

FINAL DETERMINATION

Final Determination pursuant to the Hanford Federal Facility Agreement and Consent Order (HFFACO) regarding the U. S. Department of Energy's (DOE) compliance with Land Disposal Restriction (LDR) requirements of Washington State's *Hazardous Waste Management Act (HWMA)* and the federal *Resource Conservation and Recovery Act (RCRA)*, DOE's annual Land Disposal Restrictions Report, and HFFACO milestone M-26-01.

This determination concludes efforts at reaching a settlement through dispute resolution in these matters between the Washington Department of Ecology (Ecology), the U. S. Environmental Protection Agency (EPA), and the U. S. Department of Energy (DOE) (hereafter the Parties). As such, this constitutes my final determination pursuant to HFFACO Part Two, Article VIII, Paragraph 30 (D). This determination has been made following review and consideration of Ecology's Administrative Record in this matter¹.

I. Introduction

A. Land Disposal Restrictions under Federal and State Hazardous Waste Law: 40 CFR Part 268 of the *Resource Conservation and Recovery Act (RCRA)* delineates restrictions placed on the management and land disposal of certain hazardous and mixed wastes which have not first been treated to applicable treatment standards. 40 CFR Part 268.50 further prohibits the extended storage of LDR subject wastes. The State, through Ecology is authorized to implement State hazardous waste management requirements, including the majority of LDR requirements² in lieu of RCRA. Ecology implements these requirements through the State's *Hazardous Waste Management Act (HWMA)* Chapter 70.105 RCW, and its implementing regulations at Washington Administrative Code (WAC) 173-303. Washington State land disposal restrictions applicable to DOE hazardous and mixed wastes at the Hanford site are found at Chapter 173-303-140 WAC. These restrictions, including the prohibition on storage, apply to numerous hazardous and mixed wastes at Hanford including DOE high-level radioactive tank wastes.

B. HFFACO requirements, in part: The HFFACO was initially established on approval by Ecology, EPA, and the DOE on May 15, 1989. Included within its terms was the recognition that HFFACO requirements at DOE Hanford facilities subject to RCRA "...are RCRA statutory requirements and are thus enforceable by the Parties." (Article X, paragraph 41). Use of the acronym "RCRA" was defined as including the state's Hazardous Waste Management Act (Article V., item W).

Of note within the original HFFACO was major milestone M-25-00: "Provide annual reports of studies/efforts that are in progress to identify alternatives to land disposal of radioactive mixed wastes" due "Annually beginning March 1990". Each successive annual report under this initial

¹ Concurrent with the issuance of this Final Determination, I am issuing my Final Determination regarding DOE's compliance with Tank Waste Treatment requirements. The Administrative Record for purposes of this LDR Final Determination includes the Administrative Record for the Tank Waste Treatment Final Determination.

² EPA retains authority for oversight of the State's hazardous waste program and for elements of RCRA, including some provisions of LDR, which the State has not been authorized to implement.

major milestone was to "...provide information regarding actions taken to minimize waste generation, recycle/reclaim wastes, or treat wastes." Each report was to be "tracked as a major milestone".

Subsequent discussion between the agencies led Ecology and EPA to issue their April 10, 1990 "Requirements for Hanford LDR Plan" (Plan). This requirements document was an important step in establishing regulatory requirements pertaining to Hanford site mixed wastes. Plan requirements included the submittal of an annual report to include: a mixed waste storage report; provisions for the submission of requests for extensions, variances, and/or exemptions in accordance with RCRA and applicable regulations; a comprehensive waste characterization plan; a waste minimization plan; a treatment report, and a treatment plan.

The stated purpose for the treatment plan was "...to establish, for each LDR waste, milestones and schedules for the development and implementation of treatment technologies that will result in all LDR wastes being treated to the applicable treatment standard or otherwise managed in accordance with LDR requirements." In response to issuance of Plan requirements, corresponding HFFACO requirements were modified into a new, consolidated, major milestone series (M-26) requiring the submittal of an annual LDR Report³. Following a number of modifications over time, the wording of this HFFACO requirement was agreed-to as follows (the requirement for the 1999 report follows. Other annual reports are subject to these same descriptive requirements):

M-26-01I	<p>Submit an annual Hanford Land Disposal Restriction Report in accordance with the LDR Plan to cover the period from 4-1 of the previous year through 3-31 of the reporting year.</p> <p>The report shall include a description of activities planned and taken in accordance with the LDR Plan and prior annual LDR Reports to achieve full compliance with LDR requirements. The report shall update all information contained in the LDR Plan and the prior annual LDR Report, including plans and schedules.</p> <p>The format for the Report shall be based on the "Requirements for the Hanford LDR Plan" issued by EPA and Ecology on April 10, 1990. Additionally, the Report shall describe any other studies or efforts that have been or will be undertaken to identify alternatives to land disposal of mixed wastes. The nonradioactive portion of any mixed wastes that are regulated under Washington state-only regulations shall be addressed in this Report. The Report shall be submitted as a primary document.</p> <p>The Report shall specify interim milestones for achieving compliance with LDR requirements at TSD mixed waste units. These milestones shall be based on significant events identified in the LDR Report and are shown in schedules which are updated annually as part of the Report. Appropriate milestones will be incorporated in the Agreement via the change process defined in section 12 of the Action Plan upon issuance of the approved Reports.</p>	4/30/1999
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³ See the Parties HFFACO Change Request M-26-92-01, March 31, 1992.

C. Federal Facility Compliance Act of 1992 (FFCA): Amendments to RCRA promulgated in 1992 under the *Federal Facility Compliance Act* (PL102-386, October 6, 1992) included at section 6001 an express waiver of the federal government's sovereign immunity with respect to substantive and procedural requirements for the control and abatement of hazardous wastes. The FFCA also required at section 3021 that the Secretary of Energy develop and submit for each DOE facility generating or storing mixed waste, a Site Treatment Plan (STP) for developing, acquiring, and implementing treatment technologies and capacities necessary to treat all facility mixed wastes to applicable standards. STPs were required to include the following:

- (i) 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.
- (ii) 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.

Site Treatment Plans were required to be submitted to authorized States for review and approval. Approved plans were to be issued by the State as an order requiring compliance (thereby establishing approved and enforceable schedules for bringing wastes and associated facilities into compliance with LDR requirements). DOE's Hanford site was not subject to this STP requirement in that FFCA language recognized that this requirement does "...not apply with respect to any facility (*already*) subject to ... any existing agreement or administrative or judicial order governing the treatment of such wastes, to which the State is a Party (42 U.S.C § 6939c). The HFFACO stands, in part, as an Administrative Order issued pursuant to Washington's HWMA, and governs the acquisition of treatment technologies and treatment capacity, and the treatment of Hanford site mixed wastes. Though not yet containing all necessary schedules, Ecology, EPA, and DOE have agreed to establish HFFACO requirements equivalent to those applicable to STPs as required by the FFCA^{4, 5}.

DOE has submitted its LDR Report to EPA and/or Ecology annually as required. However, major deficiencies identified by the State have not been corrected, e.g., those relating to the adequacy of the Report, the respective roles of the HFFACO and the Report, and DOE inaction in establishing and implementing schedules for the treatment of Hanford site wastes subject to LDR.

II. History of this Dispute.

A. Ecology efforts to prompt DOE action.

⁴ Letter, Tom Fitzsimmons, Ecology Director to Richard T. French, Manager, USDOE Office of River Protection and Keith Klein, Manager, USDOE Richland Field Office, May 19, 1999 (with May 24 1999 Agreement In Principle (AIP) attached).

⁵ "Agreement on Principal Regulatory Commitments Pertaining to Hanford Tank Waste Treatment Complex Construction and Operations", Tom Fitzsimmons, Ecology; Chuck Clarke, EPA Region 10; Keith Klein, DOE Richland Operations Office and Dick French, DOE Office of River Protection, November 15, 1999.

Ecology assumed responsibility for regulatory agency oversight of DOE's annual LDR Reports and its compliance with Federal and State Land Disposal Restrictions with DOE's submittal of its 1997 annual Report (Prior to the 1997 Report, EPA served as lead regulatory agency). The State's activities this first year took the form of Report review and a series of technical assistance site visits pursuant to the Washington State Regulatory Reform Act, RCW 43.05.030. Site visits and discussions with site staff regarding LDR took place at selected Hanford site facilities including DOE's 325 building, 340 building, T-Plant, CWC (central waste complex), and its double-shell tanks.

The results of Ecology's review were transmitted to DOE on August 28, 1997⁶ (1997 Report review comments were forwarded to DOE on September 19, 1997⁷). Noted areas of noncompliance included inadequate identification of LDR subject wastes, inadequate storage facility reporting, inadequate waste stream characterization, inadequate treatment plan and report, and deficiencies regarding testing, tracking and recordkeeping. Ecology's correspondence requested a number of corresponding corrective actions. DOE responded to the States' concerns on January 28, 1998⁸, noting its plans to adopt a waste stream data sheet (format) approach to future Reports and committing to modify its 1998 Report. Ecology did not force corrective revision of DOE's 1997 Report.

DOE's 1998 annual LDR Report was published and forwarded to Ecology in April 1998. Its receipt prompted both Report review and a second round of site visits assessing DOE's compliance status and the extent of modifications made as the result of Ecology's (1997) regulatory compliance concerns. Ecology staff were disappointed to find that major deficiencies noted had yet to be corrected (e.g., incomplete waste stream identification, inadequate waste stream characterization, storage facility assessment and reporting deficiencies, treatment plan and reporting deficiencies, etc.). As a result, a series of meetings between Ecology, DOE, and DOE contractor staff took place throughout 1998 and early 1999 in an attempt to gain DOE recognition of the importance of these compliance issues and the need for DOE to take significant action in correcting them.

The State's growing frustration with the inadequacy of DOE's response led it to conduct a series of selected site inspections⁹, and to issue its June 3, 1999 Notice of Correction (NOC) documenting

⁶ Letter: Laura Ruud, Nuclear Waste Program, Washington Department of Ecology to James E. Rasmussen, USDOE Richland WA, Dr. Ken C. Brog, Pacific Northwest National Laboratory, Richland WA, and Ms. Sue Price, Fluor Daniel Hanford Inc., Richland WA, August 28, 1997.

⁷ Letter: Laura Ruud, Nuclear Waste Program, Washington Department of Ecology to John D. Wagoner, Manager, USDOE Richland WA; Hank J. Hatch, Fluor Daniel Hanford, Richland WA; William J. Madia, Pacific Northwest National Laboratory, Richland WA; and Steven D. Liedle, Bechtel Hanford Inc. September 19, 1997.

⁸ Letter, 98-WPD-015: James E. Rasmussen, Office of Environmental Assurance, Permits and Policy, U. S. Department of Energy, Richland WA to Laura E. Ruud, Nuclear Waste Program, Washington Department of Ecology, January 28, 1998.

⁹ Inspection Report: Washington Department of Ecology, Nuclear Waste Program, Hanford Project, Dangerous Waste Compliance Inspection, Land Disposal Restrictions (LDRs), Laura Ruud, Bob Wilson and Michelle Anderson-Moore (Ecology), March 5, 1999.

(these continuing) 1998 Report deficiencies, and requiring that DOE take a series of specific actions in order to correct same¹⁰.

Deficiencies identified within Ecology's NOC included four (4) violations of the Hanford LDR Plan and its corresponding HFFACO M-26-01 requirement as summarized in the following text.

Violation #1: Failure to accurately identify and describe, by quantity and physical location, all mixed waste stored at Hanford.

Violation #2: Failure to adequately assess the compliance status of storage methods pursuant to applicable State and Federal standards.

Violation #3: Failure to submit an adequate Treatment Plan pursuant to the Hanford LDR Plan and HFFACO requirements.

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

Also included within Ecology's correspondence were thirteen (13) identified regulatory concerns, and five (5) required corrective measures corresponding to violations 1 through 4 above. Ecology did not require corrective revision and reissuance of DOE's 1998 Report, but instead focused on corrective revision to DOE's 1999 Report, which was issued in April 1999 and contained similar deficiencies¹¹. Required corrective measures are summarized as follows:

Corrective measure #1: Within ninety (90) days of NOC receipt, DOE was required to submit an addendum to its 1999 "Storage Report" which corrected noted deficiencies by identifying and describing all mixed wastes stored at Hanford.

Corrective measure #2: Within ninety (90) days of NOC receipt, DOE was required to submit: (a) A DOE notification identifying responsible parties/organizations which have been tasked to carryout compliance assessments of Hanford facilities storing mixed wastes, and (b) assessment completion pursuant to a written assessment procedure including assessments against State and Federal storage facility requirements.

Corrective measure #3: 1. Within ninety (90) days of NOC receipt, DOE was required to submit an addendum to its 1999 "Treatment Plan" detailing milestones and schedules for the development and implementation of treatment technologies for all LDR wastes. Such addendum was to be based on the universe of mixed waste identified following completion of Corrective Measure #1, and was to meet the following requirements:

¹⁰ Letter: Re: Notice of Correction Resulting from the 1998 Land Disposal Restrictions (LDR) Compliance Inspection at Hanford (TPA Milestone M-26-01H), E. R. Skinnarland for Laura Ruud (Ecology) to Mr. Paul Kruger (DOE), Ms. Becky Austin (FDH), and Mr. Duane L. Renberger (Waste Management Hanford Inc.), June 3, 1999.

¹¹ Section II. C. of this Final Determination discusses DOE's 1999 Report.

- (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.
- (c) Submittal of estimated dangerous waste volumes to be generated where DOE proposes radionuclide separation of mixed wastes or material derived from mixed wastes.

2. Within ninety (90) days of NOC receipt, DOE was required to submit: (i) An addendum to DOE's 1999 "Characterization Plan" that includes plans and schedules (both new and existing) to characterize waste streams generated and stored at Hanford, and (ii) A report identifying to Ecology, mixed waste for which the requirements of Corrective Measure #3 were to be satisfied through the development of Project Management Plans pursuant to HFFACO milestone series M-91.

Corrective measure #4: Within ninety (90) days of NOC receipt, DOE and its contractors were required to review and correct LDR testing, tracking, and recordkeeping deficiencies and provide Ecology copies of corrected portions of the operating records.

Corrective measure #5: Within ninety days of NOC receipt, DOE and its contractors were required to submit a status report on actions taken to ensure that LDR testing, tracking and recordkeeping requirements are met. Specific items to be included were identified.

B. DOE correspondence on receipt of Ecology's NOC:

- (1) **June 10, 1999**¹²: DOE notified Ecology of its belief that issues noted within Ecology's June 3, 1999 NOC are properly the subject matter of the Tri-Party Agreement (HFFACO) rather than a notice of correction letter, and notifying Ecology of its election to exercise Tri-Party Agreement dispute resolution provisions under Article VIII.
- (2) **August 13, 1999**¹³: DOE reiterated its belief that Ecology's June 3, 1999 NOC addressed issues that are properly under the purview of the Tri-Party Agreement, and appended its "STATEMENT OF DISPUTE" in this matter. DOE assertions within this Statement included, but were not limited to the following:

¹² Letter, 99-EAP-353: George H. Sanders, Hanford Tri-Party Agreement Administrator, U. S. Department of Energy, to Michael A. Wilson, Manager, Nuclear Waste Program, Washington Department of Ecology, June 10, 1999.

¹³ Letter, 99-EAP-386: Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) M-26-01H, "Transmittal of the Statement of Dispute for the 1998 Land Disposal Restrictions (LDR) Compliance Inspection", George H. Sanders, Hanford Tri-Party Agreement Administrator, U. S. Department of Energy, to Michael A. Wilson, Manager, Nuclear Waste Program, WA Department of Ecology, August 13, 1999.

- a) “The alleged violations ... are all related to work performed in support of TPA Milestone M-26-01 for submittal of an annual LDR Report.”
- b) “...RL believes that the appropriate mechanisms for disposition of corrective actions related to completion of Tri-Party Agreement requirements properly lie within the Agreement itself.”
- c) “It is RL’s position that, by the terms of the TPA, Ecology’s allegations of noncompliance with LDR requirements are premature, irrespective of potential merit.”
- d) “The LDR Report has been prepared and submitted annually, as a primary document, in a timely manner, consistent with the required content.”
- e) “The detailed requirements associated with M-26 are not driven by specific regulations, but are instead governed by the language of the document *Requirements for the Hanford LDR Plan* signed by EPA and Ecology, and the language of the M-26 milestone itself.”
- f) “RL has complied with TPA requirements regarding format, content, and comment response for the annual LDR Report.”
- g) “The issuance of an NOC is inappropriate at this time because Ecology has not met the requirements of TPA Action Plan, Section 9.2.1 regarding timely and specific communication to RL to address issues or evaluate potential deficiencies within the LDR Report.”
- h) “...Ecology has made no effort to use the TPA change process to seek to incorporate modifications to clarify/amend its expectations for the Hanford LDR Plan.”

DOE’s August 13, 1999 Statement of Dispute further requested the following relief:

- “...that the IAMIT resolve this dispute under the dispute resolution provisions of the Tri-Party Agreement (Article VIII, Resolution of Disputes).”
 - “RL requests that the IAMIT agree to toll the dispute resolution process at the IAMIT level for an appropriate period of time, and direct the respective Ecology and RL project managers to meet and resolve any misunderstandings regarding the LDR Plan approach.”
- (3) **August 13, 1999**¹⁴: DOE requested an extension through October 8, 1999 in order to allow adequate time for the preparation of responses to Ecology comments regarding DOE’s 1999 Report.

¹⁴ Letter, 99-EAP-445: Request for extension to submit comment responses on Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Milestone M-26-01I, 1999 Land Disposal Restrictions (LDR) Report, George H. Sanders, Hanford Tri-Party Agreement Administrator, U. S. Department of Energy, to Michael A. Wilson, Manager, Nuclear Waste Program, Washington Department of Ecology, August 13, 1999.

- (4) **August 18, 1999**¹⁵: This correspondence provided DOE responses to statements reportedly made by Ms. L. E. Ruud of Ecology "...in a July 21, 1999, meeting that alleged violations 1, 2, and 3 (*within Ecology's June 3, 1999 NOC*) were to be considered as comments on DOE's 1999 LDR Report..." See also, Ecology correspondence on this topic dated September 17, 1999^{16, 17}.

C. Initiation of a second (similar) dispute following DOE submittal of its 1999 LDR Report.

DOE's submittal of its 1999 LDR Report¹⁸, which contained similar deficiencies, only served to heighten Ecology and EPA's dissatisfaction in this matter. Principle correspondence between Ecology and DOE includes the following:

- (1) **April 15, 1999**¹⁹: DOE submittal of its 1999 LDR Report.
- (2) **May 11, 1999**²⁰: Ecology provided its initial comments regarding DOE's 1999 Report, noting that principle deficiencies in earlier year reports had not been corrected, that Ecology would be notifying DOE of actions necessary to correct 1998 Report deficiencies by June 4, 1999, and of its willingness to accept corrective actions applied to future DOE annual Reports rather than force revision and reissuance of 1998 or 1999 Reports.
- (3) **August 13, 1999**²¹: DOE letter recognizing that Ecology had notified it that principle deficiencies cited within Ecology's June 3, 1999 NOC were to be considered as comments on DOE's 1999 Report, and requesting an extension (through October 8, 1999) of the time allotted DOE to respond.

¹⁵ Letter, 99-EAP-450: Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Milestone M-26-01I 1999 Land Disposal Restrictions (LDR) Report Comment Responses, George H. Sanders, Hanford Tri-Party Agreement Administrator, U. S. Department of Energy, to Michael A. Wilson, Manager, Nuclear Waste Program, Washington Department of Ecology, August 18, 1999.

¹⁶ Letter: RE: Notice of Correction Resulting from the 1998 Land Disposal Restrictions Compliance Inspection at Hanford (Tri-Party Agreement Milestone M-26-01H), Laura Ruud, Permitting Specialist, Washington Department of Ecology to George H. Sanders, U. S. Department of Energy, September 17, 1999.

¹⁷ Letter, Responding to DOE's August 18, 1999 Land Disposal Restrictions (LDR) Report Comment Responses: Laura Ruud, Permitting Specialist, Washington Department of Ecology to George H. Sanders, U. S. Department of Energy, September 17, 1999.

¹⁸ Letter (99-EAP-263) transmitting DOE's April 1999 Report on Hanford Site Land Disposal Restrictions for Mixed Waste, (DOE/RL-99-01, D. g. Black): George H. Sanders (DOE) to Michael A. Wilson (Ecology) and Douglas R. Sherwood (EPA) April 15, 1999.

¹⁹ Ibid.

²⁰ Letter: Re: Completion of Hanford Federal Facility Agreement and Consent Order Tri-Party Agreement Milestone M-26-01I (99-EAP-263), Laura Ruud (Ecology) to George H. Sanders (DOE), May 11, 1999.

²¹ Letter (99-EAP-445): REQUEST FOR EXTENSION TO SUBMIT COMMENT RESPONSES ON HANFORD FEDERAL FACILITY AGREEMENT AND CONSENT ORDER (TRI-PARTY AGREEMENT) MILESTONE M-26-01I, 1999 LAND DISPOSAL RESTRICTIONS (LDR) REPORT, George H. Sanders (DOE) to Michael A. Wilson (Ecology), August 13, 1999.

- (4) **August 18, 1999**²²: DOE letter forwarding DOE comments to Ecology cited deficiencies within the 1999 Report, and noting that DOE was not revising said Report.
- (5) **September 17, 1999**²³: Forwarding Ecology's response to DOE's August 18, 1999 correspondence (99-EAP-450) and initiating HFFACO dispute regarding DOE's 1999 Report. See also DOE response of **September 24, 1999**²⁴.
- (6) **October 18, 1999**²⁵: Transmittal of DOE's Statement of Dispute regarding DOE's 1999 LDR Report, notifying Ecology of DOE's election to elevate said dispute to the Parties IAMIT, and noting that the parties similar dispute centering on DOE's 1998 LDR Report was already at the IAMIT level.

D. Inter Agency Management Integration Team (IAMIT) Actions to-date

While the HFFACO allows Ecology to take enforcement action on discovery of violations of regulatory requirements (Article VII, paragraph 29), Ecology agreed to attempt to resolve this dispute through utilization of the HFFACO dispute resolution process at Part Two, Article VIII. Attempts to resolve the dispute at the project manager level failed to result in agreement. Consequently, the parties IAMIT took the matter up in late 1999.

The parties IAMIT is staffed by senior DOE, Ecology and EPA managers, and serves as the first level of formal dispute resolution for issues which remain unresolved by the agencies project managers (See HFFACO Action Plan Section 4.2). The IAMIT has to-date extended dispute in this matter on a number of occasions including, its October 26, 1999 "Mutual Agreement and Extension, Regarding Milestone M-26-01, Submit an Annual Hanford Land Disposal Restriction (LDR) Report". By this action, the IAMIT recognized that two (2) similar disputes were in progress regarding DOE's 1998 and 1999 annual LDR Reports, combined the resolution of these disputes into a single resolution effort, and agreed that:

- 1.) "Relative to RL's ongoing disputes at the IAMIT level, the deadline to elevate these two disputes to the Director of Ecology's level is extended until January 31, 2000."

²² Letter (99-EAP-450): HANFORD FEDERAL FACILITY AGREEMENT AND CONSENT ORDER (TRI-PARTY AGREEMENT) MILESTONE M-26-01I 1999 LAND DISPOSAL RESTRICTIONS (LDR) REPORT COMMENT RESPONSES, George H. Sanders (DOE) to Michael A. Wilson (Ecology) August 18, 1999.

²³ Letter: Ecology response to 99-EAP-450, Laura Ruud (Ecology) to George H. Sanders (DOE), September 17, 1999.

²⁴ Letter (99-EAP-509): ACKNOWLEDGEMENT OF DISPUTE INITIATION ON PRIMARY DOCUMENT PROCESS FOR THE 1999 LAND DISPOSAL RESTRICTIONS (LDR) REPORT (TRI-PARTY AGREEMENT MILESTONE M-26-01I), George H. Sanders (DOE) to Michael A. Wilson (Ecology) September 24, 1999.

²⁵ Letter (00-ORL-004): TRANSMITTAL OF STATEMENT OF DISPUTE (SOD) FOR PRIMARY DOCUMENT PROCESS FOR THE 1999 LAND DISPOSAL RESTRICTIONS (LDR) REPORT (HANFORD FEDERAL FACILITY AGREEMENT AND CONSENT ORDER [TRI-PARTY AGREEMENT] MILESTONE M-26-01I), George H. Sanders (DOE) to Michael A. Wilson (Ecology) October 18, 1999.

- 2.) “The clarification letter from Ecology pertaining to alleged violation #4, specified in the Ecology June 3, 1999 NOC is due on or before December 13, 1999.”²⁶
- 3.) “The December 8, 1999 deadline for completion and certification of the Corrective Measures Report on alleged violation #4, specified in the Ecology June 3, 1999 NOC is extended until February 8, 2000.”
- 4.) “The due date of the 2000 LDR Report (TPA Milestone M-26-01J) is extended to July 31, 2000.”, and
- 5.) “Ecology agrees not to issue any orders or penalties for violations described in its June 3, 1999 NOC prior to February 8, 2000.”

E. Actions by the parties in late 1999 and early 2000:

Throughout late 1999 and early 2000 Ecology and DOE continued to attempt to resolve Ecology and DOE’s (now combined) dispute in this matter. Of particular note are the following documents:

- (1) **November 15, 1999**²⁷: Agreement on Principal Regulatory Commitments Pertaining to Hanford Tank Waste Treatment Complex Construction and Operations. Commitments between the Parties within this document recognized the need to develop HFFACO language “necessary for compliance with Land Disposal Restriction (LDR) requirements of the Resource Conservation and Recovery Act (RCRA) in a manner equivalent to Site Treatment Plans as required by the Federal Facility Compliance Act of 1992”²⁸.
- (1) **December 16, 1999**²⁹: Ecology e-mail noting inter-agency discussions and requesting that DOE confirm its agreement that NOC violation number 4 would be worked as a matter independent from the agencies dispute.
- (2) **December 17, 1999**³⁰: DOE letter noting its inability to confirm or deny DOE agreement regarding the processing of NOC Violation #4.

²⁶ See Ecology response letter, Laura Ruud, Permitting Specialist, Washington Department of Ecology to Mr. Steve Wisness, U. S. Department of Energy, November 16, 1999.

²⁷ Agreement on Principal Regulatory Commitments Pertaining to Hanford Tank Waste Treatment Complex Construction and Operations”, Tom Fitzsimmons, Ecology; Chuck Clarke, EPA Region 10; Keith Klein, DOE Richland Operations Office and Dick French, DOE Office of River Protection, November 15, 1999.

²⁸ These commitments mirrored prior commitments in the Parties’ May 24, 1999 tank waste privatization negotiations Agreement in Principle. Tom Fitzsimmons, Ecology; Chuck Clarke, EPA Region 10; Keith Klein, DOE Richland Operations Office and Dick French, DOE Office of River Protection, November 15, 1999.

²⁹ E-mail, potential LDR resolution of dispute, and Violation #4. (See L. RUUD NOC dated June 3, 1999, Roger Stanley (Ecology) to Hector Rodriguez (DOE), December 16, 1999.

³⁰ Letter (00-ORL-014): POTENTIAL LAND DISPOSAL RESTRICTION (LDR) RESOLUTION OF DISPUTE, AND VIOLATION #4, Hector M. Rodriguez (DOE) to Michael A. Wilson (Ecology), December 17, 1999.

- (3) **January 12, 2000**³¹: Ecology's proposed Resolution of Dispute in this matter was delivered by hand and described to DOE. This proposed resolution of dispute clarified DOE LDR compliance deficiencies and actions necessary for their correction.
- (4) **January 20, 2000**³²: This DOE document requested that Ecology clarify a number of issues pertaining to Ecology's June 3, 1999 NOC, the parties 1990 "Requirements for Hanford LDR Plan", the Federal Facility Compliance Act of 1992, and Ecology's January 12, 2000 proposed LDR Resolution of Dispute.
- (5) **January 25, 2000**³³: This document responded to DOE's January 20, 2000 requests for clarifications and presented a third request that DOE document DOE actions following passage of the FFCA of 1992.

III. Agency actions following close of the period allotted for resolution.

At close of the period allotted for resolution (close of business January 31, 2000) DOE had not proposed a resolution to this dispute. However, at 5:50 PM, January 31, DOE telefaxed Ecology and EPA a letter proposing that the agencies "...extend the LDR negotiations, and ... allow additional time so that our agencies can decide on the LDR report contents"³⁴. DOE's letter implied that DOE had only 10 working days to consider the issues associated with this dispute, and asked that Ecology and EPA extend the dispute at the IAMIT level.

With no agreement reached, Ecology's Director was required to issue a Final Determination in this matter by February 14, 2000, pursuant to HFFACO Article VIII, paragraph 30 (D).

Recognizing the long and difficult history of this dispute, and of a closely related HFFACO tank waste treatment negotiations dispute, Ecology's Director requested the aid of the Regional Administrator of the U. S. Environmental Protection Agency in the development and issuance of

³¹ Draft Resolution of Dispute: "- Resolution of Dispute - Regarding the U. S. Department of Energy's (DOE) compliance with Land Disposal Restriction requirements of Washington State's *Hazardous Waste Management Act* (HWMA) and the federal *Resource Conservation and Recovery Act* (RCRA), DOE's annual Land Disposal Restrictions Report, and **Hanford Federal Facility Agreement and Consent Order** (HFFACO) milestone series M-26-01." delivered by hand (Roger Stanley) to George Sanders of DOE on January 12, 2000.

³² DOE request for clarifications: "Ecology's LDR Draft Resolution of Dispute, DOE Requested Clarifications to determine scope", delivered by hand, George Sanders, DOE to Roger Stanley, Ecology, January 20, 2000.

³³ Letter with two attachments: Response to request for clarifications and third request for documents pertaining to the *Federal Facility Compliance Act of 1992* (FFCA), DOE compliance with RCRA Land Disposal Restrictions, and its compliance with Hanford Federal Facility Agreement and Consent Order (HFFACO) milestone series M-26, Roger Stanley (Ecology) to George H. Sanders (DOE), January 25, 2000.

³⁴ Letter, 00-ORL-024, Mr. Keith A. Klein, Manager, U. S. Department of Energy, Richland Field Office and Mr. Richard T. French, Manager, U. S. Department of Energy, Office of River Protection to Mr. Tom C. Fitzsimmons, Director, Washington Department of Ecology and Charles C. Clarke, Administrator, U. S. Environmental Protection Agency, Region 10, January 31, 2000.

Ecology's Determination "...regarding DOE compliance with "RCRA" Land Disposal Restrictions"³⁵. Regional Administrator Clarke's February 3, 2000 reply noted that:

"...EPA fully supports Ecology's position that DOE provide information on wastes subject to LDRs and develop waste treatment plans in a manner that complies with existing requirements of the HFFACO and with the Federal Facility Compliance Act. Planning for necessary mixed waste treatment capacity in compliance with LDR requirements is a critical complement to the tank waste milestones to be established through the final determination.

EPA stands ready to join the Department of Ecology in the development and issuance of final determinations that will require DOE to move forward with construction and operation of a tank waste treatment complex, retrieve wastes from DOE's leaking single shell tanks in a timely manner, and ensure compliance with LDRs in a manner that conforms to hazardous waste law, the Federal Facility Compliance Act, and the HFFACO."

Subsequent actions by the parties over the ensuing weeks included an additional short term extension for the issuance of a Final Determination in this matter through March 15, 2000³⁶, and Ecology's receipt of a DOE counterproposal rejecting much of Ecology and EPA's January 12, 2000 LDR Resolution of Dispute³⁷.

With no agreement reached by March 15, 2000, Ecology prepared for issuance of a final determination in this matter. However, late in the day on March 15, Ecology was notified that Secretary Richardson's Chief of Staff had requested yet another extension by telephone call to Governor Locke's staff. As a result of this request Ecology granted extension through March 29, 2000 in hopes that agreement could be reached³⁸. Following this final extension, Ecology coordinated a revised LDR "Resolution of Dispute" with EPA staff, and offered it to DOE on March 23, 2000³⁹. No substantive response from DOE has been received. However, on March 28 2000 DOE requested in writing, an additional extension, through November 30, 2000.

³⁵ Letter, RE: Hanford tank waste treatment negotiations and associated Land Disposal Restrictions Dispute under the Hanford Federal Facility Agreement and Consent Order (HFFACO), Tom Fitzsimmons, Director, Washington Department of Ecology to Chuck Clarke, Regional Administrator, U. S. EPA Region 10, January 31, 2000.

³⁶ "Extension of Period for Issuance of Final Determinations", Tom Fitzsimmons, Director, Ecology; Richard T. French, Manager, USDOE, Office of River Protection; Keith A. Klein, Manager, USDOE, Richland Field Office; and Chuck Clarke, USEPA Regional Administrator, Region 10, February 14, 2000.

³⁷ DOE redline/strikeout "RESOLUTION OF DISPUTE Regarding the U. S. Department of Energy's (DOE) compliance with Land Disposal Restriction requirements of Washington State's Hazardous Waste Management Act (HWMA) and the federal Resource Conservation and Recovery Act (RCRA), DOE's annual Land Disposal Restrictions Report, and Hanford Federal Facility Agreement and Consent Order (HFFACO) milestone series M-26-01." delivered by hand, George Sanders, DOE to Roger Stanley, Ecology, March 2, 2000.

³⁸ "Extension of Period for Issuance of Final Determinations", Tom Fitzsimmons, Director, Ecology; Richard T. French, Manager, USDOE, Office of River Protection; Keith A. Klein, Manager, USDOE, Richland Field Office; and Chuck Clarke, USEPA Regional Administrator, Region 10, March 15, 2000.

³⁹ "RESOLUTION OF DISPUTE Regarding the U. S. Department of Energy's (DOE) compliance with Land Disposal Restriction requirements of Washington State's Hazardous Waste Management Act (HWMA) and the federal Resource Conservation and Recovery Act (RCRA), DOE's annual Land Disposal Restrictions Report,

IV. Findings and Final Determination

Findings regarding specific dispute elements noted within DOE's
August 18, 1999 "Statement of Dispute" (S.O.D.):

- **S.O.D. statements 1, 2, 3 and 4:** (1) "RL believes the alleged violations, concerns, and corrective measures directed by Ecology's (*June 3, 1999*) letter to be actions that are under the purview of the Tri-Party Agreement." (2) "RL believes that the appropriate mechanisms for disposition of corrective actions related to completion of Tri-Party Agreement requirements properly lie within the Agreement itself." (3) "It is RL's position that, by the terms of the TPA, Ecology's allegations of noncompliance with LDR requirements are premature, irrespective of potential merit." and (4) "The issuance of an NOC is inappropriate at this time because Ecology has not met the requirements of the TPA Action Plan, Section 9.2.1 regarding timely and specific communication to RL to address issues or evaluate potential deficiencies within the LDR Report".

Finding: Ecology agrees that resolution of this dispute pursuant to HFFACO Action Plan Section 9.2.1 (Primary Documents) is desirable ⁴⁰.

- **S.O.D. statements 5 and 6:** (5) "The LDR Report has been prepared and submitted annually, as a primary document, in a timely manner, consistent with the required content." and (6) "RL has complied with TPA requirements regarding format, content, and comment response for the annual LDR Report."

Finding: DOE has submitted its annual LDR Report, and has processed comments received in a timely manner. However, Ecology and EPA have disagreed with DOE on issues including but not limited to DOE compliance as to LDR Report content. For example, a principle objective of DOE's annual report is to report, for each mixed waste covered, "activities planned and taken in accordance with the LDR Plan and prior LDR Reports to achieve full compliance with LDR requirements" (See M-26-01I). The LDR Plan requirements indicate that the annual report shall include DOE's assessment of its compliance status for each mixed waste. DOE's annual reports include little information in this regard, i.e., information clearly and completely reporting DOE compliance status against established requirements.

- **S.O.D. statement 7:** "The detailed requirements associated with M-26 are not driven by specific regulations, but are instead governed by the language of the document *Requirements for the Hanford LDR Plan* signed by EPA and Ecology, and the language of the M-26 milestone itself."

Finding: This statement is incorrect in that the document *Requirements for Hanford LDR Plan*, and HFFACO requirements including HFFACO treatment schedules and the requirements of milestone series M-26-01 are driven by the requirements of Federal and State hazardous waste

⁴⁰ and Hanford Federal Facility Agreement and Consent Order (HFFACO) milestone series M-26-01." delivered by hand, Roger Stanley, Ecology, to George Sanders, DOE, March 23, 2000.
By agreeing to resolve issues associated with this dispute pursuant to HFFACO Action Plan Section 9.2.1, Ecology does not waive its authority to enforce future LDR deficiencies without first employing HFFACO dispute resolution procedures.

law, including RCRA, RCRA LDR, and *Washington's Hazardous Waste Management Act (HWMA)*. In addition, as has been previously noted, HFFACO requirements at DOE Hanford facilities subject to RCRA "...are RCRA statutory requirements and are thus enforceable by the Parties." (Article X, paragraph 41).

- **S.O.D. statement 8:** "...Ecology has made no effort to use the TPA change process to seek to incorporate modifications to clarify/amend its expectations for the Hanford LDR Plan."

Finding: This statement is incorrect in that Ecology has repeatedly requested modification of HFFACO milestone M-26-01 series requirements as they pertain to DOE's annual LDR Report (These requests have been made within the context of the Parties' tank waste treatment complex requirements dispute). Ecology's most recent proposal in this regard can be found at its change request M-26-00-01 dated March 22, 2000. Modification of HFFACO milestone series M-26-01 is addressed by Ecology and EPA's Final Determination regarding HFFACO tank waste treatment requirements, also dated this 29th day of March 2000⁴¹.

Summary: Since receiving the responsibility for ensuring DOE compliance with LDR and their associated HFFACO milestone M-26-00 series requirements, Ecology has repeatedly attempted to obtain DOE recognition of the magnitude and gravity of its mixed waste LDR compliance responsibilities. Year to year, Ecology has been either rebuffed, or has received DOE responses apparently based largely on avoidance of accountability, workscope minimization, and cost. DOE has failed to recognize that this dispute centers on its responsibility to avoid extended storage of mixed wastes, to develop necessary mixed waste treatment technologies, and to treat its mixed wastes to applicable standards on timely schedules established as part of the HFFACO in a manner equivalent to FFCA STPs.

Timely action in this matter is necessary to achieve compliance with State and Federal hazardous waste law, and to adequately respond to risks that DOE's mixed wastes pose to the environment and human health.

Consequently, in light of the Administrative Record and the findings outlined above, and in an effort to ensure safe and timely DOE compliance with RCRA, Washington's HWMA and their respective Land Disposal Restrictions in a manner equivalent to compliance with the provisions of the FFCA, my Final Determination in this matter is as follows:

1. DOE's request for an additional extension is hereby denied. DOE's March 2, 2000 proposal in this matter is unacceptable in that it would not resolve disagreements between the parties regarding the adequacy of DOE's annual LDR Report and HFFACO requirements including the identification of DOE's mixed wastes, the assessment of storage facility compliance status, provisions for the submission of requests for extensions, variances, and/or exemptions in

⁴¹ Final Determination pursuant to the Hanford Federal Facility Agreement and Consent Order (HFFACO) in the matter of Hanford site high-level radioactive tank waste treatment capacity acquisition, tank waste treatment and associated tank waste regulatory requirements, Tom Fitzsimmons, Director, Washington Department of Ecology and Chuck Clarke, Administrator, U. S. Environmental Protection Agency, Region 10, March 29, 2000.

accordance with RCRA and applicable regulations, waste characterization, waste minimization, treatment planning and reporting, compliance status reporting, and the establishment of schedule and associated requirements necessary for DOE to achieve timely compliance with Federal and State hazardous waste requirements.

Specific elements of DOE's March 2, 2000 proposal (proposal) contributing to its unacceptability include but are not limited to the following:

- a). DOE's proposal does not resolve issues between the Parties regarding wastes to be included within DOE's annual LDR Report. One of the State's primary concerns in recent years has been its concern that DOE has not identified or included all wastes that must be identified and included within its annual LDR Report. Ecology clarified requirements in this regard within its January 25, 2000 letter to DOE⁴². DOE's proposal does not recognize or commit to the inclusion of each of these wastes. Inclusion is necessary to ensure compliance and appropriate management of these wastes.
- b). DOE's proposal does not require the identification and inclusion of each mixed waste. Under DOE's proposal Ecology would not be assured that all individual waste accumulations have been identified by their location, and included, or that associated storage facility compliance has been, or is being assessed. Identification and inclusion of all mixed wastes by current location is necessary to ensure compliance and appropriate management of these wastes.
- c). DOE's proposal is drafted such that Ecology and EPA's 1990 "Requirements for Hanford LDR Plan" would be superseded. Doing so would in effect delete longstanding commitments between the Parties. DOE has offered no explanation for this proposal element.
- d.) DOE's proposal would have DOE submit no year 2000 LDR Report despite HFFACO requirements to the contrary. Doing so would likely result in further delay of significant DOE action to comply with LDR and HFFACO requirements.
- e.) DOE's proposal strikes Ecology proposed language requiring that DOE identify wastes that have been sufficiently characterized for purposes of assigning waste and designation codes and for identifying applicable LDR treatment standards. This information is necessary to assure that DOE has sufficient knowledge of its waste streams, and that compliance with LDR and HFFACO requirements is achieved in a timely manner.
- f.) DOE's proposal strikes Ecology proposed language requiring that each annual LDR Report include documentation as to whether or not DOE has completed sufficient work to allow for continued compliance with LDR and associated HFFACO requirements. This requirement

⁴² Letter: Response to request for clarifications and third request for documents pertaining to the *Federal Facility Compliance Act of 1992* (FFCA), DOE compliance with RCRA Land Disposal Restrictions, and its compliance with Hanford Federal Facility Agreement and Consent Order (HFFACO) milestone series M-26, Roger Stanley (Ecology) to George H. Sanders (DOE), January 25, 2000.

goes to the core of the purpose of the annual LDR Report, i.e., documenting DOE compliance status on a year to year basis.

2. Further negotiations between the Parties in these matters are not likely to result in timely resolution.
3. DOE shall perform and complete all work necessary to comply with the terms of this Final Determination as follows⁴³:

A. Final Determination regarding issues raised within Ecology's June 3, 1999 NOC⁴⁴:

1.) NOC "Violation #1": Failure to accurately identify and describe, by quantity and physical location, all mixed waste stored at Hanford:

DOE's annual LDR Report is required to include a Storage Report which contains but is not limited to⁴⁵ the identification and description of each mixed waste at Hanford; the quantity of each mixed waste identified; and a description of the physical location of each identified mixed waste accumulation. Ecology has cited DOE and its contractors for failure to meet this HFFACO M-26-01 requirement.

Final Determination: DOE's annual LDR Reports will include a Storage Report that identifies and describes each mixed waste at Hanford. This information will contain the following information for each identified mixed waste (whether or not that waste was included within the previous years LDR Report):

- a. A specific identification and description for each and all mixed wastes at Hanford.
- b. RCRA hazardous waste code(s), and "state only" waste designation(s).
- c. Information necessary for waste identification and Land Disposal Restriction (LDR) determinations, including a history of how the waste was generated, the source of the hazardous constituents and LDR treatment standards that apply including underlying hazardous constituents (UHC), how the waste was managed prior to storage, and a general timeframe determination which serves to categorize when the waste was placed in storage,
- d. Radioactivity type (i.e., high-level waste, low-level waste, transuranic waste),
- e. Physical form of the waste (e.g., solid, liquid, sludge),
- f. The quantity of each waste identified,
- g. The physical location and method of storage (if applicable) for each waste identified (e.g., container, tank, surface impoundment, waste pile), including a list of areas permitted for storage of these wastes,
- h. The results of DOE's assessment of the compliance status of the storage methods pursuant to applicable State and Federal standards (See also text on compliance assessment requirements at (A) (2),

⁴³ See also HFFACO, Article VIII, paragraph 30(I).

⁴⁴ Note: The parties have agreed that NOC violation #4 is a matter not subject to this dispute and will be processed independent of the HFFACO.

⁴⁵ See "Requirements for Hanford LDR Plan", Paul T. Day, U. S. Environmental Protection Agency, Region 10, and Timothy L. Nord, Washington Department of Ecology, April 10, 1990.

- i. Identification of any releases of hazardous waste or hazardous constituents into the environment from these storage units,
- j. Identification of LDR waste generation rates [on a annual basis, or as otherwise requested by Ecology or EPA], estimates of the storage capacity for each waste, the identification of when storage capacity will be reached, and the identification of the bases and assumptions used in making these estimates,
- k. Notification of DOE plans (if necessary) to submit requests for variance(s), case-by-case extension(s) of LDR requirements, or other exemptions pursuant to Section 3004 of RCRA or State requirements, for each identified waste stream.

These requirements are expressly required by Ecology and EPA's April 10, 1990 Requirements for Hanford LDR Plan.

Further clarifications regarding this and the following Final Determination elements: (1)

DOE's annual LDR Reports will include all mixed waste types identified as required for inclusion within Ecology's January 25, 2000 "Response to DOE Request for Clarifications", and (2) Identification of mixed wastes by location will be by actual current location, i.e., location, accurate to within one hundred twenty (120) days of annual Report issuance.

2.) **NOC "Violation #2"**: Failure to adequately assess the compliance status of storage methods pursuant to applicable State and Federal standards.

DOE's annual LDR Report is required to include a DOE assessment of the compliance status of mixed waste storage methods pursuant to applicable State and Federal standards. Ecology has cited DOE and its contractors for failure to meet this HFFACO M-26-01 requirement.

Final Determination: Within sixty (60)-days of Issuance of this Final Determination, DOE will provide written notification of specific organizational units tasked with the responsibility to perform these required storage method compliance assessments. This notification will include specific schedules for the performance of these assessments at each (mixed waste) storage location, and a copy of DOE's written procedure to be used in assessing the compliance status of mixed waste storage methods (e. g., satellite storage, ninety (90)-day storage, interim status storage, and final status facility storage) per State and Federal regulations and Section 1.d. of the Requirements for Hanford LDR Plan. This procedure will include, but is not limited to, WAC 173-303 requirements for storage (as a generator, interim status facility, or final status facility), including by reference, WAC 173-303-400 and interim status storage requirements set forth in 40 CFR Part 265. In developing these schedules and procedures, DOE will provide Ecology review and comment opportunity.

These requirements are necessary to assure Ecology that DOE has a reasonable basis for assessing storage facility compliance or noncompliance.

DOE's LDR Reports, beginning with its year 2001 Report, will include the results of all of these storage method compliance assessments (See also requirements for DOE's year 2000 LDR Report).

3.) NOC “Violation #3”: Failure to submit an adequate Treatment Plan pursuant to “Requirements for Hanford LDR Plan” and HFFACO requirements.

DOE’s annual LDR Report is required to include a treatment plan for the LDR wastes identified in the Treatment and Storage Reports. The treatment plan will include HFFACO “...milestones and associated schedules for the development and implementation of treatment technologies that will result in all LDR wastes being treated to the applicable standard or otherwise managed in accordance with LDR requirements.” (Requirements for Hanford LDR Plan, April 1990). Ecology has cited DOE and its contractors for failure to meet this requirement.

Final Determination: DOE’s annual LDR Reports, after DOE and Ecology approval, and beginning with its year 2001 Report, will constitute its updated Treatment Plan and Report, and as such shall identify all HFFACO milestones in effect and associated schedules pertinent to the development and implementation of treatment technologies for each Hanford LDR waste. For all known LDR wastes not yet covered by the Report (or for which schedules meeting the requirements of this Final Determination have not yet been established), the updated Treatment Plan and Report will propose milestones and associated schedules for incorporation and establishment according to HFFACO Action Plan Section 12.0. The annual Treatment Plan and Report will be based on the universe of LDR waste identified in compliance with the requirements of this Final Determination, and must include the following for each waste identified:

- 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.
- c. For all cases where DOE proposes radionuclide separation of mixed wastes, or materials derived from mixed wastes, it shall provide an estimate of the volume of waste generated by each case of radionuclide separation, the volume of waste that would exist or be generated without radionuclide separation, the estimated costs of waste treatment and disposal if radionuclide separation is used compared to the estimated costs if it is not used, and the assumptions underlying such waste volume and cost estimates.

These requirements are equivalent to those set forth in the FFCA, 42 U.S.C. § 6939c.

DOE’s annual LDR Reports, beginning with its year 2001 Report, will also include an updated **Waste Characterization Plan** that documents whether or not mixed wastes have been sufficiently⁴⁶ characterized (along with a notation of data location), and a plan and schedule for the characterization of remaining Hanford mixed wastes. DOE’s Waste Characterization Plan will be based on the universe of LDR wastes identified after completion of actions required in this Final

⁴⁶ As utilized here, the term sufficiency is defined as sufficient for purposes of assigning waste and designation codes and identifying applicable LDR treatment standards (See also, text at (A) (1) (c).

Determination to meet the Requirements of the Hanford LDR Plan, and must include the following for each waste identified:

- a. Documentation of existing plans and schedules for characterizing identified mixed wastes generated and/or stored at Hanford, including an inventory of each mixed waste identified that has not been sufficiently characterized by sampling and analysis.
- b. Proposed plan(s) and schedule(s) to sufficiently characterize identified mixed wastes generated and/or stored at Hanford, including an inventory of each mixed waste identified that has not been sufficiently characterized by sampling and analysis.

On approval, such plan(s) and schedule(s) shall be implemented as approved HFFACO primary document requirements.

The waste characterization portion of DOE's annual Report shall delineate the steps necessary to confirm which waste streams are subject to LDR prohibitions and restrictions. Characterization results shall be reported to Ecology as they become available.

B. Additional Final Determinations associated with annual LDR Report purpose, relationship to the HFFACO, design, content, and processing:

Annual LDR Report Purpose and Relationship to the HFFACO:

- a. The annual LDR Report will serve as DOE's unified document identifying and describing all Hanford site mixed wastes.
- b. On approval by DOE and Ecology, the annual LDR Report will be published as a primary document under the HFFACO, reflecting its requirements, reporting DOE compliance status, proposing necessary (new waste stream) additions, and supporting HFFACO equivalency to FFCA STPs.
- c. The annual LDR Report will serve as the unified site-wide document detailing information required by Ecology and EPA in their April 10, 1990 "Requirements for Hanford LDR Plan" as clarified by this Final Determination. In this regard, the annual LDR Report will constitute DOE's updated LDR Plan and Report each year, documenting pertinent plans, actions, and schedules necessary for DOE to comply with LDR and associated HFFACO RCRA requirements. As such, the annual LDR Report will, for each mixed waste identified, report DOE actions planned and taken to achieve and maintain full compliance with LDR and associated HFFACO requirements in effect (i.e., as of date of Annual Report issuance). Each waste stream specific report shall include a statement by DOE documenting whether or not "DOE has completed sufficient work to allow for continued compliance as it progresses to meet HFFACO major and interim milestone requirements". The annual LDR Report will also serve as the yearly updating and reporting mechanism for DOE's storage method compliance assessment, DOE's LDR Treatment Plan, and DOE's Waste Characterization Plan.
- d. The annual LDR Report will serve as an annual vehicle for DOE to propose schedules for newly discovered or to be generated mixed wastes not yet covered by the Report or the HFFACO, and

- e. for the modification of current HFFACO schedules as necessary to achieve compliance with LDR treatment requirements in a manner equivalent to STPs as required by the FFCA.

Note that in this regard; though necessary new schedules are to be proposed within DOE's annual LDR Report, approval and establishment of such schedules will be pursuant to HFFACO Action Plan Section 12.0 processes.

- f. Annual LDR Reports will be submitted as a primary document pursuant to HFFACO milestone series M-26-01 and processed as a primary document pursuant to HFFACO Action Plan Section 9.2.1. The cover page of DOE's annual LDR Report shall contain the statement

"This document has been prepared, submitted, revised and approved as a primary document in response to the requirements of HFFACO milestone series M-26-01 and related RCRA Land Disposal Restriction (LDR) and HFFACO requirements. As such, this document serves as a binding and enforceable document under the HFFACO."

Approval of DOE's annual LDR Report as a HFFACO primary document shall be by written approval of DOE and Ecology IAMIT representatives (Signature blocks to follow the above statement).

C. Final Determination regarding the submittal of DOE's year 2000 Report.

DOE's year 2000 submittal shall be an interim report documenting known information (all categories), and detailing actions taken by DOE to fully comply with the requirements of this determination.

Approved and issued this _____ day of March 2000.

(Original signed by T.F.)

Tom Fitzsimmons, Director
Washington Department of Ecology
(As issuing Agency)

(Original signed by C.C.)

Chuck Clarke, Administrator
U. S. Environmental Protection Agency, Region 10
(As oversight Agency in support of issuance)