

6.0 TREATMENT, STORAGE, AND DISPOSAL UNIT PROCESS

6.1 INTRODUCTION

This section discusses the requirements of RCRA and the State of Washington Hazardous Waste Management Act, Chapter 70.105 RCW, and pertains to all units that were used to store, treat, or dispose of RCRA hazardous waste and hazardous constituents after November 19, 1980; State-only hazardous waste after March 12, 1982; and units at which such wastes will be stored, treated, or disposed in the future, except as provided by 173-303-200 WAC.

A list of these units, or grouping of units, is provided in Appendix B. Section 3.0 identifies the criteria by which these units will be scheduled for permitting and closure actions.

Some of the TSD groups/units (primarily land disposal units) have been included in operable units, as discussed in Section 3.3. The information necessary for performing RCRA closures within an operable unit will be provided in coordination with various RFI/CMS or RI/FS documents. These documents will include a coordinated past-practice site investigation/RCRA closure/RCRA corrective action approach in order to implement applicable regulations as discussed in Section 5.5.

Some of the TSD groups/units (primarily those located within large processing facilities) will be integrated with the disposition of the facility, and therefore closed in accordance with the process defined in Section 8.0. These units are those that have physical closure actions that need to be done in conjunction with the physical disposition actions in the facility (e. g. removal of structural components). Even though TSD units are closed in accordance with Section 8.0, applicable requirements defined in this section still apply (e.g. 6.5 Quality Assurance).

Currently identified actions necessary to bring TSD units into compliance with Federal and State laws are identified in the work schedule (see Appendix D) including necessary interim milestones. These interim milestones are consistent with the major milestones for achieving interim status compliance requirements specified in Section 2.4. A schedule for completing interim status compliance actions is provided as part of Appendix D.

The RCRA land disposal restrictions (LDR) require that established treatment requirements be met prior to land disposal of hazardous wastes. While treatment capacity generally exists for the nonradioactive hazardous wastes which are subject to LDR, treatment is currently not available for the mixed wastes subject to LDR which require storage at the Hanford Site.

Ecology has received authorization from EPA to implement certain LDR provisions of RCRA pursuant to Section 3006 of RCRA. Accordingly, these authorized state provisions are effective in lieu of the Federal requirements. Both EPA and Ecology anticipate that Ecology will receive authorization for the additional LDR provisions in the future. EPA and Ecology intend to use the LDR provisions under M-26 and other HSWA provisions which have comparable state analogs that have not yet been authorized as an example of regulatory streamlining at the Hanford Site, by designating Ecology as the lead regulatory agency for those provisions under applicable state law.

This includes review and approval of LDR annual reports, plans, and schedules for compliance with M-26-00. While EPA must retain legal authority over portions of the LDR which are not yet authorized to the state, EPA will not assign staff to oversee the routine completion of activities related to M-26-00. In the event that EPA involvement in a specific matter is requested by Ecology or is otherwise necessary, Ecology staff will brief EPA and EPA will become involved to the extent necessary to help resolve that specific matter. EPA and Ecology intend that such involvement on the part of EPA will be the exception, rather than the rule.

In accordance with Milestone M-26-00, DOE has submitted the "Hanford Land Disposal Restrictions Plan for Mixed Wastes," (LDR Plan) to Ecology, as the lead regulatory agency. This plan describes a process for managing mixed wastes subject to LDR at the Hanford Site and identifies actions which will be taken by DOE to achieve full compliance with LDR requirements.

These actions will be taken in accordance with approved schedules specified in the LDR Plan and in the Work Schedule (Appendix D). The DOE will submit annual reports which shall update the LDR Plan and the prior annual report, including plans and schedules. The annual report will also describe activities taken to achieve compliance and describe the activities to be taken in the next year toward achieving full compliance. The LDR Plan and annual reports are primary documents, subject to review and approval by Ecology. Ecology also has approval authority for schedules in the LDR Plan and annual reports. Changes to approved final schedules must be made in accordance with the Change Control System described in Section 12.0.

6.2 TREATMENT, STORAGE, AND DISPOSAL PERMITTING PROCESS

The Hanford Site has been assigned a single identification number for use in State Dangerous Waste Program/RCRA permitting activity. Accordingly, the Hanford Site is considered to be a single RCRA facility, although there are numerous unrelated units spread over large geographic areas on the Site.

Since all of the TSD groups/units cannot be permitted simultaneously, Ecology and the EPA will issue the initial permit for less than the entire facility. This permit will eventually grow into a single permit for the entire Hanford Site. The Federal authority to issue a permit at a facility in this manner is found in 40 CFR 270.1(c)(4). Any units that are not included in the initial permit will normally be incorporated through a permit modification. At the discretion of Ecology and EPA, the permit revocation and reissuance process may be used.

The process of permit modification is specified in 173-303-830 WAC and 40 CFR 270.41. A permit modification does not affect the term of the permit (a permit is generally issued for a term of 10 years). Proposed modifications are subject to public comment, except for minor modifications as provided in 173-303-830(4) WAC and 40 CFR 270.42.

The process of revocation and reissuance is specified in 173-303-830 WAC and 40 CFR 270.41. Revocation and reissuance means that the existing permit is revoked and an entirely new permit is issued, to include all units permitted as of that date. In this case, all conditions of the permit to be reissued would be open to public comment and a new term (10 years in most cases) would be specified for the reissued permit.

Figure 6-1 depicts a flowchart for processing all operating permits for TSD groups/units and for processing postclosure permits for TSD groups/units that will close with hazardous wastes or constituents left in place. The permitting process applies to existing units, expansion of units under interim status, and new units (units that do not have interim status and must have a permit prior to construction).

Ecology shall normally be responsible for drafting permit conditions, including those related to HSWA requirements. Until the HSWA provisions have been delegated from EPA to Ecology through the authorization process, EPA will maintain final approval rights for those permit conditions pursuant to HSWA authority that have not been delegated. Therefore, certain conditions of the joint permit will be enforceable by Ecology, others will be enforceable by EPA, and some conditions will be enforceable by both agencies. The permit will identify which conditions are enforceable by each agency.

Disputes concerning any HSWA requirements, will be addressed in accordance with Article VIII of the Agreement.

Ecology will have the responsibility for drafting the permit and permit modifications for all TSD groups/units, ensuring that the Part B permit application is complete, and preparing the Notices of Deficiency (NOD) to the DOE.

The Part B permit application is a primary document, as defined in Section 9.1. The review procedures, as specified in Section 9.2.2, will be followed. In the event that issues cannot be resolved through the NOD process, the appropriate dispute resolution process can be invoked.

Section 3004(u) of RCRA requires that all solid waste management units be investigated as part of the permit process. The statute provides that the timing for investigation of such units may be in accordance with a schedule of compliance specified in the permit. The parties have addressed the statutory requirement through the preliminary identification and assignment of all known past-practice units to specific operable units (see Section 3.0). These operable units have been prioritized and scheduled for investigation in accordance with the work schedule (Appendix D). It is the intent of all parties that this requirement be met through incorporation of applicable portions of this action plan into the RCRA permit. This will include reference to specific schedules for completion of investigations and corrective actions.

Ecology, the EPA, and DOE will follow all current versions of applicable Federal and State statutes, regulations, guidance documents, and written policy determinations that pertain to the permitting process, including postclosure permits, for TSD groups/units. Public participation requirements for permitting TSD groups/units will be met and are addressed in Section 10.0.

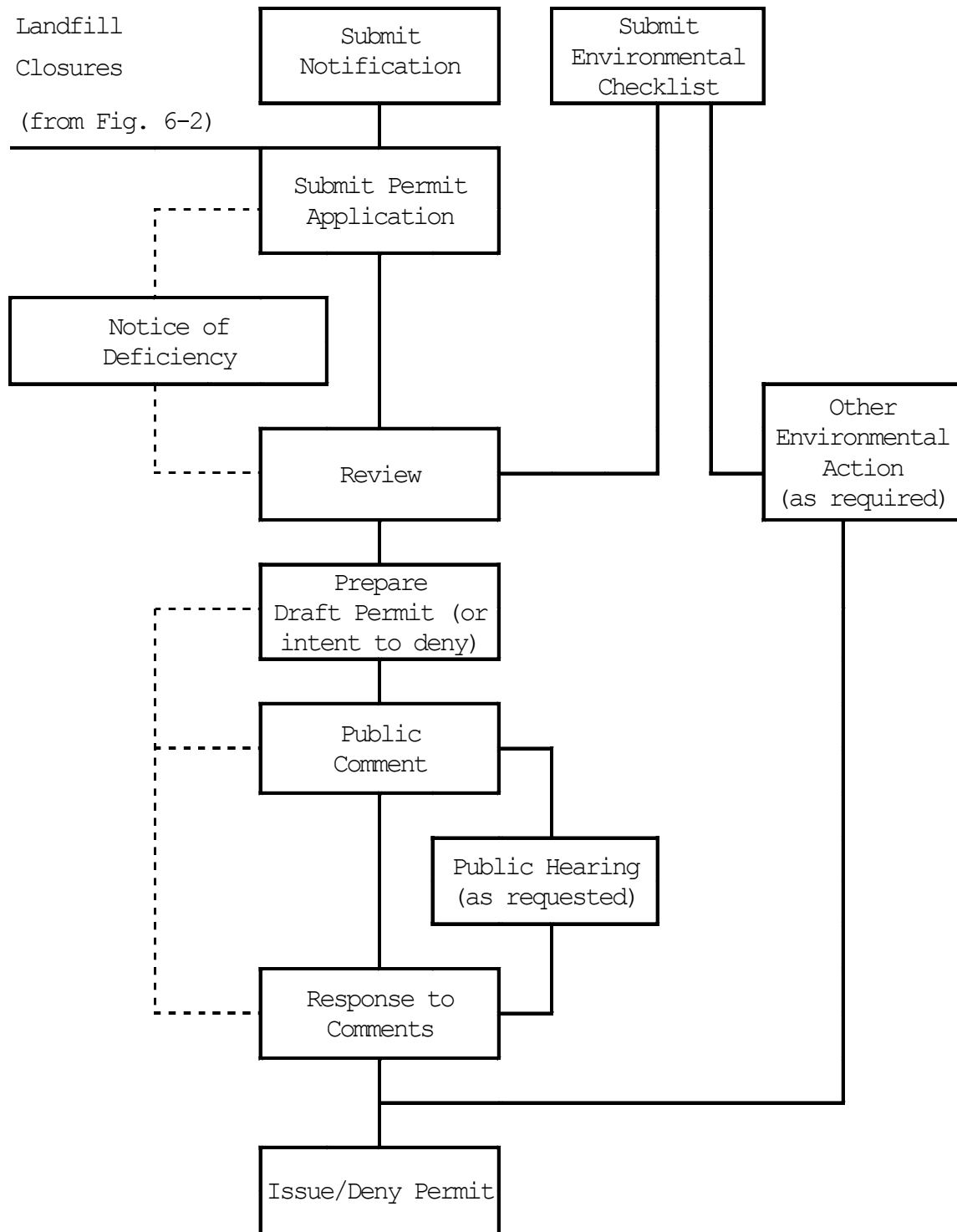


Figure 6-1. Permitting Process Flowchart.

6.3 TREATMENT, STORAGE, AND DISPOSAL CLOSURE PROCESS

The DOE will follow applicable Federal and State statutes, regulations and guidance documents, and written policy determinations that pertain to the closure process for TSD groups/units.

The TSD units containing mixed waste will normally be closed with consideration of all hazardous substances, which includes radioactive constituents. Hazardous substances not addressed as part of the TSD closure may be addressed under past-practice authority in accordance with the process defined in Section 7.0.

The following are examples of when a unit may be closed without addressing all hazardous substances (e.g., radioactive waste).

- For treatment or storage units within a radioactive structure [e.g., the Plutonium/Uranium Extraction (PUREX) Plant] it may be possible to remove all hazardous wastes and "clean close" (see Section 6.3.1). The radioactive constituent would then remain for a future decontamination and decommissioning effort of the entire structure.
- For a land disposal unit being closed in conjunction with an operable unit, initial investigation may show that the unit no longer contains hazardous waste or constituents. Therefore, the unit may be "clean closed" with no physical closure action. Any remaining CERCLA-only materials would be addressed as part of the past-practice process as designated for that operable unit.

Figure 6-2 depicts a flowchart of the closure process for TSD units. Two types of closures are shown.

6.3.1 Clean Closure

In some cases, it may be possible to remove all hazardous wastes and constituents associated with a TSD unit and thereby achieve "clean closure." The process to complete clean closure of any unit will be carried out in accordance with all applicable requirements described in 173-303 WAC and 40 CFR 270.1. Any demonstration for clean closure of a disposal unit, or selected treatment or storage units as determined by the lead regulatory agency, must include documentation that groundwater and soils have not been adversely impacted by that TSD group/unit, as described in 173-303-645 WAC.

After completion of clean closure activities, a closed storage unit may be reused for generator accumulation (less than 90 day storage).

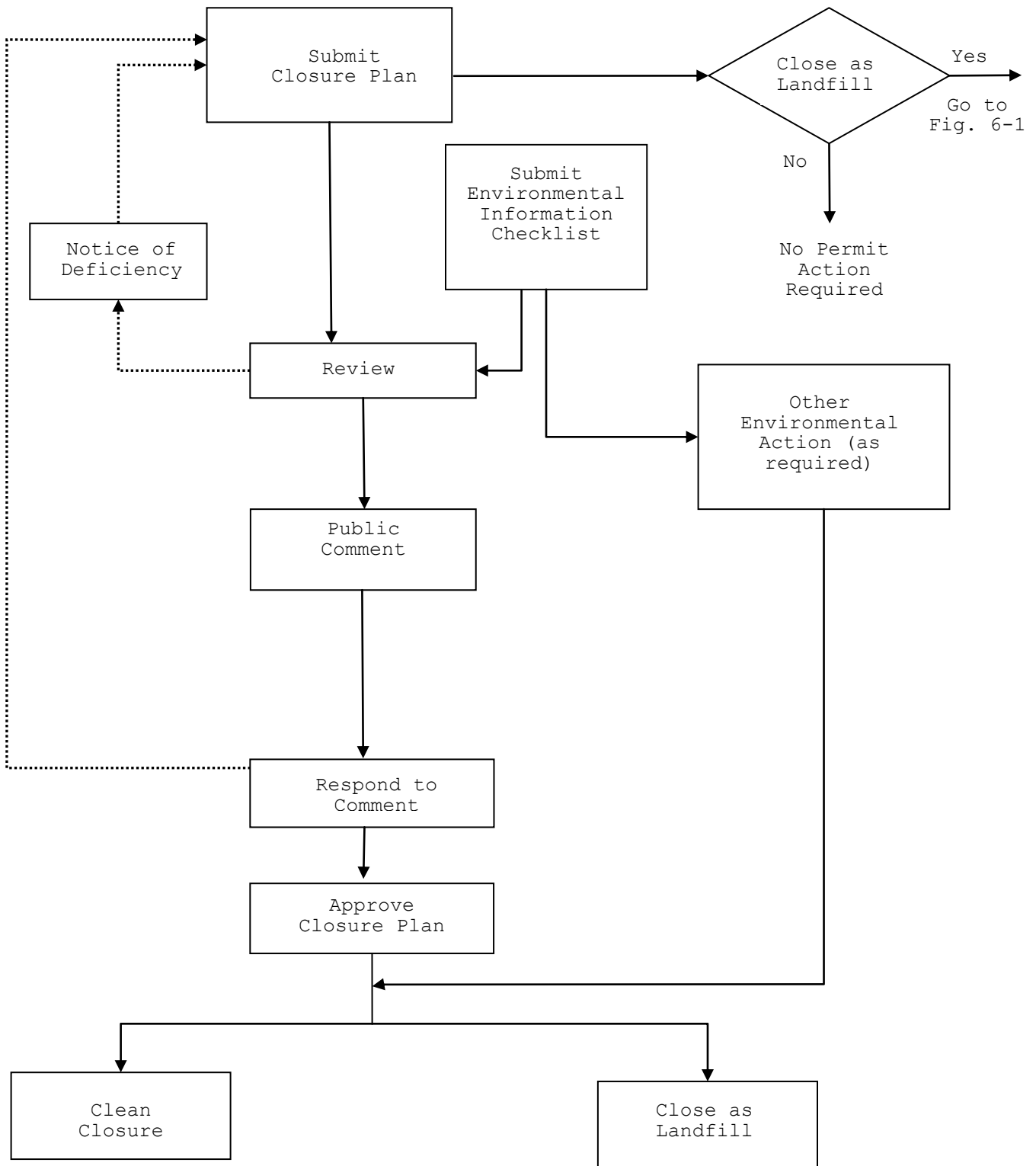


Figure 6-2. Closure Process Flowchart.

6.3.2 Closure as a Land Disposal Unit

If clean closure, as described above, cannot be achieved, the TSD unit will be closed as a land disposal unit. The process to close any unit as a land disposal unit will be carried out in accordance with all applicable requirements described at 173-303 WAC. In order to avoid duplication under CERCLA for mixed waste, the radionuclide component of the waste will be addressed as part of the closure action.

In the case of closure as a land disposal unit, a postclosure permit will be required. The postclosure permit will cover maintenance and inspection activities, groundwater monitoring requirements, and corrective actions, if necessary, that will occur during the postclosure period. The postclosure period will be specified as 30 years from the date of closure certification of each unit, but can be shortened or lengthened by Ecology at any time in accordance with 173-303-610 WAC. The closure plan will be submitted in conjunction with the Part B postclosure permit application, unless the parties agree otherwise. If a unit is to be closed as a land disposal unit prior to issuance of a permit for postclosure, an interim status postclosure plan will accompany the closure plan.

6.3.3 Procedural Closure

This is used for those units which were classified as being TSD units, but were never actually used to treat, store, or dispose of hazardous waste, including mixed waste, except as provided by 173-303-200 WAC or 173-303-802 WAC. This action requires that Ecology be notified in writing that the unit never handled hazardous wastes. Such information must include a signed certification from the DOE, using wording specified in 173-303-810 (13) WAC. Ecology will review the information as appropriate (usually to include an inspection of the unit) and send a written concurrence or denial to the DOE. If denied, permitting and/or closure action would then proceed, or the dispute resolution process would be invoked.

6.3.4 Expansion of Hanford Facility Waste Management Capacity Due to the Discontinuation of Process Operations

Many Hanford Site operations include systems that use chemical materials and/or solutions to perform required functions. When these systems are permanently removed from service, the chemical materials and/or solutions that no longer have a use may be considered a waste subject to the provisions of the dangerous waste regulations. For those systems that contain chemical materials and/or solutions that are considered waste, the components of the systems that contain this waste become subject to the Resource Conservation and Recovery Act (RCRA) permitting requirements of the Washington Administrative Code (WAC) 173-303 if the waste is managed for greater than 90 days. For facilities that have received a shut-down notice (facilities being transitioned), these system components (e.g., tanks and ancillary equipment) may be added to the Hanford Facility RCRA Dangerous Waste Part A Permit without providing notification required by WAC 173-303-281, provided that these components have no further waste management mission prior to RCRA closure or deactivation as addressed in Section 8.0.

6.4 RESPONSE TO IMMINENT AND SUBSTANTIAL ENDANGERMENT CASES

The State of Washington Dangerous Waste Regulations, 173-303-960 WAC, addresses actions to abate an imminent and substantial endangerment to the health or the environment from the releases of dangerous or solid wastes. Ecology will require DOE to either take specific action to abate an identified danger or threat, or will require a specific submittal date for DOE to propose an abatement method.

See Section 7.2.3 for information concerning responses to imminent and substantial endangerment cases at past-practice sites.

6.5 QUALITY ASSURANCE

The level of quality assurance and quality control (QA/QC) for the collection, preservation, transportation, and analysis of each sample which is required for implementation of this Agreement shall be dependent upon the data quality objectives for the sample. Such data quality objectives shall be specified in RCRA closure plans, the RCRA permit, and any other relevant plans that may be used to describe sampling and analyses at RCRA TSD units.

The QA/QC requirements shall range from those necessary for non-laboratory field screening activities to those necessary to support a comprehensive laboratory analysis that will be used in final decision-making.

Based upon the data quality objectives, the DOE shall conduct QA/QC and sampling and analysis activities which are taken to implement the Agreement in accordance with the following EPA documents.

- "Guidance for the Data Quality Objectives Process" (EPA/600/R-96/055) (QA/G-4) 2000 as revised,
- "EPA Requirements for Quality Assurance Project Plans" (EPA/240/B-01/003) (EPA QA/R-5), March 2001 as revised, and
- "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (EPA/SW-846 as amended).

In some instances, RCRA TSD units are included in operable units and are scheduled for investigation and closure. DOE shall follow the provisions of this Section for QA/QC for sampling and analysis activities at these land disposal units.

For analytical chemistry and radiological laboratories, DOE shall submit laboratory QA/QC plans to the lead regulatory agency for review as secondary documents prior to use of that laboratory. In the event that DOE fails to demonstrate to the lead regulatory agency that data generated pursuant to this Agreement was obtained in accordance with the QA/QC requirements of this section, including laboratory QA/QC plans, DOE shall repeat sampling or analysis as required by the lead regulatory agency. Such action by the lead regulatory agency shall not preclude any other action which may be taken pursuant to this Agreement. For other data, the lead regulatory agency may request DOE to provide QA/QC documentation. Any such data that does not meet the QA/QC standard required by this section shall be clearly flagged and noted to indicate this fact.