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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

1315 W. 4th Avenue • Kennewick, Washington 99336-6018 • (509) 735-7581

June 3, 1999

Mr. Paul Kruger
U. S. Department of Energy
P.O. Box 550, MSIN: A5-54
Richland, Washington 99352

Ms. Becky Austin
Fluor Daniel Hanford, Incorporated
P.O. Box 1000, MSIN: H8-67
Richland, Washington 99352

Mr. Duane L. Renberger
Waste Management Hanford Incorporated
P.O. Box 700, MSIN: H6-32
Richland, Washington 99352

Dear Ms. Austin and Messrs. Kruger and Adair:

Re: Notice of Correction Resulting from the 1998 Land Disposal Restrictions (LDR)
Compliance Inspection at Hanford (TPA Milestone M-26-01H)

Thank you for the assistance of the U.S. Department of Energy (USDOE), Fluor Daniel Hanford Inc. (FDH), and Waste Management Hanford Inc. (WMH) personnel during the Washington State Department of Ecology's (Ecology) September 29, 1998, inspection in support of the 1998 Report on Hanford Site Land Disposal Restrictions (LDR) for Mixed Waste, per the Tri-Party Agreement (TPA) Milestone M-26-01H.

Based on the information gathered during this inspection, your non-compliance with LDR requirements is very serious. This significant non-compliance persists in spite of the outreach and technical assistance on LDR issues that we have offered you; and, many of the areas of non-compliance identified this year, are similar to those discussed during our technical assistance visit last year.



Federal laws governing application of RCRA LDR to mixed waste, at facilities like Hanford, allow on-site storage of prohibited mixed waste while treatment capacities and technologies are developed, provided the facility is in compliance with all the requirements of an agreement or order governing the treatment of such waste, per 42 USC 6939C(b)(1)(A)(ii). For Hanford, this includes compliance with the Hanford LDR Plan, established and approved in April 1990, and the annual updates required by TPA Milestone M-26.

The Hanford LDR Plan requirements include:

- a "Storage Report" identifying and describing storage, and assessing compliance with storage requirements
- a "Comprehensive Waste Characterization Plan," including a plan and schedule to characterize all waste stored at Hanford, and all waste streams generated at Hanford
- a "Treatment Report" identifying treatment and disposal technologies and capacities
- a "Treatment Plan" including Milestones, and schedules for developing and implementing treatment technologies
- and a "Waste Minimization Plan" identifying methods to minimize the generation of LDR waste

Implementation of the Hanford LDR Plan (and its sub-plans) is governed by TPA Milestone M-26-01H (for 1998).

Ecology's 1998 LDR inspection documented four (4) violations and thirteen (13) concerns, as follows:

VIOLATIONS

Violation #1: Hanford LDR Plan, Section 1.a., Storage Report Requirements, per TPA Milestone M-26-01H

Section 1.a. of the Hanford LDR Plan requires USDOE to accurately identify and describe, by quantity and physical location, the mixed waste stored at Hanford.

In the 1998 LDR Report, USDOE failed to report the quantity and physical location of all mixed wastes stored at Hanford.

- *During Ecology's inspection, the Project Hanford Management Company (PHMC) representative said, "All RCRA mixed waste streams that are actively managed are included in the 1998 Hanford LDR report." WMH representatives advised Ecology that mixed wastes were accounted for as either inventoried waste, or as waste projected for storage in the Central Waste Complex (CWC). When asked how the projected waste storage estimates were derived for the LDR Report, WMH said the Solid Waste Information Forecast Tracking*

(SWIFT) report provided that information. However, the SWIFT report does not provide the quantity, physical locations, or methods of storage of the current inventory of mixed waste. Rather, the SWIFT report provides waste forecasts of waste generation. In addition, the SWIFT report states, "Waste streams held at PNNL with no defined disposal pathway were not included in the forecast." All mixed wastes are required to be included in the LDR report. This includes all LDR mixed waste at all locations at Hanford. Referencing the SWIFT report's waste generation projections as documentation of mixed waste storage at Hanford is inaccurate.

Violation #2: Hanford LDR Plan, Section 1.d., Storage Report Requirements, per TPA Milestone M-26-01H

Section 1.d. of the Hanford LDR Plan requires USDOE to assess the compliance status of the storage methods pursuant to applicable State and Federal standards. WMH cited the Facility Evaluation Board (FEB) assessments as the documentation used to satisfy Section 1.d. of the LDR Plan. Review of these assessments revealed that not all dangerous waste storage requirements were assessed by the FEB.

USDOE failed to perform a complete assessment of the compliance status of storage methods.

- *The FEB conducted a "performance-based" assessment of B Plant and the Waste Encapsulation Storage Facility (WESF) in 1997. This assessment did not address storage in tank systems pursuant to Washington Administrative Code (WAC) 173-303-640. Both B-Plant and WESF are interim status facilities and, therefore, require compliance with WAC 173-303-400 interim status facility standards and, by reference, specific sections of 40 CFR 265. (Note: Due to the B Plant transition activities, Ecology previously granted USDOE conditional relief from specific interim status storage requirements for specific storage units at B Plant, i.e., inspection, labeling, secondary containment, leak detection. Based on the transitional status of B-Plant, the need for future assessments in accordance with the Hanford LDR Plan should be discussed with Mr. Shri Mohan, Ecology's Project Manager for Transition.)*
- *The FEB conducted a "performance-based" assessment of the double-shell tanks (DST) and Characterization Project in March 1997. This assessment did not address the compliance status of the DSTs themselves, pursuant to WAC 173-303-640. When asked about this apparent omission, the FEB investigator said that they [his assessment group] assumed the DSTs should meet RCRA rules; therefore, they did not look at their compliant storage status.*

- *The FEB conducted a "performance-based" assessment of the 222-S Lab and Waste Sampling and Characterization Facility (WSCF) in September 1997. This assessment did not address the compliance status of the interim status 219-S tank system at 222-S, pursuant to WAC 173-303-640. When asked, the FEB investigator said his group did not look at the interim status storage tanks. Also, the report does not suggest that drum storage areas were assessed.*

Violation #3: Hanford LDR Plan, Section 5, Treatment Plan Requirements, per TPA Milestone M-26-01H

Section 5 of the Hanford LDR Plan requires the LDR Plan to include a Treatment Plan for the LDR wastes identified in the Treatment and Storage Reports, as well as all applicable Milestones and associated schedules for developing and implementing treatment, or management technologies, to achieve compliance with LDR requirements for each LDR waste, including, as appropriate, such items as waste characterization data.

USDOE failed to provide applicable Milestones or schedules for developing and implementing treatment technology for each LDR waste. In particular, USDOE's 1998 Treatment Plan for single-shell tanks (SST), and DST waste is inadequate, and does not meet Hanford LDR Plan requirements.

- *On January 4, 1999, Mike Wilson, Ecology's Nuclear Waste Program Manager, issued a letter to USDOE expressing concerns regarding USDOE's compliance with LDRs for tank waste. In this letter, Ecology reaffirmed that no relief has been provided by Ecology from TPA tank waste treatment schedules currently in existence. Ecology expressed concern regarding USDOE's compliance with the TPA regarding the acquisition and operation of tank waste treatment facilities. Specifically, existing schedules require that treatment capacity be acquired either on an agreed to "primary path" requiring two (2) competitive treatment facilities be operational by 2002, or an agreed to "alternate path," requiring initial low activity waste immobilization be operational by 2003, should USDOE deem the primary path to be infeasible. USDOE's intentions do not reflect any efforts underway to meet either of these approved compliance paths. Although USDOE is working towards other paths forward to LDR treatment for tank waste, namely, the Tank Waste Remediation System (TWRS) Privatization effort, this effort is not yet governed by TPA Milestones, and is not reflected in the Hanford LDR Treatment Plan.*

Violation #4: Testing, Tracking, and Recordkeeping Requirements for Generators, Treaters, and Disposal Facilities (40 CFR Part 268.7)

40 CFR 268.7 requires a generator to determine if their waste has to be treated before it can be land disposed, and to retain all data used to make the determination. Ecology reviewed seven (7) Operating Record files; six (6) out of seven (7) had deficiencies associated with determination of

Underlying Hazardous Constituents (UHCs), assignment of subcategories, and retaining supporting data in the generator's files.

USDOE failed to properly complete LDR testing, tracking, and recordkeeping requirements for six (6) out of seven (7) container files reviewed.

Container #225B-98-000006 – T Tank

- *On the Land Disposal Notification and Certification form used for container #225B-98-000006 (T Tank), space #6a was checked stating "Underlying Hazardous Constituent Determination not Applicable." However, the T Tank designation indicates the presence of characteristic waste (D002); therefore, generators must determine the UHCs that are reasonably expected to be present in the waste (unless a container is being managed as a labpack in accordance with the requirements of 40 CFR 268.42[c]).*

Container #9403139 – Tank Farms

- *On the Land Disposal Notification and Certification for container #9403139, the description of subdivisions (subcategory) is not complete for D006 and D008 waste codes. Line 6a of the form should include D003 with the list of codes requiring the generator to check for Underlying Hazardous Constituents. Line 6a and line 6b were not completed, indicating the generator did not check for the presence of UHCs.*

Container #9521493 – Plutonium Finishing Plant (PFP)

- *The generator records for container #9521493 did not contain adequate supporting data to make the determination regarding the concentration of silver (D011) in the waste. The generator records report a D011 concentration of 100 ppm (equivalent to approximately 100 mg/kg). However, no indication is given of how this concentration was determined. (Analyses from Paragon Laboratories resulted in silver at 1,330 mg/kg. Analysis from WSCF resulted in silver at 5,700 mg/kg.)*
- *The generator records for container #9521493 did not include the proper waste code for corrosivity. Specifically, the Washington Solid Corrosive Code WSC2 was used. Waste codes from designation are determined at the point of generation, not after being divided or diluted, or in this case, after a liquid corrosive is absorbed in diatomaceous earth. The proper waste code of D002 was not assigned.*

Container #9601762 – Bechtel Hanford Inc. (BHI)

- *The generator records for container #9601762 did not contain adequate supporting data to make the determination regarding the concentrations of contaminants in the waste. Criteria for designation appears to have been based on a weight percent calculation; however, this file does not contain information on how weight percent values were determined. WMH staff stated the designation was based on process knowledge gained from review of written analytical procedures that generated the waste and the specific constituent quantities were derived from these procedures. The container file did not contain any reference to such written analytical procedures. (NOTE: The waste in this container had been designated with the following waste codes: D002, D004, D006, D007, D008, D009, D010, D011. The analyses from WSCF resulted in pH<1 for the three (3) sample sets representing the contents of this waste container. No constituent was found that exceeded regulatory designation or UHC limits.)*
- *On the Land Disposal Notification and Certification form for container #9601762, the description of subdivisions (subcategory) is not complete for D006, D008, and D009 waste codes.*

Container #9700906 – 222-S Laboratory

- *The Land Disposal Notification and Certification Form for container #9700906 includes the waste codes D036 and U169. The form states that the generator had reviewed the Universal Treatment Standards (UTS) list and determined UHCs are present in the waste. This determination was based on the generator's knowledge of the waste and analysis. The generator identified nitrobenzene as a UHC; but nitrobenzene is not the underlying hazardous constituent, it is the primary hazardous constituent. Also, the generator assigned the waste code of U169; however, this waste is not a discarded chemical product. The waste was identified as "contaminated rad liquid waste" in the generator file. Also, an independent laboratory analysis (from Paragon Laboratories) revealed the presence of lead (.38 mg/kg) in the sample. Further, the file does not contain adequate process knowledge to determine if the nitrobenzene was used for its solvent properties, in which case the F004 code would be applied to the waste.*

Container #9800899 – Pacific Northwest National Laboratory (PNNL)

- *The generator records for container #9800899 did not contain adequate supporting data to determine the concentrations or presence of contaminants in the waste. Criteria for designation appears to have been based on a weight percent calculation; however, this file does not contain information on how this weight percent was determined. Also, the waste was assigned the waste code D030 indicating the presence of 2,4 Dinitrotoluene; however, this contaminant does not appear on any of the associated paperwork for the waste. (NOTE: The presence/absence of 2,4 Dinitrotoluene is particularly important due to its potential for explosion when heated.) Further, the file does not contain the proper information for assessing the dangerous waste criteria for toxicity.*

- *The Land Disposal Notification and Certification Form for container #9800899 includes waste codes D002, D011, and D030 (the codes associated with the samples analyzed from the two [2] inner containers chosen for this inspection). The form also includes the code D006, associated with another inner container. The description of subdivisions (subcategory) is not complete for D006. In addition, the analysis from WSCF for inner container #3908 indicates that 2,4 Dinitrophenol, o-Nitrophenol, and Chloroform levels exceed the regulatory limits for UHCs; however, these constituents did not appear on the generator's UHC paperwork for this container. WSCF analysis also found acetone and methylene chloride levels that exceed regulatory limits for UHCs. These constituents were identified on the UHC paperwork for the drum, but were attached to waste with F001 and F002 codes assigned to different inner containers.*

CONCERNS

Concern #1: Section 3 of the Hanford LDR Plan requires that the LDR Report include a comprehensive Waste Characterization Plan, that includes a plan and schedule to characterize all waste stored at Hanford. WMH informed Ecology that the characterization schedule provided with the LDR Report was only a target schedule, despite its being presented by USDOE in a document required to be compliant with TPA Milestone M-26-01H. USDOE failed to completely implement their schedule for characterizing all waste stored at Hanford.

- *Ecology was provided a characterization schedule; however, WMH reported that the schedule was not funded for characterizing waste in 1999, nor were all waste streams characterized as scheduled in FY 1998.*
- *The characterization schedule did not include all waste stored at Hanford. Notably missing are characterization schedules for DST and SST waste. The TWRS Regulatory Data Quality Objective (DQO) does not include a schedule for completing characterization on the waste tanks selected for vitrification under Phase I of the Privatization Contract. Also, there is no schedule in place for characterizing waste in the remaining DSTs and SSTs (selected for vitrification under Phase II of the Privatization Contract).*
- *M-19-00 deals with contact-handled low-level mixed waste. WMH provided a report in response to Ecology's question of which waste streams and volumes are being used to satisfy M-19-00. This report indicates a schedule is not complete for characterization of approximately 3,500 cubic meters of mixed waste currently in storage from seven (7) waste streams. Failure to characterize the mixed waste could jeopardize the schedule for non-thermal treatment, or direct disposal, under TPA Milestone M-19-00.*
- *M-91-12 calls for the initial treatment of at least 600 cubic meters of currently stored and newly generated contact-handled low-level mixed waste, by December 2005. WMH provided a report in response to Ecology's question of which waste streams and volumes are being thermally treated under M-91-12. This report identifies more than 3,700 cubic meters of mixed waste from three (3) waste streams that are candidates for thermal treatment under TPA Milestone M-91-12 (forecasted through 2002). Characterization is not complete for approximately 900 cubic meters of this waste currently in storage from two (2) waste*

streams. Failure to characterize the mixed waste could jeopardize the schedule for thermal treatment under TPA Milestone M-91-12.

- *According to the WMH report identifying which waste streams are destined for which treatment options, 1,749 cubic meters of transuranic mixed waste is planned for treatment under the M-91-02, 03, 06, and 08 Milestones (forecasted through 2002). Characterization is not complete for 347 cubic meters of transuranic mixed waste currently in storage from three (3) waste streams.*

Concern #2: The waste stream identification system used in the 1998 LDR Report does not coincide with the waste stream identification system used on site, i.e., the Waste Specification Records (WSRd) system.

- *During Ecology's inspection, WMH staff acknowledged this inconsistency and committed to reconciling this discrepancy in future reporting and tracking activities.*

Concern #3: Requested records were not received in a timely manner.

- *Five (5) container records were requested by Ecology on October 6, 1998. These records were to be provided to Ecology by October 9, 1998. Three (3) files were received on October 12, 1998; two (2) were received October 14, 1998. These delays caused unnecessary rescheduling and poor coordination for the sampling event, e.g., establishing container-specific sampling needs, assessing transportation requirements for samples, setting up radiological controls at T Plant.*
- *A report on the number of containers and volume, by waste stream, of all containers at CWC was requested on September 29, 1998. The complete report was not provided to Ecology until October 16, 1998. The WMH representative said the delay was due to the report being reviewed to ensure it was a "clean" list. Ecology informed WMH that the request was for the data as it appeared on the date requested, not after being reviewed, and perhaps altered, prior to submission to Ecology.*

Concern #4: The schedule and means for reporting waste characterization data is unclear.

- *Page 2-4 of the 1998 LDR Report cites Section 9.6 of the TPA for the schedule and means for reporting waste characterization data. The LDR Report further states that USDOE will notify Ecology and EPA of data availability in the Hanford Environmental Information System (HEIS), including the time and location of sampling, the type of data available, and a list of the sample parameters, or target compounds. WMH provided a Data Management Support table in response to Ecology's question as to where mixed waste data is stored. In a subsequent meeting, Ecology asked if this meant chemical screening information would be in HEIS. WMH staff said "No, that information would be in hard copy in the individual container files." WMH staff said the 1999 version of the LDR Report would be corrected to accurately reflect how this data is stored.*

Concern #5: Sampling practices for collecting volatiles and semi-volatiles were not adequate to minimize the loss of volatile components to the atmosphere.

- *During the sampling event at T Plant, several liquid waste volumes were poured into a bowl and allowed to remain open to the atmosphere for up to an hour while volatile and semi-volatile samples were drawn. Ecology acknowledges the difficulties involved with sampling radioactive waste in a greenhouse environment; however, sample collection methods should be reviewed and improved.*

Concern #6: Ecology's review of performance agreements associated with characterizing waste stored in CWC resulted in concerns over the completeness of required actions.

- *Two (2) performance agreements associated with characterizing waste stored in CWC (WMI.1.1, Section 4 and WMI.1.1, Section 5) were reviewed. Based on the WMH report to USDOE on completion of the performance agreements, WMH identified that the waste containers had "... the waste summary verified, underlying hazardous constituents identified, and have been characterized adequately to allow for determination of a treatment path." However, when reviewing the associated container list, it appeared that not all containers had gone through such a characterization process. Rather, it appeared some containers had been merely sorted to reflect the appropriate category of waste awaiting such characterization.*

Concern #7: Waste minimization activities were not well documented in the FEB reports.

- *The 1998 LDR Report states that waste minimization programs are audited regularly via the FEB assessment. Review of the FEB assessment suggests waste minimization assessment activities were minimal. Ecology's 1998 inspection did not focus on a detailed review of the waste minimization requirements detailed in the LDR Plan. However, Ecology will focus on waste minimization in an upcoming inspection.*

Concern #8: The planned treatment and/or disposal of forecasted long-length contaminated equipment is not identified.

- *During the investigation, Ecology requested information as to which LDR wastes streams are being used to satisfy M-19-00. This report identifies more than 8,000 cubic meters of waste from fourteen (14) waste streams that are candidates for non-thermal treatment or direct disposal under TPA Milestone M-19-00 (forecasted through 2002). This report does not identify the planned treatment and/or disposal of 1,532 cubic meters of forecasted long-length contaminated equipment.*

Concern #9: The 1999 LDR Report should reference the characterization plan in place for DST and SST waste.

- *When addressing DST and SST waste characterization, the 1998 Hanford LDR Plan states the DSTs and SSTs are being characterized per the M-44 Milestone and work plan. However, for purposes of characterizing tank waste to meet LDR requirements, the criteria are detailed in the Regulatory DQO developed under M-60-14 in support of the TWRS Privatization Phase I contract, which covers treatment of all Phase I tank wastes. Characterization criteria for Phase II tank wastes (the remaining DST and SST tanks not treated during Phase I) have not yet been determined. The 1999 LDR Report should reference the characterization plan developed by the DQO for M-60-14.*

Concern #10: Generator recordkeeping for the following containers is inaccurate and unclear.

- *The generator's Solid Waste Storage/Disposal Record for PFP container #9521493 is inaccurate and unclear. Regarding the inaccuracy, page 2, item 66, asks the generator to identify the weight percent of the hazardous constituents within the container. The total of constituents equals 219%. Regarding the unclear portion, page 2, item 61, asks the generator to provide an article description, with estimated volume % and estimated weight. The articles described are not broken out per inner container. The reader has no way to know the accurate description of each individual package within the container.*
- *The generator's Hazardous Waste Packing Slip for PNNL container #9800899 incorrectly identifies the federal/Environmental Protection Agency (EPA) waste code F003 as a Washington State Department of Energy (WDOE) code.*

Concern #11: Processes for shipping waste samples to Ecology's off-site laboratory need to be refined.

- *Despite advance planning of the sampling event, there were several problems and delays associated with sending Ecology's waste samples from Hanford to Paragon Laboratories, Ecology's laboratory in Colorado. These concerns are associated with receiving radiological screening data from WSCF, arranging off-site transportation, and collecting the required sample volume. In several cases, holding times were not met.*

Concern #12: The Waste Profile sheets are not complete.

- *The Waste Profile Sheets provided in the LDR Report do not identify the number of containers for each waste stream (Section 3.3 of the Profile Sheet).*

Concern #13: Milestone M-26-01 requires that the annual LDR Report be submitted as a primary document, i.e., one that represents the final documentation of key data and reflects decisions on how to proceed.

- *Neither USDOE nor Ecology has managed the LDR Report as a primary document per Section 9 of the TPA. USDOE and Ecology need to take the necessary steps to manage the 1999 LDR Report, and future annual reports, as primary documents.*

- *(NOTE: The 1999 LDR Report is being managed as a primary document.)*

CORRECTIVE MEASURES

In order to correct the violations identified in this Notice of Correction, please complete the following corrective measures within the time frames specified. Please be advised that an order and/or penalty is pending for Violations #1, #2, and #3, pursuant to authority granted under the Hazardous Waste Management Act (RCW 70.105.080 and/or.095), and recognized in the TPA (e.g., Article XLVI). A request for additional time to complete the corrective measures identified in the Notice of Correction must be in writing and received by me for consideration no later than August 2, 1999.

Corrective Measure #1: USDOE failed to report all mixed waste stored at Hanford in the 1998 LDR Report.

1. Within ninety (90) days from receipt of this letter, USDOE, FDH, and WMH must submit to Ecology an addendum to the 1999 Storage Report that identifies and describes all mixed waste stored at Hanford. This addendum must contain the following information for all mixed waste not already identified in the 1999 LDR Report, and/or to complete information on mixed waste provided in the 1999 LDR Report. This addendum, according to the Requirements for Hanford LDR Plan, must contain:
 - a. An identification and description of the mixed waste
 - b. The quantity of waste identified and described
 - c. The physical location and method of storage
 - d. The USDOE's assessment of the compliance status of the storage methods pursuant to applicable State and Federal standards
 - e. Identification of any releases of hazardous waste or hazardous constituents into the environment from the storage units
 - f. Identification of LDR waste generation rates, an estimate of the storage capacity and when storage capacity will be reached, including an identification of the bases and assumptions used in making such an estimate
 - g. Plans to submit requests for variance(s), case-by-case extension(s) of LDR requirements, or other exemptions pursuant to Section 3004 of RCRA, for those wastes identified in the Storage Report

Corrective Measure #2: USDOE failed to perform a complete assessment of the compliance status of storage methods.

1. Within ninety (90) days from receipt of this letter, USDOE must report to Ecology the responsible party/organization that will carry out the assessment. Also, USDOE must report to Ecology the schedule for when inspections will be carried out to meet assessment requirements of the 2000 LDR Report.

2. Within ninety (90) days from receipt of this letter, USDOE, in conjunction with the responsible party/organization that will carry out the assessment, must implement a written procedure to be used to assess the compliance status of the storage methods (i.e., satellite storage, ninety (90) day storage, interim status storage, and final facility storage) per applicable State and Federal regulations and Section 1.d. of the Requirements for Hanford LDR Plan. This procedure must include WAC 173-303 requirements for storage (as a generator, interim status facility, or final facility), including, by reference of WAC 173-303-400, the interim status storage requirements set forth in 40 CFR Part 265. The written procedure must be submitted to Ecology.

Corrective Measure #3: USDOE failed to provide applicable Milestones or schedules for developing and implementing treatment technology for each LDR waste.

1. Within ninety (90) days of receipt of this letter, USDOE, FDH, and WMH must submit to Ecology an addendum to the 1999 Treatment Plan that identifies Milestones and schedules for the development and implementation of treatment technologies for all LDR waste. This addendum must be based on the universe of LDR waste identified after completion of Corrective Measure #1, which appears on page #11, to meet the Requirements of the Hanford LDR Plan, and must contain the following:
 - a. For mixed wastes *for which treatment technologies exist*, a schedule for submitting all applicable permit applications, entering into contracts, initiating construction, conducting systems testing, commencing operations, and processing backlogged and currently generated mixed wastes
 - b. For mixed wastes *for which no treatment technologies exist*, a schedule for identifying and developing such technologies, identifying the funding requirements for the identification and development of such technologies, submitting treatability study exemptions, and submitting research and development permit applications. If constraints to this requirement exist, such constraints must be identified
 - c. For all cases where USDOE proposes radionuclide separation of mixed wastes or materials derived from mixed wastes, an estimate of the additional volume of dangerous waste generated by these activities
2. Within ninety (90) days of receipt of this letter, USDOE, FDH, and WMH must submit to Ecology an addendum to the 1999 Waste Characterization Plan that includes a plan and schedule to characterize all waste stored at Hanford and all waste streams generated at Hanford. This addendum must be based on the universe of LDR waste identified after completion of Corrective Action #1 above, must meet the Requirements of the Hanford LDR Plan, and must contain the following:
 - a. Existing plans and schedules for characterizing all waste stored at Hanford and all waste streams generated at Hanford, including an inventory of each type of waste that has not been characterized by sampling and analysis

- b. A proposed plan and schedule, for Ecology review and approval, to characterize all waste stored at Hanford and all waste streams generated at Hanford not already under an existing plan or schedule
3. Within ninety (90) days from receipt of this letter, USDOE, FDH, and WMH must identify and report to Ecology the mixed waste for which the requirements for Corrective Action #3 will be satisfied through the development of Project Management Plans under Milestones M-91.

Corrective Measure #4: USDOE failed to properly complete LDR testing, tracking, and recordkeeping requirements for six (6) out of seven (7) container files reviewed.

1. Within ninety (90) days from receipt of this letter, USDOE, FDH, and WMH must review and correct the specific LDR testing, tracking, and recordkeeping deficiencies identified in Violation #4, and provide to Ecology copies of the corrected portions of the Operating Records.

Corrective Measure #5: USDOE failed to properly complete LDR testing, tracking, and recordkeeping requirements for six (6) out of seven (7) container files reviewed.

1. Within ninety (90) days from receipt of this letter, USDOE, FDH, and WMH must submit to Ecology a status report on actions taken, since receipt of this letter, to ensure the LDR testing, tracking, and recordkeeping requirements of 40 CFR 268.7 are being met for existing waste containers, as well as newly generated waste containers. The report must include, at a minimum, the number of container files reviewed from specific facilities and waste streams; summaries from self-audits, focusing on review of LDR paperwork; the number of staff, by facility, who have been trained within the last twelve (12) months, or are currently scheduled to be trained in LDR regulations; and the development of any training or workshops to educate staff on proper completion of LDR paperwork.

Ms. Austin; Messrs. Kruger and Adair
June 3, 1999
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Please complete and return the attached Certificate of Compliance to me by September 3, 1999.
If you have any questions regarding this letter, please contact me at (509) 736-5715.

Sincerely,



Laura Ruud
Permitting Specialist
Nuclear Waste Program

LR:ld

Enclosure

cc: Jack Boller, EPA
Kim Ogle, EPA
Dave Bartus, EPA
Doug Sherwood, EPA
George Sanders, USDOE
Jim Rasmussen, USDOE
Gloria Williams, USDOE
Beth Bilson, USDOE
Steve Szendre, FDH
Tony Miskho, FDH
Dean Nester, WMH
Brett Barnes, WMH
Dale Black, WMH
Harold Tilden, PNNL
Karl Focht, BHH
Administrative Record:

Please complete and return by September 8, 1999, to:

**Laura Ruud, Permitting Specialist
Washington State Department of Ecology
1315 West Fourth Avenue
Kennewick, Washington 99336**

CERTIFICATE OF COMPLIANCE

As a legal representative of the U.S. Department of Energy, I certify to the best of my knowledge, that the compliance status of the Hanford Facility, Richland, Washington, #WA7890008967, is as shown below.

COMPLIANCE STATUS

Corrective Measure	Due Date	Date Completed	Initials	Comments
#1	9/1/1999			
#2	9/1/1999			
#3	9/1/1999			
#4	9/1/1999			
#5	9/1/1999			

Signature, USDOE-RL Representative

Printed Name

Title

Date

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