, 2012, complete the processing of an additional 300 cubic meters of RH-TRU sludge.

*** For the purpose of the STP milestones, "WIPP-ready" or "designated to WIPP" denotes TRU waste that was processed and received certification and audit approval from the U.S. DOE Carlsbad Field Office (CBFO), New Mexico Environmental Department (NMED) and the United States Environmental Protection Agency (EPA).**



Department of Energy

Oak Ridge Office
P.O. Box 2001
Oak Ridge, Tennessee 37831—

May 1, 2007

Mr. Paul Sloan
Deputy Commissioner
Tennessee Department of
Environment and Conservation
1st Floor, L&C Tower
401 Church Street
Nashville, Tennessee 37243

Dear Mr. Sloan:

FORMAL DISPUTE RESOLUTION FOR MIXED TRANSURANIC WASTE UNDER THE SITE TREATMENT PLAN

We are in receipt of your letter dated April 12, 2007, on the above-referenced subject. The Department of Energy (DOE) has reviewed your letter and proposed milestones. Please be assured that DOE is placing priority on the processing and disposition of the inventory of transuranic (TRU) waste stored in Oak Ridge, Tennessee. This effort is a national priority of DOE, driven by schedules associated with placement of waste in the Waste Isolation Pilot Plant (WIPP) in New Mexico. Consistent with this priority, additional funding has been secured for this project to ensure that this waste is processed in the most efficient manner in preparation for disposal. However, as you know, there have been several relatively recent programmatic changes that have deferred obtaining waste certification of the waste for disposal.

It is our understanding that the State of Tennessee is willing to enter into negotiations regarding milestones proposed in your letter. To that end, DOE offers the proposal contained herein to resolve the pending dispute. Each party has outlined their legal position during the pendency of this dispute, and we fully recognize and respect that there are differing legal interpretations of the relevant underlying statutes. We believe that it is possible for the parties to resolve this dispute in a manner that will avoid the need for any future legal proceedings or challenges and offer the proposal outlined below in furtherance of this objective. In so doing, DOE will commit to demonstrating tangible, continuous progress toward processing and offsite disposition of the entire suspect waste inventory stored in Melton Valley storage facilities. This agreement would be finalized in a formal dispute resolution agreement to be developed by our staffs in the near future. DOE is willing to commit to the following, without waiving any legal rights and defenses DOE may have:

1. Establish yearly volumetric milestones to characterize and process the entire inventory to identify mixed, low-level waste (MLLW) by the end of fiscal year 2015. These milestones will be based on reasonable processing rates, which maximize the utilization of available financial and infrastructural resources. DOE will agree to provide a schedule for waste processing and will report progress against that schedule on a quarterly basis.

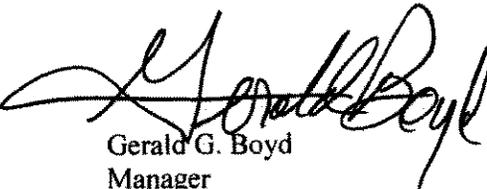
May 1, 2007

2. Establish detailed treatment milestones for any inventory of waste identified as MLLW during the characterization process. MLLW not currently in the Site Treatment Plan inventory would be subject to full compliance with Resource Conservation and Recovery Act and would be treated to meet Land Disposal Restrictions within one year of discovery, unless technically infeasible.
3. Achieve WIPP-ready certification for contact-handled (CH) transuranic (TRU) waste by either completing all requirements within the control of DOE for waste certification in Oak Ridge by December 31, 2007, or by shipping WIPP-ready waste to another site for final certification and subsequent shipment to WIPP. The implementation of the latter option would be done only with agreement by the receiving state and would be an interim measure until the CH TRU waste certification program is implemented in Oak Ridge.
4. Achieve WIPP-ready certification for remote-handled (RH) TRU waste in Oak Ridge by December 31, 2008. If the CH TRU certification in Oak Ridge is not the pathway selected in item 3 above, then DOE would commit to CH TRU certification at the same time as RH TRU by December 31, 2008.

We are prepared to work with your staff to develop a Dispute Resolution Agreement containing specific milestones for processing waste under the above general assumptions. We appreciate the long-standing spirit of mutual cooperation that has enabled DOE and the Tennessee Department of Environment and Conservation to work together productively on this and other matters.

We will contact your staff in the next week to begin negotiations in an effort to reach final agreement by July 1, 2007. If you have any questions, please contact me at (865) 576-4444 or Stephen McCracken at (865) 576-0742.

Sincerely,



Gerald G. Boyd
Manager

cc:

I. Triay, EM-1, FORS
D. Moody, CB
D. Adler, EM-91, ORO
R. Brown, M-2, ORO
S. McCracken, EM-90, ORO
B. McMillan, EM-91, ORO
R. Ooten, EM-90, ORO
A. Perkins, EM-90, ORO

DOE Proposed STP Milestones for Processing Stored Mixed Transuranic Waste

Definitions:

Processing of Waste Inventory: All waste processing metrics are related to volumes of waste removed for processing from the stored inventory in Oak Ridge. Waste processing may result in final disposition as TRU waste to WIPP or LLW/MLLW to NTS or other disposal facility.

Processing: For purposes of measuring the completion of milestones associated with processing a specific volume of waste inventory from storage, processing is defined as the physical steps required to prepare waste for final disposition. The completion of processing for MLLW is the final treatment of MLLW required to meet Land Disposal Restrictions under RCRA. For TRU waste, completion of processing is accomplished when all waste remediation, repackaging and final NDA activities are completed to allow for final acceptance of the waste by WIPP.

Volumetric milestones will be met when these physical processing steps have been completed for the specific volume of waste removed from storage. Volumes of waste in stored inventory refer to the original volume of approximately 1375 m³ of waste stored as CH debris inventory, approximately 700 m³ of waste stored as RH debris inventory, and approximately 2000 m³ of RH sludge.

Regulatory requirements for MLLW: Waste that is determined to be MLLW during characterization and processing of the TRU inventory will be subject to full compliance with RCRA and will be treated to meet Land Disposal Restrictions within one year of discovery, unless treatment capacity is not available.

Removal of waste inventory from STP: Waste will be removed from regulatory coverage under the STP when any of the following conditions are met:

- 1. For waste inventory determined to be Mixed Low-Level Waste, waste will be removed from the STP when the waste has been treated to meet Land Disposal Restrictions under RCRA.*
- 2. For TRU waste to be shipped to the Waste Isolation Pilot Plan under the Oak Ridge waste certification program, waste will be removed from the STP when the waste has been entered into the WIPP Waste Information System and accepted by WIPP.*
- 3. For TRU waste that is to be shipped to another DOE site for final certification prior to WIPP disposal, waste will be removed from the STP upon shipment to the receiving site.*

FY 2007, 2008 and 2009 Milestones – DOE shall accomplish the following:

1. By July 31, 2007, submit to TDEC a documented strategy for processing the stored inventory of approximately 1375 m³ of CH waste. The strategy should describe the methodologies planned for processing the waste, steps required for final certification of waste, expected waste throughput capacity, and any expected improvements to be made to the facilities for processing the waste.

2. Within 14 days of the end of each quarter starting October 2007, and for the duration of the CH waste processing campaign, submit a quarterly report to TDEC detailing the progress on the processing of the CH waste inventory, including the status of WIPP certification for the processed waste and treatment of any MLLW discovered during processing.
3. By September 30, 2007, complete processing of 120 cubic meters of CH waste inventory from storage. Credit can be taken for all waste processed since initial processing started in December 2005.
4. By December 31, 2007, submit to TDEC a documented strategy for processing the approximately 700 m³ of RH debris waste inventory, The strategy should describe the methodologies planned for processing the waste, steps required for final certification of waste, expected waste throughput capacity, and any expected improvements to be made to the facilities for processing the waste,
5. By December 31, 2007, complete all requirements, under DOE control, for the WIPP certification program for the processing of CH wastes. These requirements include conducting the WIPP/NMED audit for CH-TRU waste and making a request for the EPA audit. Alternatively, initiate shipment of CH waste to an out-of-state location for final certification to WIPP. In this case, obtaining capabilities for the WIPP certification of CH waste will be conducted along with the approval of the RH debris certification program by December 31, 2008, described in Milestone 7, below.
6. By September 30, 2008, complete processing that results in a reduction of an additional 200 cubic meters of CH waste inventory from storage, for the project's total of 320 cubic meters.
7. By December 31, 2008, complete all requirements, under DOE control, for the WIPP certification program for the processing of RH debris wastes. These requirements include conducting the WIPP/NMED audit for RH-TRU debris waste and requesting the EPA audit.
8. By September 30, 2009, complete processing that results in a reduction of an additional 240 cubic meters of CH waste inventory from storage, for the project's total of 560 cubic meters.
9. Within 14 days from the end of each quarter beginning January 2009 and for the duration of the RH debris campaign, submit a quarterly report to TDEC detailing the progress on the processing of the RH waste inventory, including the status of WIPP certification for the processed waste and treatment of any MLLW discovered during processing.
10. By September 30, 2009, complete processing that results in a reduction of 100 cubic meters of RH debris waste inventory from storage, for the project's total of 100 cubic meters.

11. (Reserved)
12. (Reserved)
13. (Reserved)

Target Dates:

1. By September 30, 2010, complete processing that results in a reduction of an additional 320 cubic meters of CH waste inventory from storage, for the project's total of 880 cubic meters.
2. By September 30, 2011, complete processing that results in a reduction of an additional 320 cubic meters of CH waste inventory from storage, for the project's total of 1200 cubic meters.
3. By September 30, 2012, complete processing that results in a reduction of the remaining 175 cubic meters of CH waste inventory from storage, for the project's total of 1375 cubic meters.
4. By September 30, 2010, complete processing that results in a reduction of an additional 150 cubic meters of RH debris waste inventory from storage, for the project's total of 250 cubic meters.
5. By September 30, 2011, complete processing that results in a reduction of an additional 150 cubic meters of RH debris waste inventory from storage, for the project's total of 400 cubic meters.
6. By September 30, 2012, complete processing that results in a reduction of an additional 150 cubic meters of RH debris waste inventory from storage, for the project's total of 550 cubic meters.
7. By September 30, 2013, complete processing that results in a reduction of the remaining approximately 150 cubic meters of RH debris waste inventory from storage, for the project's total of 700 cubic meters.
8. By September 30, 2010, complete processing that results in a reduction of 20 cubic meters of RH sludge inventory from storage.
9. By September 30, 2011, complete processing that results in a reduction of an additional 260 cubic meters of RH sludge inventory from storage, for a total of 280 cubic meters.
10. By September 30, 2012, complete processing that results in a reduction of an additional 260 cubic meters of RH sludge inventory from storage, for a total of 540 cubic meters.
11. By September 30, 2013, complete processing that results in a reduction of an additional 260 cubic meters of RH sludge inventory from storage, for a total of 800 cubic meters.

12. By September 30, 2014, complete processing that results in a reduction of an additional 260 cubic meters of RH sludge inventory from storage, for a total of 1060 cubic meters.
13. By September 30, 2015, complete processing that results in a reduction of an additional 260 cubic meters of RH sludge inventory from storage, for a total of 1320 cubic meters.
14. By September 30, 2016, complete processing that results in a reduction of an additional 260 cubic meters of RH sludge inventory from storage, for a total of 1580 cubic meters.
15. By September 30, 2017, complete processing that results in a reduction of an additional 260 cubic meters of RH sludge inventory from storage, for a total of 1840 cubic meters.
16. By September 30, 2018, complete processing of the remaining 160 cubic meters of RH sludge inventory from storage, for a total of 2000 cubic meters.



Department of Energy

Oak Ridge Operations
P.O. Box 2001
Oak Ridge, Tennessee 37831--

October 31, 2007

Mr. Revendra Awasthi
Site Treatment Plan Coordinator
Tennessee Department of Environment
and Conservation
Division of Solid Waste Management
2700 Middlebrook Pike, Suite 220
Knoxville, Tennessee 37931

Mr. Kristof Czartoryski
Site Treatment Plan Manager
Tennessee Department of Environment
and Conservation
DOE Oversight Division
761 Emory Valley Road
Oak Ridge, Tennessee 37830

Dear Mr. Awasthi and Mr. Czartoryski:

**SUBMITTAL OF SITE TREATMENT PLAN MILESTONE DOCUMENT:
QUARTERLY REPORT FOR TRANSURANIC WASTE PROCESSING ACTIVITIES,
THIRD QUARTER FISCAL YEAR 2007**

Enclosed please find the Quarterly Report which documents progress in processing transuranic (TRU) waste at the Transuranic Waste Processing Center (TWPC). This document is submitted in accordance with Site Treatment Plan Milestone #2, as modified and concurred by your office in your letter dated October 16, 2007.

As shown in the report, the TWPC has completed processing of 140 m³ of original inventory of Contact-Handled TRU waste from storage, through September 30, 2007.

If you have any questions, please contact Bill McMillan at (865) 241-6426.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Adler", written over a horizontal line.

David G. Adler, Deputy Project Director
ORNL Projects

Enclosure

See cc's list on page 2

Revendra Awasthi/Kristof Czartoryski

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October 31, 2007

cc w/enclosure:

T. Allen, SE-31, 2714 Complex

R. James, CC-10, FOB

J. Moore, ORNL, 7880-L, MS-6448

A. Buhl, TWPC

R. McKay, TWPC

F. Hecker, TWPC

Site Treatment Plan
FY2007 Proposed Milestone #2
Quarterly Report

Waste Stream	FY2006 Total				FY2007 1 st Quarter				FY2007 2 nd Quarter				FY2007 3 rd Quarter				FY2007 4 th Quarter				FY2007 Total				LifeCycle Total Inventory Reduction*				Waste Stream Issues & Information
	Processed Volume (m ³)	Processed Volume (m ³)	Processed Volume (m ³)																										
CN TRU Processed	50.4	0	11.8	17.2	60.7	89.7	140.1																						DOE proposed milestone was 120m ³ processed thru September 30, 2007. Processing is limited by Lifecycle Baseline funding.
TRU	16.1	0	11.8	16.8	9.4	38.0	54.1																						None
MLW	0	0	0	0	51.3	51.3	51.3																						None
L.L.W	34.3	0	0	0.4	0	0.4	34.7																						None
Total Inventory Reduction	50.4	0	11.8	17.2	60.7	89.7	140.1																						

*Represents the total volume processed to achieve inventory reduction from December 2005 through September 2007.

Transuranic (TRU) mixed waste formal dispute under the Site Treatment Plan (STP)

Chronology of the Dispute:

10/31/01 – DOE provided notification to TDEC of termination of requirements in the STP, including milestones, regarding transuranic mixed waste streams;

11/30/01 – TDEC rejected the proposed deletion indicating that mixed TRU wastes were still subject to Tennessee laws and regulations;

12/20/01 – DOE invoked informal dispute resolution at the project manager level;

12/06/02 – Due to the lack of progress toward resolution, TDEC recommended elevation of the disagreement to the formal dispute;

03/18/02 – DOE invoked formal dispute;

12/09/03 – TDEC escalated the dispute to the level of Deputy Commissioner and the DOE Oak Ridge Operations Office Manager;

01/20/05 – Parties agreed to keep dispute pending;

10/19/06 – TDEC attempted to settle the dispute with the submission of TRU waste “processing” milestones;

04/12/07 – TDEC notified DOE of final determination and unilaterally imposed TRU waste milestones;

05/01/07 – DOE offered proposal to resolve pending dispute;

05/25/07 – DOE offered proposed TRU waste milestones;

06/28/07 – DOE requested extension of first imposed TRU waste milestone;

07/19/07 – TDEC approved request for extension of first imposed TRU waste milestone;

07/24/07 – DOE offered updated proposed TRU waste milestones based on meetings with TDEC;

09/28/07 – DOE requested extensions of imposed TRU waste milestones 2, 3, and 4;

10/16/07 – TDEC concurred with DOE request for extension of imposed TRU waste milestones 2 and 4, but rejected DOE’s argument for extension of milestone 3.

03/06/08 – After negotiations with TDEC, DOE submitted TRU waste milestones for TDEC review and concurrence.

03/17/08 – TDEC concurred with TRU waste milestones.

04/14/08 – The dispute was resolved with renegotiated TRU waste milestones incorporated into the annual update of the STP, Revision 12.2.

Note: Some of the information has been typed from documents that were not suitable for reproduction.