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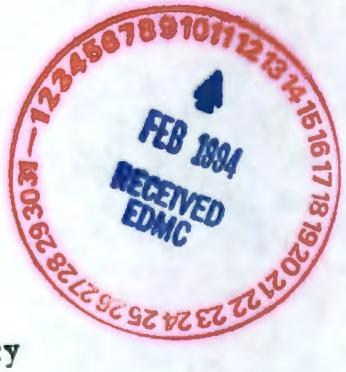
Hanford Federal Facility Agreement and Consent Order

Fourth Amendment

January 1994

by

Washington State
Department of Ecology



United States
Environmental Protection Agency

United States
Department of Energy

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
AND THE
STATE OF WASHINGTON DEPARTMENT OF ECOLOGY

IN THE MATTER OF:	)	
	)	FOURTH AMENDMENT OF
The U.S. Department of Energy,	)	HANFORD FEDERAL FACILITY
Richland Operations Office,	)	AGREEMENT AND CONSENT ORDER
Richland, Washington	)	
	)	EPA Docket Number: 1089-03-04-120
Respondent	)	Ecology Docket Number: 89-54

In accordance with Article XXXIX of the Hanford Federal Facility Agreement and Consent Order ("Agreement") the Parties hereto agree to the attached amendments to the Agreement.

The approval of this Amendment further constitutes approval of the following Agreement change requests which are attached as part of this Amendment.

M-13-93-03	M-35-93-01
M-13-93-06	M-40-93-01
M-13-94-01	M-41-93-01
M-15-93-02	M-42-93-01
M-15-93-04	M-43-93-01
M-16-93-01	M-44-93-01
M-16-93-02	M-45-93-01
M-16-93-03	M-46-93-01
M-26-93-01	M-50-93-01
M-32-92-01	M-51-93-01
M-33-93-01	M-60-93-01
M-34-93-01	M-70-93-01

Modifications to the Agreement are indicated in the following manner:

~~Language removed from the text of the Agreement is displayed in strikeout mode.~~

Language added to the text of the Agreement is displayed in shaded mode.

Following approval of this Amendment the articles and paragraphs of the Agreement shall be renumbered and relettered to incorporate Amendment four. Further, all references and citations contained within the Agreement which cross reference articles, or paragraphs, or sections of the Agreement shall be updated to reflect the renumbering and relettering resulting from Amendment four.

Change Number	Federal Facility Agreement and Consent Order Change Control Form	Date
M-51-93-01	Do not use blue ink. Type or print using black ink.	Jan. 25, 1994

Originator W. C. Miller Phone (509) 372-0255

Class of Change

[X] I - Signatories [ ] II - Project Manager [ ] III - Unit Manager

Change Title

Establish milestones for immobilization of high level tank waste

Description/Justification of Change

New milestones for immobilizing high level waste resulting from processing Hanford tank waste are being established to reflect the results of Tank Waste Remediation System rebaselining by the DOE, negotiations among the three parties to the Tri Party Agreement, and values received from the public, stakeholders and other affected parties. These changes reflect the shift in emphasis from early treatment of waste currently stored in double-shell tanks to early retrieval of waste from older single-shell tanks and, in the near term, treatment and disposal of the low-level fraction of the Hanford tank waste. Treatment and disposal of high level waste is not a near-term, critical path activity for retrieval of waste from the single-shell tanks and closure of the single-shell tank farms. High level waste treatment and disposal will be a critical path activity for completion of the tank waste treatment program. The shift in priority for high level waste treatment allows the deferral of this component of the overall treatment and disposal system until appropriate designs are developed based on this revised strategy. The following milestones and target dates are established for this activity:

M-51-00 Complete vitrification of Hanford high level tank waste December 2028

(Continued on next page)

Impact of Change

This change eliminates the M-03 series of milestones for the Hanford Waste Vitrification Plant and establishes a new series (M-51) for high level waste vitrification.

Affected Documents

Hanford Federal Facility Agreement and Consent Order Action Plan, Appendix D

Approvals X Approved _Disapproved

This change form approved by Amendment Four to the Hanford Federal Facility Agreement and Consent Order executed by the signatories on January 25, 1994.

John Wagoner DOE	January 25, 1994 Date
Gerald Emison EPA	January 25, 1994 Date
Mary Riveland Ecology	January 25, 1994 Date

M-51-01 Provide report to Ecology and EPA on evaluation of alternative concepts for treatment and disposal of high level Hanford tank wastes. December 1994

Some innovative approaches, such as privatization of the high-level waste vitrification facility, have recently been proposed which may have significant schedule, cost, or environmental advantages which could improve the new program strategy.

Options may be identified which have the potential to significantly improve the tank waste disposal strategy. A systems engineering approach will be used to define and evaluate the options. This evaluation is not intended to provide options which marginally improve the reference strategy. Options which maintain or enhance environmental conditions and 1) significantly improve reference case schedules or 2) substantially reduce cost while maintaining or improving reference case schedules will be proposed through the approved change control process.

M-51-01-T01 Provide EPA and Ecology with results of evaluation and a decision to proceed/not proceed with the ECA proposal for vitrification. June 1994

M-51-02 Complete melter tests and select reference melter September 1998

This milestone will provide confirmation that melter development has successfully produced a melter compatible with the sludge pretreatment technology to be deployed (see milestone M-51-03) and will complete processing in the required timeframe.

M-51-03-T01 Submit conceptual design (to include selected capacity and process) of HLW vitrification facility September 1998

M-51-03-T02 Initiate definitive design of the HLW vitrification facility December 1998

M-51-03-T03 Initiate construction of the HLW vitrification facility June 2002

M-51-03-T04 Complete construction of the HLW vitrification facility December 2007

M-51-03 Initiate hot operations of the HLW vitrification facility December 2009

This strategy is based on the following:

Sludge washing and enhanced sludge washing will result in the production of a "reasonable" volume of HLW or number of HLW containers requiring repository disposal such that other established sludge treatment processes will not result in significant overall cost savings or schedule improvements.

Change Number	Federal Facility Agreement and Consent Order Change Control Form	Date
M-50-93-01	Do not use blue ink. Type or print using black ink.	Jan. 25, 1994

Originator W. C. Miller Phone (509) 372-0255

Class of Change
[X] I - Signatories [ ] II - Project Manager [ ] III - Unit Manager

Change Title
Establish milestones for tank waste pretreatment

Description/Justification of Change
New milestones for pretreating waste from Hanford tanks are being established to reflect the results of Tank Waste Remediation System rebaselining by the DOE, negotiations among the three parties to the Tri Party Agreement, and values received from the public, stakeholders and other affected parties. These changes will allow the limited development of advanced separations technology, if needed, while implementing simpler methods, such as cesium ion exchange, in the near term. The strategy is based on the need to provide suitable feed streams to the low level and high level waste treatment (vitrification) facilities. The following milestones and target dates are established for this activity:

M-50-00 Complete pretreatment processing of Hanford tank waste December 2028

(Continued on next page)

Impact of Change
This change eliminates the M-02 and M-04 series of milestones for the pretreatment of double shell tank wastes and establishes a new series (M-50) for pretreatment of double-shell and single-shell tank waste

Affected Documents
Hanford Federal Facility Agreement and Consent Order Action Plan, Appendix D

Approvals X Approved ___Disapproved

This change form approved by Amendment Four to the Hanford Federal Facility Agreement and Consent Order executed by the signatories on January 25, 1994.

John Wagoner — DOE — January 25, 1994 — Date

Gerald Emison — EPA — January 25, 1994 — Date

Mary Riveland — Ecology — January 25, 1994 — Date

M-50-01	Start construction of LLW pretreatment facility	November 1998
M-50-01-T01	Issue reports on cesium removal performance of Resorcinol and CS-100 resins on multiple feeds	December 1994

This milestone will report Hanford progress on laboratory testing with Resorcinol and CS-100 resins for cesium removal. Based on the laboratory results, WHC will prepare preliminary Cs ion exchange flowsheets on multiple waste streams, which will include DSSF and NCAW supernatants. These flowsheets will reflect the preliminary requirements of the low level waste pretreatment facility.

M-50-01-T02	Submit conceptual design and initiate definitive design of LLW pretreatment facility	December 1996
M-50-02	Start hot operations of LLW pretreatment facility to remove cesium and strontium	December 2004
M-50-02-T01	Complete construction of LLW pretreatment facility	December 2003
M-50-03	Complete evaluation of enhanced sludge washing to determine whether advanced sludge separation processes are required	March 1998

The performance of sludge washing and related tank waste sludge pretreatment methods will be evaluated to determine if these processes will be capable of satisfying criteria which will be established by the three parties prior to the milestone date. The criteria will include such items as volume of HLW resulting from pretreatment, compatibility with HLW and LLW treatment processes, and processing rates. For example, sludge washing and enhanced sludge washing must result in the production of a "reasonable" volume of HLW requiring repository disposal such that other established sludge treatment processes will not result in overall cost savings or schedule improvements. If the predicated performance does not meet the criteria, the need for more advanced sludge separations processes will be re-examined and changes to the HLW program will be proposed accordingly. Key elements of this evaluation include:

- Pretreatment process testing will use actual tank waste. These tanks will be chosen to represent the expected range of sludge composition. Candidate processes are those, such as water washing, caustic washing, and selective leaching, which do not require complex processing systems and which can be implemented within tanks or relatively simple facilities.

- Develop candidate tank treatment and blending sequences to minimize the volume of immobilized HLW.

- Model system performance to predict the volumes of immobilized HLW produced and processing rates for candidate pretreatment processes.

- Assess the uncertainties related to the HLW volume predictions.

M-50-03A Define Additional Milestones for waste pretreatment leading to the decision whether advanced sludge separation processes are required (M-50-03). — September 1994

The decision of whether advanced sludge separation processes are required will need the development of information from several TWRS functions (Pretreatment, HLW Treatment, LLW Treatment, and Retrieval) to determine if enhanced sludge washing performs satisfactorily, or if advanced sludge separation processes are required. Some interim information to be included on this schedule may include the development of criteria defining what HLW glass volume is acceptable, the development of the decision-making method; and the schedule to evaluate the performance of enhanced sludge washing and the acceptance of the criteria and decision method by the interested parties. This milestone will be satisfied with the development of a schedule leading to the decision. Based on this schedule, additional milestones will be proposed to lead to the completion of milestone M-50-03.

M-50-03-T01 Issue report on current status of tank waste enhanced sludge washing — October 1994

This milestone will report Hanford progress in enhanced sludge washing. Included in the scope of this milestone will be the issuance of a plan that will define the tests to be performed on Hanford tank sludges. In addition, the enhanced sludge washing laboratory test results on Hanford sludges completed through the third quarter of the fiscal year will be presented with expected impacts on High Level Waste Vitrification. These impacts will be illustrated in a summary of HLW glass volume projections for all Hanford waste types. Finally, the status and results of computer modelling of sludge washing of tank wastes will be presented.

M-50-03-T02 Submit a report summarizing the testing of enhanced sludge washing and related tank waste sludge pretreatment methods for samples of tank waste sludge — Sept. 1995 (And annually through 1997)

Perform testing of enhanced sludge washing and related tank waste sludge pretreatment methods using actual tank waste samples. Document and issue results of testing completed to that time.

This annual report will also document preliminary candidate tank waste pretreatment and preliminary immobilization sequences and tank blending strategies. Goals for both early progress on waste immobilization and minimization of the production of high level glass will be addressed in these strategies. These preliminary strategies will be utilized to predict the production of high level waste glass associated with candidate enhanced sludge washing and related tank waste sludge pretreatment methods. The prediction of the HLW glass volume production will be updated.

M-50-04	Start hot operations of HLW pretreatment facility	June 2008
M-50-04-T01	Submit conceptual design of HLW pretreatment facility	March 1998
M-50-04-T02	Initiate definitive design of HLW pretreatment facility	November 1998
M-50-04-T03	Start construction of HLW pretreatment facility	June 2001

The strategy for the pretreatment of Hanford tank waste is based on the following:

- Separate complexes will be constructed to house enhanced sludge washing and cesium and strontium ion exchange processes. An evaporator will be included in the LLW pretreatment complex. These complexes could be stand-alone facilities, a set of distributed facilities, or part of a central processing complex.

- System configuration will be established in the conceptual design report. The performance of LLW (saltcake and supernatant) pretreatment processes will be evaluated to assure that their capability will match the system needs for radionuclide separations, capacity and timing. The objective of this evaluation will be to verify that an adequate level of radionuclide removal can be achieved to meet the low shielding requirements of the LLW treatment facility and that pretreatment does not detrimentally impact the LLW waste form. The evaluation will also assure that adequate pretreatment capacity can be achieved to complete processing in the required time frame.

- Implementation of removal processes for long-lived radionuclides and organic destruction is not planned. Limited development of selected organic destruction and advanced separations processes will continue as a contingency until requirements are better defined.

- Sludge washing may be performed within the double-shell tanks. Waste blending will be performed to increase waste loading in the high- and low-level waste forms to the degree that tank space and multiple retrieval systems are available.

- Tank safety issues will be mitigated as required using in-situ methods, such as mixer pumps in DST flammable gas tanks, or by retrieval and dilution of the wastes. Development of selected organic destruction processes for safety issue resolution will continue as a contingency until it is demonstrated that these processes are not required to achieve an adequate level of safety in the tanks.

- This facility will be granted interim status to allow construction. A final dangerous waste permit will be required prior to initiation of hot operations. Prior to construction, DOE will be required to obtain the necessary air permits and obtain a letter from Ecology authorizing construction. This authorization will be based on Ecology's ongoing review of the facility design to ensure compliance with appropriate environmental regulatory requirements.

Change Number	Federal Facility Agreement and Consent Order Change Control Form Do not use blue ink. Type or print using black ink.	Date
M-60-93-01		Jan. 25, 1994

Originator W. C. Miller Phone (509) 372-0255

Class of Change

[X] I - Signatories [ ] II - Project Manager [ ] III - Unit Manager

Change Title

Establish milestones for immobilization of low level tank waste

Description/Justification of Change

New milestones for the immobilization of low level waste resulting from processing Hanford tank waste are being established to reflect the results of Tank Waste Remediation System rebaselining by the DOE, negotiations among the three parties to the Tri Party Agreement, and values received from the public, stakeholders and other affected parties. This change request embodies the decision to implement a glass low level waste (LLW) form and to design, construct and operate a LLW vitrification facility. The DOE will maintain in a standby condition the capability to restart the grout facility if its operation is necessary before new double shell tanks are available to provide tank space to resolve safety issues. Treatment and disposal of low level waste is considered to be a critical path item for retrieval of waste from the single-shell tanks and closure of the single-shell tank farms. The following milestones and target dates are established for this activity:

M-60-00	Complete vitrification of Hanford low level tank waste	December 2028
M-60-01	Begin LLW melter testing with simulants	September 1994

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Impact of Change

This change eliminates the M-01 series of milestones for Grout operations and establishes a new series (M-60) for low level waste vitrification.

Affected Documents

Hanford Federal Facility Agreement and Consent Order Action Plan, Appendix D

Approvals X Approved ___Disapproved

This change form approved by Amendment Four to the Hanford Federal Facility Agreement and Consent Order executed by the signatories on January 25, 1994.

John Wagoner — DOE — January 25, 1994 — Date

Gerald Emison — EPA — January 25, 1994 — Date

Mary Riveland — Ecology — January 25, 1994 — Date

Description/Justification of Change, continued

M-60-01A	Define and issue LLW simulant recipe (and basis) for initial melter tests	May 1994
M-60-01-T01	Award contract with first vendor to conduct LLW melter tests with simulants	June 1994
M-60-02	Complete melter feasibility and system operability tests, select reference melter(s), and establish reference LLW glass formulation which meets complete system requirements	June 1996
M-60-03	Submit conceptual design and initiate definitive design of the LLW vitrification facility	November 1996
M-60-03-T01	Submit Facility Options Engineering Study	June 1994
	This study will include an evaluation of worker radiation exposure, radionuclide separation, in-process storage, and shielding requirements.	
M-60-04	Initiate construction of the LLW vitrification facility	December 1997
M-60-05	Initiate hot operations of the LLW vitrification facility	June 2005
M-60-05-T01	Complete construction of the LLW vitrification facility	December 2003

The strategy for LLW treatment is based on the following:

- Early melter development tests will demonstrate the viability of vitrification as a suitable tank low-level tank waste treatment.
- Operation of LLW vitrification will use pretreated double-shell slurry feed as early feed, as well as SST saltcake.
- As part of conceptual design, a LLW vitrification facility radiation shielding requirement will be established, predicated upon removal of cesium and strontium from the tank waste by the pretreatment function.
- The LLW immobilization facility will be designed based upon testing using simulants, lab and bench-scale testing of radioactive waste samples, and cold testing of facility components. A hot pilot plant will not be required for verification of design concept.
- The LLW immobilization facility will use industrial, high throughput melter(s).
- This facility will be granted interim status to allow construction. A final dangerous waste permit will be required prior to initiation of hot operations. Prior to construction, DOE will be required to obtain a letter from Ecology authorizing construction. This authorization will be based on Ecology's ongoing review of melter development and facility design to ensure compliance with appropriate environmental regulatory requirements.

Change Number	Federal Facility Agreement and Consent Order Change Control Form	Date
M-46-93-01	Do not use blue ink. Type or print using black ink.	Jan. 25, 1994

Originator Glenn R. Konzek, DOE-RL Phone (509) 376-8399

Class of Change

[X] I - Signatories [ ] II - Project Manager [ ] III - Unit Manager

Change Title

Future Double Shell Tank Capacity Needs

Description/Justification of Change

The current M-31-02 milestone calls for the evaluation of future tank requirements needed to support the remediation of tank wastes. The TWRS Waste Volume Projection Report, updated regularly, provides a projection of double shell waste tank capacity needs and timing based on a myriad of assumptions and integrated schedules at the time of development (e.g., treatment, evaporation, retrieval, etc.). The Waste Volume Projection Report provides one of the basic foundation to which DOE justifies future tank needs. Therefore, this milestone creates a vehicle to which the Regulators and DOE can discuss annually future tank storage requirements.

This change request also documents the separation of future double shell tank projects from the M-42 series milestones. The M-42 series milestones are dedicated to the Multi-Function Waste Tank Facility, Hanford Project #W-236A. The milestones continued on the following page are distinct and separate of M-42-00.

(Continued on next page)

Impact of Change

No impacts are generated as a result of this CR.

Affected Documents

Hanford Federal Facility Agreement and Consent Order Action Plan, Appendix D (Table D-3 and Figure D-1 Work Schedule).

Approvals _X_Approved __Disapproved

This change form approved by Amendment Four to the Hanford Federal Facility Agreement and Consent Order executed by the signatories on January 25, 1994.

John Wagoner DOE	January 25, 1994 Date
Gerald Emison EPA	January 25, 1994 Date
Mary Riveland Ecology	January 25, 1994 Date

Description/Justification of Change (continued):

Number	Interim Milestone	Date
M-46-00	Double-Shell Tank Space Evaluation	Sept. 1994 (Annually Thereafter)

This new milestone replaces existing milestone M-31-02. A tank volume projection report shall be submitted on an annual basis to Ecology and EPA. This report shall include discussions covering all assumption which form the basis of the projection. The report shall include or shall be accompanied by DOE's plans for acquisition of additional tanks based on the tank volume projection.

M-46-01	Concurrence of Additional Tank Acquisition	Nov. 1994 (Annually Thereafter)

This is a new interim milestone. The three parties shall meet to establish new milestones, if required, for acquisition of additional tanks.

Change Number	Federal Facility Agreement and Consent Order Change Control Form	Date
M-42-93-01	Do not use blue ink. Type or print using black ink.	Jan. 25, 1994

Originator
Glenn R. Konzek, DOE-RL

Phone
(509) 376-8399

Class of Change
[X] I - Signatories [ ] II - Project Manager [ ] III - Unit Manager

Change Title
Additional and revised Milestones For the Multi-Function Waste Tank Facility (MWTF)

Description/Justification of Change

This change package establishes the completion date for major milestone M-42-00, "Provide additional double-shell tank capacity. Initiation of "Hot" Operations of the MWTF 200E Area Tanks," rebaselines existing target milestones within the M-42-00 milestone, and adds new interim & target milestones based on a re-scoping of the project. This re-scoping includes the design of 6 tanks and the construction of a minimum of 4 tanks (2 tanks in 200E and 2 tanks in 200W Area).

(Continued on next page)

Impact of Change

Some schedule and cost impacts may result to the MWTF project. It is not anticipated that impacts to any interrelated project(s) are generated as a result of this CR.

Affected Documents

Hanford Federal Facility Agreement and Consent Order Action Plan, Appendix D (Table D-3 and Figure D-1 Work Schedule). Project cost, schedule, and technical baselines and supporting documents.

Approvals _X_ Approved ___ Disapproved

This change form approved by Amendment Four to the Hanford Federal Facility Agreement and Consent Order executed by the signatories on January 25, 1994.

John Wagoner DOE	January 25, 1994 Date
Gerald Emison EPA	January 25, 1994 Date
Mary Riveland Ecology	January 25, 1994 Date

Description/Justification of Change (continued):

Number	Interim Milestone	Date
M-42-00	Provide additional double-shell tank capacity.	Dec. 1998

The TBD originally established for the M-31-00 milestone is replaced with a December 1998 date, and the words "Construction Complete" have been replaced by "Initiation of "Hot Operations of the MWTF." This milestone will be considered complete when the following interim milestones and target dates are completed and DOE approves Key Decision #4, "Approval to Commence Operation/Production" for the MWTF 200E and 200W tanks.

M-42-01	Initiate "Hot" Operations of the MWTF 200W Area Tanks.	Feb. 1998

This is a new interim milestone. This milestone will be considered complete when DOE-HQ provides approval of Key Decision #4, "Approval to Commence Operation/Production."

M-42-01-T01	Initiate Detailed Design of the MWTF 200W Area Tanks	Mar 1994

This is a new target milestone. This milestone will be considered complete when DOE-HQ provides approval of Key Decision #2, "Approval to Commence Title II, or Final/Detailed Design."

M-42-01-T02	Initiate construction of the MWTF 200W Area Tanks	Sept. 1994

This milestone replaces target milestone M-31-02-T2. This target milestone will be complete with award of the first construction contract.

M-42-02	Complete construction of the MWTF 200E Area Tanks	Sept. 1998

This new interim milestone replaces target milestone M-31-02-T3. This milestone will be considered complete when DOE-RL signs the "Official Acceptance of Construction."

M-42-02-T01	Initiate construction of the MWTF 200E Area Tanks	Feb. 1995

This target milestone will be complete with award of the construction contract.

M-42-02-T02	Complete the Detailed Design of the MWTF 200E Area Tanks	Jan. 1996

This target milestone replaces target milestone M-31-02-T1. This milestone will be considered complete when the final Title II design package is approved and released for construction.

Change Number	Federal Facility Agreement and Consent Order Change Control Form	Date
M-33-93-01	Do not use blue ink. Type or print using black ink.	Jan. 25, 1994

Originator: G. D. Forehand

Phone: 376-2773

Class of Change

[X] I - Signatories [ ] II - Project Manager [ ] III - Unit Manager

Change Title

Establish milestone for determining integrated solid materials storage and processing requirements

Description/Justification of Change

Establish the following new milestones:

M-33-00	Submit a DOE-signed change package for acquisition of new facilities, modification of existing facilities, or modification of planned facilities for storage, processing and/or disposal of solid waste and materials based upon the results of the "Site-Wide Systems Analysis."	June 1995
M-33-00-T01	Complete solid material and wastes functional analysis for input to the "Site-Wide Systems Analysis".	January 1994
M-33-00-T02	Complete draft "Site-Wide Systems Analysis" including requirements for solid material and wastes processing and storage.	July 1994
M-33-00-T03	Issue final "Site-Wide Systems Analysis".	January 1995

(Continued on next page)

Impact of Change

This change establishes a new major milestone. No other existing milestones are affected.

Affected Documents

Hanford Federal Facility Compliance Agreement and Consent Order Action Plan Appendix D

Approvals X Approved ___Disapproved

This change form approved by Amendment Four to the Hanford Federal Facility Agreement and Consent Order executed by the signatories on January 25, 1994.

John Wagoner DOE	January 25, 1994 Date
Gerald Emison EPA	January 25, 1994 Date
Mary Riveland Ecology	January 25, 1994 Date

Description/Justification of Change (cont)

M-33-00-T04	Propose additional milestones, as required, for acquisition of new facilities, modification of existing facilities, or modification of planned facilities' scope for storage, processing and/or disposal of solid waste and materials. These proposed additional milestones will be based upon the results of the "Site-Wide Systems Analysis".	June 1995

Past operations and current activities on the Hanford site have generated a wide range of radioactive solid materials to be stored pending final disposition. Current planning activities will be coordinated to generate an integrated plan for addressing the Hanford Site needs for storage, processing and disposal of solid radioactive materials.

In 1992, the Department of Energy considered developing a Multi-Purpose Processing and Storage Complex for interim storage of irradiated and unirradiated fuels, encapsulated cesium and strontium, vitrified high-level waste, plutonium residuals, and other radioactive materials. The scope of the project grew to include processing of highly radioactive solid materials. Validation of the project was denied because an engineering study of the complex was not complete.

Definition and justification of requirements for solid material storage, processing and/or disposal on the Hanford Site will occur as part of the "Site-Wide Systems Analysis" effort initiated in Fiscal Year 1994. This Systems Analysis will address the storage, processing and disposal needs for many materials on site and to integrate these needs with other Site activities. Solid materials to be addressed may include:

Unirradiated uranium	Cs/Sr Capsules
Contaminated soil	Contaminated processing equipment
N Reactor fuel	Special Nuclear Material
D&D generated wastes	Vitrified HLW waste canisters
	Radioactive/hazardous solid wastes

The functional anaylsis portion of the Site-Wide Systems Analysis is ongoing and expected to be completed by January 30, 1994. A rough draft of the Systems Analysis will be completed for review by July 30, 1994, and will include draft "preferred alternatives" which will define facility scope and integration requirements. The final draft will be completed by January 30, 1995. The Systems Analysis may support the acquistion of new facilities or modifications to existing or planned facility scopes. New Agreement milestones (if required) for integrated storage and processing of solid wastes and materials reflecting the results of the Site-Wide Systems Analysis will be proposed by June 30, 1995.

Change Number	Federal Facility Agreement and Consent Order Change Control Form	Date
M-44-93-01	Do not use blue ink. Type or print using black ink.	Jan. 25, 1994

Originator: Megan Lerchen

Phone: 206-407-7145

Class of Change

[X] I - Signatories [ ] II - Project Manager [ ] III - Unit Manager

Change Title: Double- and Single-Shell Tank Characterization

Description/Justification of Change

These milestones are an augmented replacement for M-10-00 et seq. and allow for a more tailored approach to characterizing waste in individual DSTs and SSTs. Also included are improvements to the data management and reporting system needs. Specific aspects of this milestone are as follows:

- Characterization of DSTs and SSTs is covered.
- Characterization of DST and SST waste phases (solids, liquids, gases) is covered as specified through the Data Quality Objective (DQO) process.
- Characterization is designed to support retrieval of all tank waste. Because all waste is to be retrieved and treated prior to disposal, it is recognized that additional characterization information will be obtained as necessary during subsequent processing and treatment phases. This "down-stream" characterization is outside the scope of the milestone described here unless the waste processing or treatment occurs within the DSTs and/or SSTs.
- A Tank Waste Analysis Plan (TWAP) will be developed using the results of a DQO process for characterization of all tanks. The TWAP establishes the framework and

(Continued on following page)

Impact of Change

Replaces M-10-00 et seq. Characterization of DSTs is added. Requirement for offsite access to electronic database(s) containing tank characterization information is added. Requirement for taking two core samples of each SST is removed. Submittal of characterization plans for each DST and SST is added. Submittal of Tank Characterization Reports is added.

Affected Documents

Hanford Federal Facility Agreement and Consent Order, Appendix D (Table D-1 and Figure D-1 Work Schedule). Waste Characterization Plan for the Hanford Site Single-Shell Tanks, WHC-EP-0210. Integrated Sampling and Analysis Plan for Samples Measuring > 10 mrem/hour, WHC-EP-0533. Additional reports and submittals required by this change.

Approvals _X_ Approved ___ Disapproved

This change form approved by Amendment Four to the Hanford Federal Facility Agreement and Consent Order executed by the signatories on January 25, 1994.

John Wagoner DOE	January 25, 1994 Date
Gerald Emison EPA	January 25, 1994 Date
Mary Riveland Ecology	January 25, 1994 Date

Description/Justification of Change (continued from previous page):

process for conducting the characterization of all tank wastes. The scope of the TWAP will cover all aspects of tank waste analysis which are generic to multiple DSTs and SSTs. A Tank Characterization Plan (TCP) will also be developed for each DST and SST using the DQO process. The TCPs will integrate the results of the various issue- and process-based DQO efforts into a specific sampling and analysis plan for a given tank. Development of TCPs through the DQO process is intended to allow users (e.g., Hanford Facility user groups, regulators) to ensure their needs will be met and that resources are devoted to gaining only necessary information.

- The extent of tank sampling and analysis will be flexible and dependent on individual tank attributes. Because data obtained prior to 1989 did not have quality assurance and quality control assured under the TPA, acceptable characterization data will be based on some sampling and analysis of each waste phase for each DST and SST as specified through the DQO process. The existing TPA M-10-00 milestone (Complete analyses of at least two complete core samples from each single-shell tank) did not allow flexibility in the application of characterization resources on a particular tank within a recognized group. For example, if the process history for a three-tank cascade indicates that their contents should be essentially the same, under this milestone one tank may be more extensively characterized, the middle tank may have confirmatory sampling and analysis, and the third tank by one core sample. Thus, although not all of the tanks will have two core samples taken, it is expected that the tank contents will be better understood by applying essentially the same resources (as were planned under M-10-00) unevenly to a group of tanks.

- A Tank Characterization Report (TCR) will be issued for each DST and SST as specified by the TWAP and TCP. If a TCR is issued without an approved TCP, it will be approved by Ecology and EPA. Tank characterization information will be reported in a timely, usable, and accessible format for all users. The TCRs are intended to be living documents and must be updated as tank waste contents change due to addition or removal of waste and as new information becomes available.

- All data for each DST and SST will be placed in the administrative record and will be available in whole or part to users upon request.

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Milestone	Description	Due Date
M-44-00	Issue Tank Characterization Reports (TCRs) based on process knowledge, prior characterization data, and validated empirical data acquired after May 1989 for 177 Hanford high level waste tanks. Provide offsite access to electronic database(s) containing tank characterization information through the Tank Characterization Database (TCD) and Hanford Environmental Information System (HEIS) through the Tank Waste Information Network System (TWINS) or approved analogues for 177 HLW tanks.	Sept. 1999
	All issued TCRs will be updated quarterly as needed due to addition and/or removal of tank wastes and as new information is obtained.	
	Validated data packages are to be placed in the administrative record.	

M-44-01	Submit a draft copy of the TWRS Tank Waste Analysis Plan's (TWAP) and Tank Characterization Plans' (TCPs) revisions, updates, and additions annually to Ecology and EPA.	May 1994 (and annually thereafter)
M-44-02	Submit TWAP and TCRs annually to Ecology and EPA for approval. The TWAP will cover safety, retrieval, pretreatment, and other processing needs. The TWAP will identify sampling and analysis activities projected for the following fiscal year. The TWAP will describe the TCPs to be issued for the year. The TCPs will cover sampling and analysis activities for each DST and SST to be characterized in the following fiscal year. The TWAP will also identify the following year's TCRs to be submitted and on what type of data they will be based. The TWAP will specify the contents of these TCRs. The TWAP and TCPs will be developed via a DQO process involving EPA, Ecology, and USDOE prior to implementation. If the three parties do not agree on any individual TCP then Ecology will issue a final decision by September 30 of that year for the scope of the plan. USDOE will implement the final decision. If USDOE disputes the final decision, the Ecology final decision will be implemented during the dispute resolution process.	Aug. 1994 (and annually thereafter)
M-44-03	Submit three TCRs for initial evaluation and approval.	Oct. 1993
M-44-04	Complete input of characterization information for 3 HLW tanks to electronic database(s).	Jan. 1994
M-44-05	Issue 20 TCRs in accordance with the approved TCPs. If an approved TCP is not issued, the TCRs must be approved by Ecology and EPA.	Sept. 1994
M-44-06	Complete input of characterization information for 20 HLW tanks to electronic database(s).	Sept. 1994
M-44-07	Complete all FY 1992 and 1993 core sample analyses and complete validation of the resulting data.	March 1994
M-44-08	Issue 30 TCRs in accordance with the approved TCPs. Complete input of characterization information for 30 HLW tanks to electronic database(s).	Sept. 1995
M-44-09	Issue 40 TCRs in accordance with the approved TCPs. Complete input of characterization information for 40 HLW tanks to electronic database(s).	Sept. 1996
M-44-10	Issue 40 TCRs in accordance with the approved TCPs. Complete input of characterization information for 40 HLW tanks to electronic database(s).	Sept. 1997
M-44-11	Issue 30 TCRs in accordance with the approved TCPs. Complete input of characterization information for 30 HLW tanks to electronic database(s).	Sept. 1998

M-44-12	Issue 14 TCRs in accordance with the approved TCPs. Complete input of characterization information for 14 HLW tanks to electronic database(s).	Sept. 1999

Change Number	Federal Facility Agreement and Consent Order Change Control Form	Date
M-41-93-01	Do not use blue ink. Type or print using black ink.	Jan. 25, 1994

Originator R. E. Raymond/G. E. Bishop Phone (509) 373-3647

Class of Change

[X] I - Signatories [ ] II - Project Manager [ ] III - Unit Manager

Change Title Single-Shell Tank Interim Stabilization

Description/Justification of Change Interim stabilization is the process of removing as much liquid mixed waste as practical from a single-shell tank (SST). The liquid mixed waste from an SST is pumped to a double-shell tank (DST) containing compatible waste. The intent is to minimize the amount of liquid which could leak into the ground, should the SST later begin to leak. Thus, interim stabilization is a proactive means to reduce environmental contamination as a result of leakage from SSTs. After interim stabilization, all connections leading into the SST are plugged, and all valve and pump pits that drain into the SST are sealed in a process called "intrusion prevention" (see definition below.)

Liquid mixed waste that can leak from an SST is present in two forms: "supernatant" liquid, which is free standing liquid in the SST, and "interstitial" liquid, which is liquid held in pore spaces in saltcake and sludge in the tank, some of which is capable of draining out by gravity. Thus, "interim stabilization" is defined as the removal of pumpable supernatant and interstitial liquid from SSTs to DSTs. As much liquid as practical will be removed. Following interim stabilization, an SST will contain moist sludge and saltcake with less than 5,000 GAL of supernatant, and less than 50,000 GAL of total drainable liquid.

(Continued on next page)

Impact of Change The proposed change supports interim stabilization, and recognizes the need to resume interim stabilization of the SSTs.

See attached continuation sheet.

Affected Documents Hanford Federal Facility Agreement and Consent Order, Appendix D (Table D-1 and Figure D-1 Work Schedule). Additional reports and submittals required by this change.

Approvals X Approved ___Disapproved

This change form approved by Amendment Four to the Hanford Federal Facility Agreement and Consent Order executed by the signatories on January 25, 1994.

John Wagoner DOE	January 25, 1994 Date
Gerald Emison EPA	January 25, 1994 Date
Mary Riveland Ecology	January 25, 1994 Date

Milestone	Description	Due Date
M-41-00	Complete single-shell tank interim stabilization. Complete interim stabilization activities for all single-shell tanks except 241-C-106 (to be retrieved in accordance with milestone M-45-03). Complete intrusion prevention for all single-shell tanks except 241-C-106. This is dependent upon the following assumptions: (1) Safety studies will be completed with the objective of allowing pumping in accordance with interim milestones. (2) Work commences in the tank farms on October 1, 1993, for interim stabilization preparations, as required by the milestone schedule. During the stand down in tank farms, schedules for the following interim milestones may be affected: M-41-01, M-41-02, M-41-10, M-41-15, and M-41-16. Every effort will be made to recover the original schedule as specified below. Interim milestones for start of pumping and target milestones for completion for each group of tanks will be reviewed and affirmed annually with Ecology and EPA. Upon start of pumping, efforts to continue pumping will be continuously supported so that pumping is conducted as expeditiously as practical. If pumping is interrupted to a degree that jeopardizes the target milestone, the Unit Managers shall meet in an effort to agree on a recovery plan. If such an agreement cannot be made at the Unit Manager level, a formal recovery plan will be prepared and submitted to Ecology and EPA for approval that supports the major milestone date of September 2000, if technically achievable.	Sep 2000
M-41-01-T01	Start to interim stabilize an additional 3 single-shell tanks.	Aug 1994
M-41-01-T02	Complete interim stabilization of 5 single-shell tanks.	Nov 1994
M-41-01-T03	Start to interim stabilize an additional 2 single-shell tanks.	May 1994
M-41-02	Emergency leak response: prepare an improved single-shell tank emergency pumping capability as defined below.	Mar 1995
M-41-02-T01	Complete and submit to Ecology and EPA a safety analysis report to allow alternate methods for transfer of radioactive waste within single-shell tank farms.	Dec 1993
M-41-02-T02	Complete design and procurement of alternate transfer methods, and mount appropriate equipment in the emergency pumping trailer.	Sep 1994
M-41-02-T03	Issue and submit to Ecology and EPA the detailed procedures for emergency pumping (or other action if not safe to pump) for each non-interim stabilized tank.	Mar 1995

Milestone	Description	Due Date
M-41-02-T04	Restore the 244-U double-contained receiver tank (DCRT) to compliant operating condition. This will allow the use of this DCRT for interim stabilization.	Mar 1995
M-41-03A	Issue request for proposal for a mobile high-level liquid waste transport cask. This cask must already be designed to meet applicable DOT and NRC licensing requirements.	Feb 1994
M-41-03B	Delivery of the mobile high-level liquid waste transport cask. This milestone is predicated on the response received to the procurement request. Upon award of contract, the contract delivery date will be established as this milestone date.	Date TBD
M-41-04	The USDOE shall provide to EPA and Ecology a detailed schedule showing positive and negative impacts of the 1993 tank farms stand down on the interim stabilization program.	Nov 1993
M-41-05	The USDOE shall complete the portions of the Nuclear Operator systems class and on-the-job training that relate to the Operator Routines and Liquid Level Monitoring. Documentation of completion of Operator training shall be provided by submittal of a letter from USDOE to EPA and Ecology.	Dec 1993
M-41-06	The USDOE shall provide to EPA and Ecology the draft curricula for the upgraded Maintenance Training program and an implementation schedule for that training.	Jun 1994
M-41-07	Complete safety studies and analysis on interim stabilization of remaining Watch List tanks and provide the report(s) to Ecology and EPA. These studies to include: a) ferrocyanide tanks; b) hydrogen/flammable gas tanks; and c) organic tanks. If these studies recommend that a Watch List tank not be pumped, DOE will submit to Ecology and EPA a justification report which contains the rationale for not pumping. The rationale will be presented on a tank-by-tank basis.	Dec 1994
M-41-08	Start interim stabilization of 1 non-Watch List tank in 241-U tank farm.	July 1995
M-41-08-T01	Complete interim stabilization of 1 non-Watch List tank in 241-U tank farm.	Mar 1996
M-41-09	Start interim stabilization of 7 non-Watch List tanks in 241-S tank farm.	Jan 1996
M-41-09-T01	Complete interim stabilization of 7 non-Watch List tanks in 241-S tank farm.	Apr 1997
M-41-10	Start interim stabilization of 2 flammable gas Watch List tanks in 241-A/AX tank farms.	Apr 1996

Milestone	Description	Due Date
M-41-10-T01	Complete interim stabilization of 2 flammable gas Watch List tanks in 241-A/AX tank farms.	Dec 1998
M-41-11	Start interim stabilization of 4 flammable gas Watch List tanks in 241-U tank farms.	Apr 1996
M-41-11-T01	Complete interim stabilization of 4 flammable gas Watch List tanks in 241-U tank farm.	May 1997
M-41-12	Start interim stabilization of 4 ferrocyanide Watch List tanks in 241-BX/BY tank farms.	Apr 1997
M-41-12-T01	Complete interim stabilization of 4 ferrocyanide Watch List tanks in 241-BX/BY tank farm.	Sep 1998
M-41-13	Start interim stabilization of 3 organic Watch List tanks in 241-U tank farm.	Jul 1995
M-41-13-T01	Complete interim stabilization of 3 organic Watch List tanks in 241-U tank farm.	Dec 1996
M-41-14	Start interim stabilization of 7 flammable gas Watch List tanks in 241-S/SX tank farms.	Jun 1997
M-41-14-T01	Complete interim stabilization of 7 flammable gas Watch List tanks in 241-S/SX tank farms.	Nov 1999
M-41-15	Start interim stabilization of 2 organic Watch List tanks in 241-S/SX tank farms.	Jun 1997
M-41-15-T01	Complete interim stabilization of 2 organic Watch List tanks in 241-S/SX tank farms.	Mar 1999
M-41-16	Start interim stabilization of 2 non-Watch List tanks in 241-T tank farm.	Mar 1998
M-41-16-T01	Complete interim stabilization of 2 non-Watch List tanks in 241-T tank farm.	Aug 1998
M-41-17	Start interim stabilization of 1 ferrocyanide Watch List tank in 241-T tank farm.	Apr 1998
M-41-17-T01	Complete interim stabilization of 1 ferrocyanide Watch List tank in 241-T tank farm.	May 1998
M-41-18	Start interim stabilization of 1 flammable gas Watch List tank in 241-T tank farm.	Apr 1998
M-41-18-T01	Complete interim stabilization of 1 flammable gas Watch List tank in 241-T tank farm.	Jul 1998
M-41-19	Start interim stabilization of 1 organic Watch List tank in 241-C tank farm.	Sep 1998

Milestone	Description	Due Date
M-41-19-T01	Complete interim stabilization of 1 organic Watch List tank in 241-C tank farm.	Mar 1999

"Intrusion Prevention" is defined as the process of plugging or otherwise blocking pipelines leading into SSTs, and sealing pump or valve pits that drain back into SSTs, or installing barriers to avoid inadvertent liquid addition to a stabilized SST.

These milestones are an augmented replacement for M-05-00 et seq. and allow for continued pumping of SSTs consistent with recent safety issues (Watch List tanks) and planned improvements in tank farm's conduct of operations. Also included are improvements to the emergency pumping capabilities and studies of the safety of pumping. Specific aspects of this milestone are as follows:

- Interim milestones for the start of pumping of SSTs.
- Target milestones for the completion of pumping of SSTs.
- A revised major milestone description that assures that, once started, pumping will continue as expeditiously as practical.
- The safety studies necessary to allow pumping are covered. It is recognized that it is possible that the conclusion of these safety studies may be that pumping cannot be done within existing safety criteria.
- Improved capabilities for emergency leak response is covered including over-ground transfer lines and high-level liquid transport cask.

Impact of Change (Continued)

Interim stabilization (pumping) was suspended due to several safety concerns, which are addressed by programs described in the proposed milestones, and then resolved. Stabilization is being resumed for SSTs following resolution of specific safety issues for those tanks. Replaces M-05-00 et seq. Interim milestones for start of pumping are added. Target milestones for completion of pumping are added. This change request identifies an end date of September 2000 for the major milestone *. Safety and conduct of operations issues that have impeded pumping are addressed. Improved capabilities for responding to a leaking SST are added.

* This is dependent upon the following assumptions: 1) Safety studies will be completed with the objective of allowing pumping in accordance with interim milestones, and 2)Work commences in the tank farms on October 1, 1993, for interim stabilization preparations, as required by the milestone schedule. During the stand down in tank farms, schedules for the following interim milestones may be affected: M-41-01, M-41-02, M-41-10, M-41-15, and M-41-16. Every effort will be made to recover the original schedule as specified below.

Change Number	Federal Facility Agreement and Consent Order Change Control Form	Date
M-45-93-01	Do not use blue ink. Type or print using black ink.	Jan. 25, 1994

Originator: S. E. McKinney — Phone: (206) 459-6725

Class of Change: [X] I - Signatories [ ] II - Project Manager [ ] III - Unit Manager

Change Title

Complete Closure of Single Shell Tank Farms

Description/Justification of Change

Establish the following milestones and targets.

M-45-00 Complete closure of all single shell tank farms. September 2024

Closure will follow retrieval of as much tank waste as technically possible, with tank waste residues not to exceed 360 cubic feet (cu. ft.) in each of the 100 series tanks, 30 cu. ft. in each of the 200 series tanks, or the limit of waste retrieval technology capability, whichever is less. If the DOE believes that waste retrieval to these levels is not possible for a tank, then DOE will submit a detailed explanation to EPA and Ecology explaining why these levels cannot be achieved, and specifying the quantities of waste that the DOE proposes to leave in the tank. The request will be approved or disapproved by EPA and Ecology on a tank-by-tank basis. Procedures for modifying the retrieval criteria listed above, and for processing waiver requests are outlined in the appendix to this change request.

(Continued on next page)

Impact of Change

This change will create a single milestone for retrieval of single shell tank wastes and closure of the single shell tank farms. It will replace 4 major milestones (M-06, M-07, M-08, M-09). It will add retrieval of tank wastes as a formal requirement for single shell tank closure. The six operable units (tank farms) will be excluded from Milestone M-13-00, M-15-00 and M-16-00.

Affected Documents

Hanford Federal Facility Agreement and Consent Order Action Plan, Appendix D

Approvals: X Approved ___Disapproved

This change form approved by Amendment Four to the Hanford Federal Facility Agreement and Consent Order executed by the signatories on January 25, 1994.

John Wagoner DOE	January 25, 1994 Date
Gerald Emison EPA	January 25, 1994 Date
Mary Riveland Ecology	January 25, 1994 Date

Following completion of retrieval, six operable units (tank farms), as described in appendix C (200-BP-7, 200 PO-3, 200-RO-4, 200-TP-5, 200-TP-6, 200-UP-3), will be remediated in accordance with the approved closure plans. Final closure of the operable units (tank farms) shall be defined as regulatory approval of completion of closure actions and commencement of post-closure actions.

For the purposes of this agreement all units located within the boundary of each tank farm will be closed in accordance with WAC 173-303-610. This includes contaminated soil and ancillary equipment that were previously designated as RCRA past practice units. Adopting this approach will ensure efficient use of funding and will reduce potential duplication of effort via application of different regulatory requirements: WAC 173-303-610 for closure of the TSD units and RCRA Section 3004(u) for remediation of RCRA past practice units.

All parties recognize that the reclassification of previously identified RCRA past practice units to ancillary equipment associated with the TSD unit is strictly for application of a consistent closure approach. Upgrades to previously classified RCRA past practice units to achieve compliance with RCRA or dangerous waste interim status technical standards for tank systems (i.e., secondary containment, integrity assessments, etc.) will not be mandated as a result of this action. However, any equipment modified or replaced will meet interim status standards. In evaluating closure options for Single-Shell Tanks, contaminated soil, and ancillary equipment, Ecology and EPA will consider cost, technical practicability, and potential exposure to radiation. Closure of all units within the boundary of a given tank farm will be addressed in a closure plan for the Single-Shell Tanks.

Waste generated from the closure or remediation of formerly designated past practice units (as specified above) will be handled in accordance with regulatory mechanisms and practices available for past practice units.

This milestone will replace the current Milestones M-06 (Develop Single-Shell Tank waste retrieval technology and complete scale model testing), M-07 (Initiate full scale demonstration of waste retrieval technology), M-08 (Initiate full scale tank farm closure demonstration project), and M-09 (Complete closure of all 149 Single-Shell Tanks). Retrieval of all Single-Shell Tank wastes will be incorporated into this milestone. The new milestone will combine retrieval of tank wastes and closure of the tank farms. It is the intent that the closure standards under RCRA TSD Units and Past Practices will be consistent with closure standards under CERCLA operable units for adjacent waste sites.

M-45-01 Develop single-shell tank (SST) retrieval technology September 1994

Develop single-shell tank waste retrieval technology and complete scale model testing. Various waste retrieval technologies will be evaluated for retrieving each of the several types of single-shell tank wastes. Emphasis will be placed on optimizing waste removal while minimizing personnel exposure. Promising technologies will be evaluated for each waste type and one or more will be selected for testing using simulated waste in a scale model (minimum 1:12 scale) tank.

M-45-02 Submit annual updates to SST Retrieval Sequence Document September 2017

This provides for an annual update of an SST Retrieval Sequence document that will define the tank selection criteria, tank selection rationale, reference retrieval method(s) for each tank, and the estimated retrieval schedules. The annual updates will be submitted to Ecology for approval.

M-45-02A	Submit initial SST retrieval sequence document for Ecology approval.	September 1996
M-45-02B-v	Submit annual update of SST retrieval sequence document for Ecology approval.	September 1997 through September 2017
M-45-03-T01	Complete SST waste retrieval demonstration	September 2003

Initiate and complete a full scale demonstration of SST retrieval technology. This demonstration will be considered complete when no less than 99% of the waste inventory is removed from the tank.

M-45-03A	Initiate sluicing retrieval of C-106	October 1997

Initiate sluicing retrieval of tank 241-C-106 to resolve the high-heat safety issue and demonstrate waste retrieval.

M-45-03-T02	Initiate final retrieval demonstration of C-106	June 2002

Initiate final retrieval of tank 241-C-106 to complete initial demonstration of SST retrieval technologies.

M-45-04-T01	Provide Initial Single-Shell Tank Retrieval Systems	November 2003

Complete construction and related testing of the initial SST retrieval systems. This milestone will provide retrieval systems for an entire single-shell tank farm or an equivalent number of tanks.

M-45-04A	Complete Conceptual Design for the initial SST retrieval systems.	April 1997
M-45-04-T02	Complete design for the initial SST retrieval systems.	December 2000
M-45-04-T03	Complete construction for the initial SST retrieval systems.	June 2003
M-45-05	Retrieve waste from all remaining Single-Shell tanks	September 2018

Complete waste retrieval from all remaining single shell tanks. Retrieval standards and completion definitions are provided under the major milestone. The schedule reflects retrieval activities on a farm-by-farm basis. It also allows flexibility to retrieve tanks from various farms if desired to support safety issue resolution, pretreatment or disposal feed requirements, or other priorities.

M-45-05-T01	Initiate tank waste retrieval from one single-shell tank.	December 2003
M-45-05-T02	Initiate tank retrieval from two additional single-shell tanks.	September 2004

M-45-05-T03	Initiate tank retrieval from three additional single-shell tanks.	September 2005
M-45-05-T04	Initiate tank retrieval from four additional single-shell tanks.	September 2006
M-45-05-T05	Initiate tank retrieval from five additional single-shell tanks.	September 2007
M-45-05-T06	Initiate tank retrieval from five additional single-shell tanks.	September 2008
M-45-05-T07	Initiate tank retrieval from seven additional single-shell tanks.	September 2009
M-45-05-T08	Initiate tank retrieval from eight additional single-shell tanks.	September 2010
M-45-05-T09	Initiate tank retrieval from ten additional single-shell tanks.	September 2011
M-45-05-T10	Initiate tank retrieval from 12 additional single-shell tanks.	September 2012
M-45-05-T11	Initiate tank retrieval from 14 additional single-shell tanks.	September 2013
M-45-05-T12	Initiate tank retrieval from 17 additional single-shell tanks.	September 2014
M-45-05-T13	Initiate tank retrieval from 20 additional single-shell tanks.	September 2015
M-45-05-T14	Initiate tank retrieval from 20 additional single-shell tanks.	September 2016
M-45-05-T15	Initiate tank retrieval from 20 additional single-shell tanks.	September 2017
M-45-06	Complete closure of all single-shell tank farms	September 2024

The Single-Shell Tank Closure Work Plan will be prepared describing the work integration process for single-shell tank closures and status of work and integration process. Known issues will be identified and an explanation will be given on how these issues are being addressed. This Work Plan will be provide to Ecology for review/comment and will be used as a roadmap for closure of the single-shell tanks. Because of the uncertainties in the closure process, the Work Plan will evolve as these uncertainties are resolved and eventually it will become the SST Closure/Post-Closure Plan(s) issued for Ecology's approval under subsequent TPA interim milestones. Major work areas covered in the Work Plan will include waste retrieval, operable units characterization, technologies development to support closure, regulatory pathway and strategy for achieving closure.

M-45-06-T01 Submit tank closure/post-closure plan for selected closure demonstration operable unit or tank farm to Ecology for approval. November 2004

M-45-06-T02 Ecology will issue final closure/post closure plan for selected closure demonstration operable unit or tank farm. September 2006

M-45-06-T03 Initiate closure actions on an operable unit or tank farm basis. Closure shall follow completion of the retrieval actions under proposed milestone M-45-05. Closure will be defined in an approved closure plan for the demonstration farm. Final closure is defined as regulatory approval of completion of closure actions. March 2012

M-45-06-T04 Complete closure actions on one operable unit or tank farm. March 2014

M-45-07 Complete Evaluation and Demonstration Testing of Small Scale Sub-Surface Barriers September 1997

DOE will assess the risk to the environment due to tank waste remediation. DOE with concurrence from Ecology and EPA will evaluate barrier technology as a means to minimize those risks and vendor capabilities to deploy and test barriers in Hanford soils. Retrieval of waste from tank 241-C-106 will proceed without a barrier.

M-45-07A Complete Evaluation of Sub-Surface Barrier Feasibility September 1994

Complete a feasibility study of barriers to accomplish the following:

1) Estimate the potential environmental impact of waste storage and retrieval activities without the application of barriers.

2) Establish functional requirements of barriers to minimize the impact associated with the waste storage and retrieval activities.

3) Evaluate the application of existing sub-surface barrier technologies to meet functional requirements of barriers and the potential reduction in environmental impacts from the application of barriers to SST waste storage and retrieval activities.

M-45-07B Reach Decision on Whether to Proceed with Demonstration January 1995

Based on the results of the sub-surface barrier feasibility study, Ecology, EPA, and DOE will make a decision on whether to proceed with a sub-scale demonstration. If the decision is negative, then interim milestone M-45-07 will be considered complete.

M-45-07-T01 Establish Performance Criteria and Test Specifications March 1995

Ecology, EPA, and DOE establish and reach agreement on performance criteria and test specifications to be used for the small scale demonstration of sub-surface barrier technologies.

M-45-07-T02 Initiate Demonstration Testing of Selected Sub-Surface Barrier Technologies — October 1995

Testing of one or more small scale sub-surface barrier technologies will be initiated at a Hanford test site. Documentation will be completed prior to testing which will incorporate performance criteria and test specifications. Initiation of demonstration is defined as completion of construction and initiation of test procedures.

M-45-07-T03 Complete Evaluation of Sub-Surface Barrier Demonstration Test Results — March 1997

Test data and related information will be provided to Ecology, EPA, and DOE as it becomes available during testing. Sub-surface barrier technologies will be evaluated against the performance criteria and test specifications.

M-45-07-T04 Reach Decision on Whether to Proceed with Sub-Surface Barrier Program — June 1997

Ecology, EPA, and DOE will make a decision on whether to proceed with installation of a full-scale sub-surface barrier to support SST retrieval under milestone M-45-07. If the decision is negative, then milestone M-45-07 will be considered complete.

M-45-07C Establish New Milestones for Sub-Surface Barrier Implementation — September 1997

Ecology, EPA, and DOE will negotiate and reach agreement on new milestones to support milestone M-45-07 and a program to install sub-surface barriers in SST farms or individual tanks to support SST retrieval schedules under M-45-00. New milestones will include completion of construction of a full-scale sub-surface barrier in a tank farm, in conjunction with the installation of the retrieval systems pursuant to M-45-04-T03 (complete construction for the initial SST retrieval systems).

APPENDIX TO CHANGE REQUEST M-45-93-01

Waste Retrieval Criteria Procedure

Introduction:

The purpose of this procedure is to establish a means to set, evaluate, and revise criteria for determining the allowable residual waste following waste retrieval operations on the Hanford single shell tanks (SST).

The format for this procedure is to progress through a series of steps as depicted in the generic logic diagram displayed as Figure 1. Each step is briefly outlined and includes elements that constitute completion of the step.

Definition of terms specific to Waste Retrieval Activities:

Residual Waste: Tank waste remaining in the tank after all waste retrieval actions have been completed. Some materials may be excluded from residual waste volume calculations, subject to approval in the closure plan.

Step 1 : Establish Goal

This initial step establishes the goal (the standard) for waste retrieval percentage and the method to be used to calculate the allowable residual waste volume following completion of retrieval operations. The calculation method is dependent on the variable to be measured (total tank waste inventory), and closure criteria and strategy. The proposed residual waste volume calculation method is shown in Attachment 1. A retrieval goal has been established as defined in milestone M-45-00.

Step 2 : Evaluate Major Assessment Areas

Once the goal has been established, it is assessed against two major areas, which are:

a) SST Demonstration: Demonstrate achievability of waste retrieval goal during tank 241-C-106 tank retrieval demonstrations. These demonstrations will include the reference SST retrieval technologies. The effectiveness of the retrieval operation will be determined with a topographical measurement of remaining waste in the tank, and a calculation of waste inventory. The inventory calculation will be based on calculated volume of the tank, waste topography measurements with appropriate surveying techniques, and include adjustments for any detectable deformities in the tank structure (i.e., liner bulges). This technique will be demonstrated and calibrated in this retrieval demonstration. Prepare input to the retrieval goal evaluation (step 3) to accommodate the retrieval operations and residual measurement demonstrations.

b) Evaluate requirements of high-level waste (HLW) disposal from DOE Orders and the Nuclear Waste Policy Act (NWPA). Establish an interface with the Nuclear Regulatory Commission (NRC), and reach formal agreement on the retrieval and closure actions for single shell tanks with respect to allowable waste residuals in the tank and soil column. Prepare input to the retrieval goal evaluation (step 3) to accommodate the agreements on allowable residuals.

Step 3 : Tank Retrieval Demonstration Goal Compliance

Perform a joint assessment by DOE, EPA, and Ecology of the retrieval goal, based on the inputs from Steps 1 and 2. Modify the retrieval goal to match the most restrictive case (i.e., the highest retrieval % requirement).

Step 4 : Tank Farm Retrieval Demonstration

Perform the Tank Farm Retrieval Demonstration on the selected tank farm or initial set of single-shell tanks to be retrieved. Repeat the residual inventory measurement steps identified in the tank retrieval demonstration. Calculate the residual inventory for each tank, based on the formula and procedure in Attachment 1.

Step 5 : Tank Farm Retrieval Demonstration Goal Compliance

Perform a joint assessment by DOE, EPA, and Ecology of the retrieval goal, based on the tank farm retrieval demonstration results. Modify the goal to match best available technology. Notify NRC as required for compliance with NWPA. Establish formal criteria for retrieval of waste from the remaining SST's. Finalize closure plans for tank farms and obtain concurrence from regulatory agencies.

Step 6 : SST Retrieval

Proceed with retrieval of waste from the remaining SSTs. The schedule reflects retrieval activities on a tank-by-tank basis. It also allows flexibility to retrieve tanks from various farms if desired to support safety issue resolution, pretreatment or disposal feed requirements, or other priorities. Completion of retrieval will be in accordance with approved closure plans.

Step 7 : Determine Residual Waste Percentage

The waste residuals are calculated for each tank.

Step 8 : Retrieval Compliance Evaluation

Compare residual waste in each tank with criteria. Document compliance with criteria via notification to appropriate regulatory agencies. If residual complies with criteria, proceed with final closure operations (step 14). If residuals do not comply with criteria, prepare a request for waiver to the appropriate regulatory agency (step 9).

Step 9 : Petition for Regulatory Waiver

An assessment is made as to the applicability of petitioning for regulatory waiver. This requires the review of relevant NRC license issues and possible closure plan modifications. Submit waivers to appropriate regulatory agencies.

Step 10 : Waiver Acceptance

If a waiver is accepted, closure operations for the tank farm is initiated (Step 14). If the waiver is not accepted, additional retrieval operations are required. New technology may be needed (step 11). The waiver evaluation will consider the points on Attachment 2.

Step 11 : Additional Technology Available

A review of alternate technologies will be performed relative to additional waste removal. If additional technologies are available, they will be deployed (step 12) and waste retrieval will resume. If additional technologies are not available, new technologies must be developed and deployed (steps 13 and 14). The tank farm will be held in interim status pending completion of the additional retrieval operations.

Step 12 : Deploy Technology and Perform Additional Retrieval

If additional retrieval technology is available, it is deployed and additional waste retrieval operations are performed. After retrieval operation, the waste residual is again determined (Step 7), followed by the tank goal compliance evaluation (Step 8).

Step 13 : Develop New Technology

If additional retrieval technology is not available, new technology is to be developed for the residue waste followed by deployment of the technology and additional waste retrieval operations (Step 12). After retrieval operation, the waste residual is again determined (Step 7), followed by the tank goal compliance evaluation (Step 8).

Step 14 : Closure Action

When the tank farm retrieval and waste residual assessment process is complete the closure operations will start. Completion of the retrieval operations will be documented in accordance with the closure plans.

WASTE RESIDUAL CALCULATION PROCEDURE, STEP 1

Calculate Residual Waste Volume

1. Calculate Tank Volume
2. Measure/Calculate Waste Inventory via Topographical Mapping and Survey Techniques.
3. Retrieve Waste
4. Repeat Step 2.

Calculation Method:

For 75' Diameter Tanks (Full Diameter Tank (x))

xbar gal = (100-A)% (Total Volume of Waste/133 Tanks) = Allowable Average Residual in full diameter tanks per Tank

where A% * = Goal or criteria for waste retrieval percentage.

For Small Diameter Tank (y)

ybar gal = (100-A)% (Total Volume of Waste/16 Tanks) = Allowable Average Residual in small diameter tanks per Tank

where A% * = Goal or criteria for waste retrieval percentage.

* Goal is 99% waste retrieval as defined in M-45-00 in equivalent volumetric measures.

EXCEPTION TO RETRIEVAL CRITERIA FOR SINGLE-SHELL TANKS

The DOE shall retrieve tank waste in accordance with criteria defined in milestone M-45-00. This recovery criteria will be applied to each tank on a tank-by-tank basis. If the DOE does not believe that this criteria is achievable for a specific tank, DOE shall submit a request for an exception to EPA and Ecology. The request shall include, at minimum, the following information:

1. The reason DOE does not believe the retrieval criteria can be met.

2. The schedule, using existing technology, to complete retrieval to the criteria - if possible.

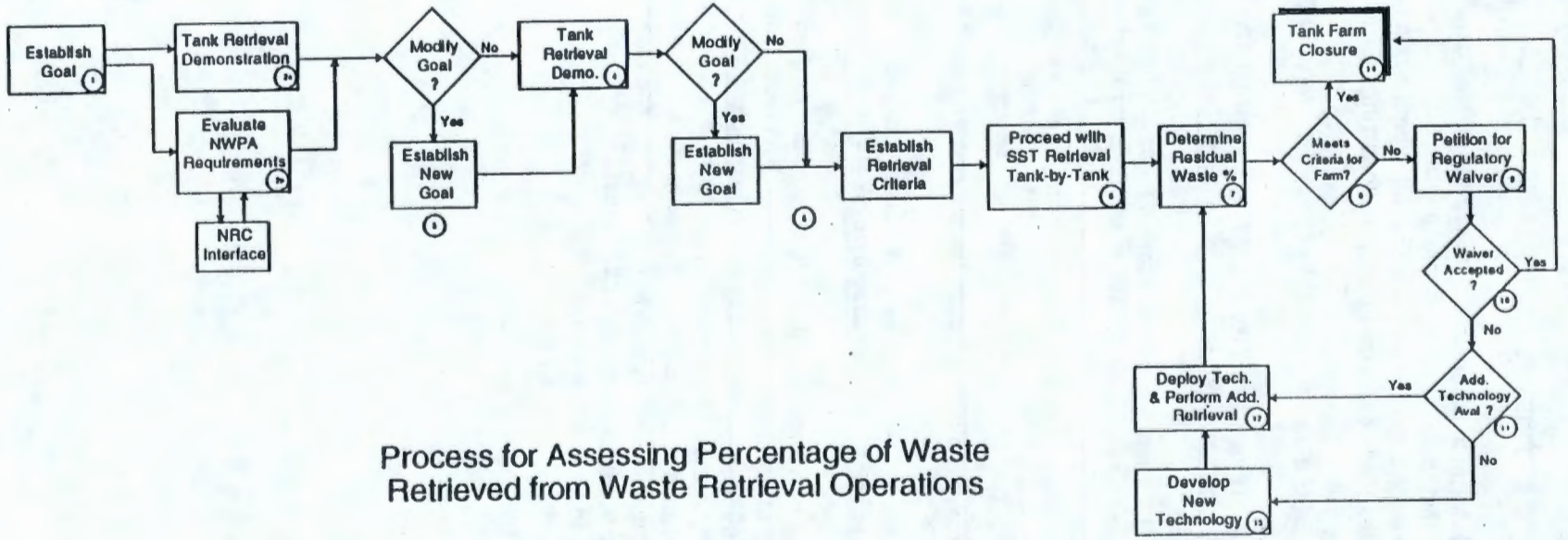
3. The potential for future retrieval technology developments that could achieve the criteria, including estimated schedules and costs for development and deployment.

4. The volume of waste proposed to be left in place, and it's chemical and radiological characteristics.

5. Expected impacts to human health and the environment if the residual waste is left in place.

6. Additional information as required by EPA and/or Ecology.

The above information shall be submitted within 120 days of the decision by DOE that continued retrieval actions will not result in further waste removal. Upon receipt, EPA and Ecology shall provide a response within 60 days, in which they will either approve the exception to the criteria, in which case retrieval will be considered complete for the tanks in question, or they will deny the request. If the request is denied the DOE must continue to attempt to retrieve the tank wastes until the criteria is met for the tank, or they may choose to enter into the RCRA dispute resolution procedures of the Agreement. If an exception to the criteria is approved, the closure plan for the SSTs must be modified to address the remaining residual waste.



Process for Assessing Percentage of Waste Retrieved from Waste Retrieval Operations

9/30/93

FIGURE 1

Change Number	Federal Facility Agreement and Consent Order Change Control Form Do not use blue ink. Type or print using black ink.	Date
M-40-93-01		Jan. 25, 1994

Originator: S. E. McKinney — Phone: (206) 459-6725

Class of Change
[X] I - Signatories [ ] II - Project Manager [ ] III - Unit Manager

Change Title

Establish milestones to Mitigate/Resolve Tank Safety Issues for High Priority Watch List Tanks

Description/Justification of Change

M-40-00 Mitigate/Resolve Tank Safety Issues for High Priority Watch List Tanks — September 2001

High priority Watch List tanks are those single-shell and double-shell tanks identified, in accordance with Section 3137 of Public Law 101-510, which have a serious potential for release of high-level waste due to uncontrolled increases in temperature or pressure. These include flammable gas generating tanks, ferrocyanide containing tanks, organic/nitrate containing tanks, and a high heat producing tank. Corrective action strategies will be developed for these tanks. This milestone will be complete when mitigation activities, if required, have been implemented in all Watch List tanks to ensure safe storage of waste during the interim period until retrieval for treatment and/or disposal operations begin. For those safety issues mitigated pursuant to this milestone, safety resolution will be dependent upon final treatment of the waste. Mitigation will allow, however, the characterization retrieval, etc., of these wastes prior to final treatment.

(Continued on next page)

Impact of Change
This major milestone is a new addition to the HFFACO, and provides schedules for mitigating and/or resolving current tank safety issues.

Affected Documents
Hanford Federal Facility Agreement and Consent Order, Appendix D.

Approvals X Approved ___Disapproved

This change form approved by Amendment Four to the Hanford Federal Facility Agreement and Consent Order executed by the signatories on January 25, 1994.

John Wagoner — DOE — January 25, 1994 — Date

Gerald Emison — EPA — January 25, 1994 — Date

Mary Riveland — Ecology — January 25, 1994 — Date

Some safety issues may also be resolved if (1) resolution out-of-tank is not required, or (2) resolution out-of-tank with or without treatment takes place within the time period of this milestone.

This milestone will be reviewed on an annual basis to identify any potential schedule enhancements.

M-40-01 Complete Tank 241-SY-101 Low Speed Mixer Pump Test — March 1994

A mixer pump was installed in tank 241-SY-101 during Window I in July of 1993. After pump installation, perform pump bumping followed by limited, low speed testing (Phase A and B) to determine whether mixing can be done safely and whether it is effective in releasing hydrogen from the waste. The low speed test results will be analyzed to evaluate the effectiveness of mitigating the flammable gas retention and large episodic gas releases from tank 241-SY-101. A report will be prepared, cleared for public release and transmitted to RL for subsequent issuance to the Washington Department of Ecology and Environmental Protection Agency.

M-40-02 Upgrade Temperature Monitoring Capabilities in Ferrocyanide Tanks — April 1995

Install and operate upgraded temperature monitoring capabilities in ferrocyanide tanks. This upgraded monitoring capability shall provide sufficient data on the temperature characteristics of the tanks to meet safety requirements. The installation of upgraded temperature monitoring in ferrocyanide tanks will allow continued operations of the tanks. This work will provide needed temperature information so that operating safety parameters can be assessed for the ferrocyanide tanks.

M-40-02A Develop Criteria for Upgraded Temperature Monitoring Capabilities in Ferrocyanide Tanks — September 1994

Develop an agreed upon criteria for upgraded temperature monitoring capabilities in Ferrocyanide tanks. The criteria shall address upgraded monitoring capability of the ferrocyanide tanks to meet safety requirements and shall be agreed upon by DOE, Ecology, and EPA. The criteria will allow for installation of upgraded temperature monitoring in ferrocyanide tanks and the continued operations of the tanks.

M-40-02B Install Six of Twelve New Thermocouples. — September 1994

Install six new thermocouple (TC) trees. Work includes procurement of required equipment, material, installation, and placement in operation.

M-40-03 Perform Vapor Characterization for all Ferrocyanide Watch List Tanks — November 1995

Perform quantitative vapor characterization to include volatile organics, inorganics, acid gases, and water for all Ferrocyanide tanks on the Watch List as of 9/93. Sampling priority is driven by the logistical consideration of operations in tank farms. As an example, quantitative vapor characterization is requisite to rotary mode core drilling operations and the order of vapor sampling will be influenced by this schedule. Otherwise, the order of vapor sampling is not driven by class or category of Watch List Tanks, but rather by their presence in a specific tank farm. Gaps or extended periods of time for sampling for a specific category of Watch List Tanks (i.e., Ferrocyanide tanks) will result.

Vapor characterization results, on a tank-by-tank basis as the tanks are sampled and analyzed, will be made available to EPA and Ecology in the Monthly Unit Managers Meeting.

M-40-04 Complete Removal of Floating Organic Layer from Tank 241-C-103 — June 1995

Complete removal of the floating organic layer from tank 241-C-103. Removal of the organic layer will resolve the safety issue for this tank. It is anticipated that the removal of this floating layer will also resolve the noxious vapor issue for the C Farm provided characterization of other C Farm Tanks do not identify other potential sources of noxious vapors. This action will also relieve restrictions on worker access to the C Farm, if there are no constituents of the remaining waste that result in restrictions.

The retrieval options will be evaluated in an Engineering Study of Retrieval/Disposal Options due in August 1994.

The Parties agree that lack of receiver tank is justification for a change to this interim milestone.

M-40-05 Complete Safety Alternative Test in High-Heat Tank 241-C-106 — September 1995

Conduct a safety alternative test (stop addition of cooling water) in high-heat tank 241-C-106 for one year to reduce and establish the cooling liquid at a minimum level. Prior to initiating the test, core samples will be obtained and analyzed, thermocouples will be repaired and connected to the Tank Monitor and Control System (TMACS), and safety documentation and procedures will be prepared. The proposed safety alternative test may have to be adjusted to accommodate upcoming activities during Fiscal Year 1994-1995 in preparation for the scheduled December 1996 retrieval of tank 241-C-106. The effect of the retrieval activities will be reviewed and assessed in September 1994. A recommendation will be formulated for the minimum amount of water additions needed. A report will be prepared, cleared for public release, and transmitted to RL for subsequent issuance to the Washington Department of Ecology and Environmental Protection Agency. Completion of this test will provide the information necessary to develop a new safe operating envelope for tank 241-C-106.

M-40-06 Complete Vapor Sampling Characterization of Tank 241-C-103 (Phase 2) — August 1994

Representative vapor samples will be collected in SUMMA canisters, sorbent tubes, and impingers for an extensive, Phase 2 characterization of Tank 241-C-103. These will be analyzed to assess the tank vapor issues. The results will be reviewed by the Vapor Conference Committee for precision and accuracy and a panel of toxicological experts for analytes of toxicological concern.

M-40-07 Commence Operation of a Vapor Treatment System in Tank 241-C-103 — June 1995

Provide a report documenting operational test procedure results and commence permitted operation of a vapor treatment system for tank 241-C-103, unless otherwise agreed to by the Parties following submittal of the Engineering Evaluation of Alternatives (EEA) for Treatment of Tank 241-C-103 Vapor Space. The EEA will document the need and options

for treatment of potentially hazardous/toxic vapors being discharged from the tank 241-C-103 vapor space. All pertinent characterization data will be considered including: meteorological, area, source, personal monitoring, aqueous/organic layer analysis, vapor characterization, estimates of the vapor characterization after removal of the organic layer, and the schedule for this removal. Once selected, design, procurement, and permitting will be initiated.

Operation of this vapor treatment system is anticipated to provide relief from worker restrictions at tank 241-C-103 in regard to noxious vapor emissions (provided characterization of other C Farm tanks does not identify other potential sources of noxious vapors).

M-40-08 Perform Vapor Characterization for all Organic Watch List Tanks — November 1995

Perform quantitative vapor characterization to include volatile organics, inorganics, acid gases, and water for all Organic Watch List tanks. Sampling priority is driven by the logistical consideration of operations in tank farms. As an example, quantitative vapor characterization is requisite to rotary mode core drilling operations and the order of vapor sampling will be influenced by this schedule. Otherwise, the order of vapor sampling is not driven by class or category of Watch List Tanks, but rather by their presence in a specific tank farm. Gaps or extended periods of time for sampling for a specific category of Watch List Tanks (i.e., Organic tanks) will result.

Vapor characterization results, on a tank-by-tank basis as the tanks are sampled and analyzed, will be made available to EPA and Ecology in the Monthly Unit Managers Meeting.

M-40-09 Close All Unreviewed Safety Questions (USQ) for Double-Shell and Single-Shell Tanks — September 1998

Four Unreviewed Safety Questions (USQ) have been identified on Hanford single-shell and double-shell waste tanks as of September 30, 1993: high flammable gas concentrations, potentially explosive mixtures of ferrocyanide, potential for nuclear criticality, and existence of a separable organic phase (floating layer). For each USQ, data will be collected and safety documentation, including new operating safety envelopes and appropriate work controls, will be submitted for approval. This will be followed by a USQ screening and evaluation submitted for approval, and finally by a recommendation for USQ closure. The recommendation for closure of a USQ will be transmitted to RL when a tank, group of tanks, or all tanks have been sufficiently reviewed to remove the USQ restrictions. The anticipated order of USQ closure is as follows: first 6 ferrocyanide tanks, 241-C-103 organic layer, remaining ferrocyanide tanks, criticality, 241-SY Farm flammable gas tanks, 241-AW-101 flammable gas tank, 241-AN Farm flammable gas tanks, and 18 single-shell flammable gas tanks.

The Parties recognize the existence of a USQ does not prohibit the continuation or initiation of work in the tank farms.

M-40-10 Complete Vapor Space Monitoring for all Flammable Gas Generating Tanks — January 1997

Design, procure, and fabricate standard hydrogen monitoring systems (SHMS) for all unreviewed safety question (USQ) flammable gas generating tanks. Prepare all required safety and environmental documentation for

tank intrusive work on a tank by tank, or group of tanks, basis. Install the SHMSs and obtain vapor space grab samples. Analyze samples using a high sensitivity mass spectrometer to determine the concentrations of flammable gases (hydrogen, nitrous oxide, ammonia) for all tanks, and the background gas compositions for the double-shell tanks that entrap and periodically release gas. The vapor space of each tank will be observed over a sufficient period of time to make decisions regarding resolution of the safety issue. A report, with the analytical data for each tank, will be prepared, cleared for public release,and transmitted to RL for subsequent issuance to the Washington Department of Ecology and Environmental Protection Agency.

Monitoring will continue after the initial report.

M-40-11 Close the Unreviewed Safety Question for the Criticality Issue — June 1994

Closure of the USQ will reduce the safety restrictions on waste transference to and from the tank farms. Resolution of the criticality issue will continue under Milestone M-40-12.

M-40-12 Resolve nuclear criticality safety issue — September 1999

Resolve the potential for nuclear criticality safety issue by providing sufficient monitoring, analyses, and revision of appropriate safety documentation. These activities must address the various stages of waste transference and the possibility for changes in the potential for nuclear criticality incidents during waste transfers.

M-40-13 Document 100% Design Completion of Permanent Mitigation Pump for Tank 241-SY-101 — July 1994

Design a permanent mixer pump for tank 241-SY-101. The permanent pump will have a design life exceeding five years and will replace the test pump that is currently installed in the tank.

M-40-14 Close Ferrocyanide Unreviewed Safety Question — March 1994

Develop safety criteria to define conditions for in site safe storage of ferrocyanide waste that satisfy DOE requirements for closure of the Ferrocyanide USQ. The scope of work includes working with DOE-RL and -HQ personnel to incorporate all reviewer comments into the safety documentation for USQ closure of all ferrocyanide tanks, resubmit to DOE for approval, and support approval by DOE of Ferrocyanide USQ closure documentation.

M-40-15 Install Gas Monitoring Equipment in the Remaining Five Potentially Flammable DSTs — September 1994

Install the existing standard hydrogen monitoring system (SHMS) on tank 241-SY-103; fabricate and install gas monitors on tanks 241-AW-101, and 241-AN-103, -104 and -105; prepare all associated field work packages; readiness reviews; and site preparation.

M-40-16 Complete Sampling and Safety Evaluation of Liquid Organic in Tank 241-C-103 — March 1994

Complete Interim Safety Basis Level 1 Topical Report in support of tank 241-C-103 USQ closure. This Report will incorporate analytical results form tank 241-C-103 dip sample analytical report. The Report will

assess potential accident events related to burning of the organic layer and/or head space gas, and identify controls for continued safe interim storage including anticipated near-term operations.

M-40-17 Close tank 241-C-103 Unreviewed Safety Question May 1994

Support approval by DOE of tank 241-C-103 closure documentation by providing input as necessary.

Change Number	Federal Facility Agreement and Consent Order Change Control Form	Date
M-43-93-01	Do not use blue ink. Type or print using black ink.	Jan. 25, 1994

Originator G. L. Crawford Phone (509) 373-5896

Class of Change

[X] I - Signatories (Section 13.0) [ ] II - Project Manager [ ] III - Unit Manager

Change Title

Establish Milestones for Tank Farm Upgrades Program

Description/Justification of Change

Establish new major milestone, "M-43-00, Complete Tank Farm Upgrades, June 2005."

This major milestone (M-43-00) and associated interim milestones are additions to the HFFACO, to include the Tank Farm Restoration and Upgrades to support safe storage and disposal operations.

- M-43-01 Complete Project W-030 Tank Farm Ventilation Upgrades Dec 1996

Project W-030 is an ongoing project which will replace the ventilation system for the AY and AZ Tank Farm. It does not include replacement of the annulus ventilation systems, they are addressed in Project W-314B.

- M-43-01-T01 Complete Definitive Design for W-030 July 1994
- M-43-01A Start Construction of W-030 Oct 1994
- M-43-01B Complete Construction of W-030 Oct 1996
- M-43-01C Begin Operation of W-030 Dec 1996

(Continued on next page)

Impact of Change

The proposed change adds the Tank Farm Upgrades series M-43 milestones, and replaces Milestone M-17-32.

The agreement to communicate project information contained here does not effect the normal permitting process for these projects.

Affected Documents

Hanford Federal Facility Agreement and Consent Order, Appendix D (Table D-1 and Figure D-1 Work Schedule).

Approvals X Approved ___Disapproved

This change form approved by Amendment Four to the Hanford Federal Facility Agreement and Consent Order executed by the signatories on January 25, 1994.

John Wagoner DOE	January 25, 1994 Date
Gerald Emison EPA	January 25, 1994 Date
Mary Riveland Ecology	January 25, 1994 Date

- M-43-02 Complete Project W-314B Double Shell Tank Ventilation Upgrade Jun 2002

Project W-314B will evaluate the condition of all existing double shell tank (DST) primary and annulus ventilation systems, and will replace or upgrade selected systems as required. Project W-030 is currently replacing the primary tank ventilation systems on the AY and AZ tanks (annulus systems not included). Therefore, Project W-314B will not address those systems. Also being evaluated for inclusion in Project W-314B are: replacement of the ventilation systems on Tank A-105, replacement of the SX Farm ventilation system, and installing ventilation systems for the Double Contained Receiver Tanks.

The Department of Energy and the State of Washington have agreed to participate in Study Analysis Sessions to define scope and requirements for this project. The Department of Energy will provide Washington State Department of Ecology and Department of Health invitations to these sessions with a minimum 1 week notice. The Washington State Department of Ecology and Department of Heath will provide participants in these Study Analysis Sessions.

- M-43-02-T01 Provide the Washington State Department of Ecology and Department of Health the project Engineering Study, and scope statement. Feb 1994
- M-43-02-T02 Provide the Washington State Department of Ecology and Department of Health the project Functions and Requirements. Apr 1994
- M-43-02-T03 Provide the Washington State Department of Ecology and Department of Health the project Conceptual Design Statement of Work and Conceptual Design Criteria. Jun 1994
- M-43-02A Provide the Washington State Department of Ecology and Department of Health the project Conceptual Design Report. May 1995
- M-43-02-T05 Provide the Washington State Department of Ecology and Department of Health the Project Design Criteria. Sep 1995
- M-43-02-T06 Receive DOE-HQ project validation to request congressional funding. Jun 1995
- M-43-02-T07 Start Definitive Design for W-314B. Jan 1997
- M-43-02-T08 Complete Definitive Design for W-314B. Jan 1999
- M-43-02-T09 Start construction of W-314B. Mar 1999
- M-43-02B Complete construction of W-314B. Dec 2001
- M-43-02C Start operation of W-314B. June 2002

- M-43-03 Provide the Washington State Department of Ecology and Department of Health the results of the Single Shell Tank ventilation upgrades needs analysis. Mar 1997

The needs analysis will evaluate all Single Shell Tanks ventilation systems for replacement, where a ventilation system exists. Where no ventilation system exists on Single Shell Tanks, each tank or system of tanks will be evaluated for the need for a ventilation system.

Critical factors in determining the need for and type of ventilation system for a particular tank or system of tanks will be the retrieval schedule and the service life of any proposed ventilation system.

The Department of Energy and the State of Washington have agreed to participate in Study Analysis Sessions to define requirements for this analysis. The Department of Energy will provide Washington State Department of Ecology and Department of Health invitations to these sessions with a minimum 1 week notice. The Washington State Department of Ecology and Department of Health will provide participants in these Study Analysis Sessions.

- M-43-04 Complete Project W-314A Tank Farm Integrated Instrumentation System Upgrade Jun 2002

Project W-314A, will provide an integrated instrumentation system for Tank Farms. The project will evaluate the current status of instrumentation and related equipment and integrate it appropriately with ongoing near term upgrades, related programs, and projects. This system will include sensing elements, data communication, data reduction, and data analysis systems.

The Department of Energy and the State of Washington have agreed to participate in Study Analysis Sessions to define scope and requirements for this project. The Department of Energy will provide Washington State Department of Ecology and Department of Health invitations to these sessions with a minimum 1 week notice. The Washington State Department of Ecology and Department of Heath will provide participants in these Study Analysis Sessions.

- M-43-04-T01 Provide the Washington State Department of Ecology and Department of Health the project Engineering Study, and scope statement. Mar 1994
- M-43-04-T02 Provide the Washington State Department of Ecology and Department of Health the project Functions and Requirements. May 1994
- M-43-04-T03 Provide the Washington State Department of Ecology and Department of Health the project Conceptual Design Statement of Work and Conceptual Design Criteria. Jun 1994
- M-43-04A Provide the Washington State Department of Ecology and Department of Health the project Conceptual Design Report. May 1995
- M-43-04-T04 Provide the Washington State Department of Ecology and Department of Health the Project Design Criteria. Sep 1995
- M-43-04-T05 Receive DOE-HQ project validation to request congressional funding. Jun 1995
- M-43-04-T06 Start Definitive Design for W-314A. Jan 1996
- M-43-04-T07 Complete Definitive Design for W-314A. Nov 1998
- M-43-04B Provide the Washington State Department of Ecology and Department of Health an integrated level 3 schedule showing all phases of project construction. Dec 1998
- M-43-04-T08 Start construction of W-314A. Dec 1998
- M-43-04C Complete construction of W-314A. Dec 2001

- M-43-04D Start operation of W-314A. Jun 2002

- M-43-05 Complete Project W-314C Transfer System Upgrades Jun 2004

Project W-314C, will provide compliant waste transfer lines to connect the single shell tank farms with the new cross-site transfer line, being provided by Project W-058 (addressed in Milestone M-43-07). Project W-314C will provide a waste receiving station at each single shell tank farm, where waste will be collected from waste retrieval systems. Waste will then be transmitted to the cross-site transfer line system for transfer to its destination. This project is being closely coordinated with retrieval efforts to assure the transfer lines interfaces are well defined and that the lines will be in place to support retrieval schedules.

The Department of Energy and the State of Washington have agreed to participate in Study Analysis Sessions to define scope and requirements for this project. The Department of Energy will provide Washington State Department of Ecology and Department of Health invitations to these sessions with a minimum 1 week notice. The Washington State Department of Ecology and Department of Heath will provide participants in these Study Analysis Sessions.

- M-43-05-T01 Provide the Washington State Department of Ecology the project Engineering Study, and scope statement. Feb 1995

- M-43-05-T02 Provide the Washington State Department of Ecology the project Functions and Requirements. Apr 1995

- M-43-05-T03 Provide the Washington State Department of Ecology the project Conceptual Design Statement of Work and Conceptual Design Criteria. Jun 1995

- M-43-05A Provide the Washington State Department of Ecology the project Conceptual Design Report. May 1996

- M-43-05-T05 Provide the Washington State Department of Ecology the Project Design Criteria. Sep 1996

- M-43-05-T06 Receive DOE-HQ project validation to request congressional funding. Jun 1996

- M-43-05-T07 Start Definitive Design for W-314C. Jan 1998

- M-43-05-T08 Complete Definitive Design for W-314C. Nov 2000

- M-43-05-T09 Start construction of W-314C. Mar 2000

- M-43-05B Complete construction of W-314C. Dec 2003

- M-43-05C Start operation of W-314C. Jun 2004

- M-43-06 Complete Project W-314D Tank Farm Electrical Upgrade Jun 2005

Project W-314D, will evaluate and provide necessary upgrades to the Tank Farms electrical distribution systems to support retrieval and bring the systems into compliance with current codes and standards at the time of design. The high voltage distribution system will not be addressed by Project W-314D. The high voltage system is being evaluated and upgraded as a part of a separate program.

The Department of Energy and the State of Washington have agreed to participate in Study Analysis Sessions to define scope and requirements for this project. The Department of Energy will provide Washington State Department of Ecology and

Department of Health invitations to these sessions with a minimum 1 week notice. The Washington State Department of Ecology and Department of Heath will provide participants in these Study Analysis Sessions.

- M-43-06-T01 Provide the Washington State Department of Ecology the project Engineering Study, and scope statement. Feb 1996
- M-43-06-T02 Provide the Washington State Department of Ecology the project Functions and Requirements. Apr 1996
- M-43-06-T03 Provide the Washington State Department of Ecology the project Conceptual Design Statement of Work and Conceptual Design Criteria. Jun 1996
- M-43-06A Provide the Washington State Department of Ecology the project Conceptual Design Report. May 1997
- M-43-06-T05 Provide the Washington State Department of Ecology the Project Design Criteria. Sep 1997
- M-43-06-T06 Receive DOE-HQ project validation to request congressional funding. Jun 1997
- M-43-06-T07 Start Definitive Design for W-314D. Jan 1999
- M-43-06-T08 Complete Definitive Design for W-314D. Oct 2001
- M-43-06-T09 Start construction of W-314D. Mar 2001
- M-43-06-B Complete construction of W-314D. Dec 2004
- M-43-06-C Start operation of W-314D. Jun 2005

- M-43-07 Complete Project W-058 Replacement of Cross-Site Transfer System Feb 1998

Project W-058, will provide encased pipelines to connect the SY Tank Farm in 200 West Area, with the 200 East Area tank farms by way of its interface with the 244-A Lift Station. The system will replace parts of the existing cross site transfer system which are nearing the end of their useful life and portions which are not in compliance with current codes and regulations.

- M-43-07-T01 Complete Definitive Design for W-058. Aug 1995
- M-43-07A Start Construction of W-058. Nov 1995
- M-43-07B Complete Construction of W-058. Aug 1997
- M-43-07C Cross Site Transfer System Operational Feb 1998

CRITICAL PATH MILESTONES

The following modifies the text of the *Hanford Federal Facility Agreement and Consent Order*, or Tri-Party Agreement, Article X.

ARTICLE X. SCHEDULE

33. ~~Specific major and interim milestones, as agreed to by the Parties, are set forth in the Action Plan.~~

A. Tank waste remediation system milestones will be established in accordance with Section 11.7 of the Action Plan.

B. Except as provided above, specific major and interim milestones, as agreed to by the Parties, are set forth in the Action Plan.

The following is an addition to the text of the *Hanford Federal Facility Agreement and Consent Order*, or Tri-Party Agreement, Action Plan, section 11, "WORK SCHEDULE AND OTHER WORK PLANS".

11.7 Tank Waste Remediation System Critical Path Process

Tank waste remediation milestones will be established using a critical path process as described in this section. The tank waste remediation program will be established and managed as an integrated system and shall include all activities associated with waste characterization, retrieval/closure, tank stabilization, pretreatment, treatment of high-level and low-level tank waste, acquisition of new tanks, and the multi-purpose storage complex. The parties will develop detailed operating procedures and implement the critical path milestone system on a trial basis, in April 1994, with full implementation by September 30, 1994.

A. For the purposes of critical path analysis, negotiated dates for completion of single-shell tank waste retrieval, the final closure of single-shell tank farms, and completion of all high-level and low-level tank waste treatment shall be designated as program endpoints and shall be major milestones.

B. Activities and associated schedules for this program shall be included in the Site Management System (SMS). All activities, milestones, and target dates necessary for tracking the program will be negotiated for inclusion in this agreement. Activity definition will be based generally on SMS Level 0 schedules, but may in some instances include SMS Level 1. Based on a critical path analysis, any event appearing on the critical path shall be designated as either a major or an interim milestone. Any event not on the critical path shall be designated a target date.

CRITICAL PATH MILESTONES

(continued)

C. On a semi-annual basis, the integrated schedule shall be updated by the project managers or their designees and the critical path shall be re-evaluated. Updates shall be based on current Site Management System (SMS) information. Additional events falling on the critical path shall be designated as interim milestones. The integrated management schedule shall identify schedule float for each task. Schedule float shall be defined as the amount of time available before an activity becomes a critical path activity. Any activity found to be no longer on the critical path shall revert to target date status.

D. The Department of Energy shall have the ability to reschedule any activity associated with a target date as necessary to efficiently manage the project, provided such movement shall not adversely affect the critical path or the program endpoints. Unit managers shall be advised in advance in writing of any such changes.

E. Changes to any activity or schedule which affects the critical path, a major or interim milestone, or program endpoints must be requested in accordance the Section 12 of the Action Plan, entitled Changes to Action Plan/Supporting Schedules, and approved by the Project Managers or signatories.

F. Based on the information in the monthly SMS report, the Department of Energy shall take all appropriate actions to correct schedule slips in critical path activities.

January 25, 1993

D&D AND STABILIZATION/TRANSITION MILESTONES

Background:

Ecology, EPA and DOE agree to change Section 3.1 of the Tri-Party Agreement to include stabilization of facilities and "transition" activities (those activities between the shutdown decision and the start of formal decommissioning and decontamination). The goal is to coordinate transition and D&D activities with environmental restoration, giving consideration to geographical cleanup goals. The most appropriate regulatory pathway and prioritization of activities will be provided and utilized, resulting in expeditious and cost efficient facility clean-out, stabilization and shutdown, while not exceeding acceptable impacts to human health, welfare and the environment.

PROPOSAL

Modify the Hanford Federal Facility Agreement and Consent Order as follows:

Action Plan, page 3-1, Section 3.1, third paragraph, delete text as indicated:

~~The parties recognize and agree that certain activities related to decontamination and decommissioning (D&D) of structures by DOE may be subject to RCRA. Whenever D&D activities result in the generation of hazardous wastes, the treatment, storage and disposal of those wastes shall be subject to this Agreement. Specific requirements (e.g. milestones) shall be incorporated into the Action Plan, as appropriate.~~

Replace the third paragraph with the following text:

The parties recognize and agree that certain activities related to the stabilization and transition of facilities, before or after the shutdown decision has been made, through the decommissioning and decontamination (D&D) of structures by DOE, are subject to RCRA, CERCLA or other regulatory controls related to the Agreement . The generation and/or discharge of (Ecology/EPA) regulated substances or wastes (including the treatment, storage and disposal of those substances or wastes) shall be subject to this Agreement. Appropriate specific requirements and/or Tri-Party Agreement Milestones for the completion of key activities that generate or discharge regulated substances or wastes shall be incorporated into the Action Plan. Agreed-upon key transition and D&D activities not subject to Ecology/EPA regulation that are critical path to cleanup of an aggregate area will be established as target dates. The goal is to conduct regulated and nonregulated work in an orderly sequence to insure coordination with other cleanup actions.

Negotiation Commitments:

(1) A "pilot project" has been selected at this time to demonstrate this concept. The proposed pilot project will prioritize cleanup actions in the 100-N Area, reflecting public values. This will require a reconfiguration of the regulatory approach at the 100-N Area (addition of a milestone for the delivery of an Limited Field Investigation Work Plan and deletion of milestones M-20-31 and M-20-35). The objectives are (1) to assure that the N-Reactor is stabilized by cleaning-out the fuel basins, removing fuel spacers from the silos and removing all accessible nuclear and hazardous materials from the facility, (2) address the principle environmental concerns at 100-N

(the source term for N-Springs, N-Springs itself and skyshine) in an expedited manner, (3) complete the ERA agreed-to under the M-14 settlement , and (4) reschedule lesser priority clean-up actions until 100-N D&D actions can facilitate remaining cleanup actions. The negotiations will focus on creating a vision and comprehensive plan for N-Area cleanup that results in target dates for major outyear activities. TPA milestones will be established from more detailed schedules for critical path activities for a 5-year period. Budget projections and requirements will be identified to facilitate future prioritization. Negotiations of the details of the pilot project will be completed by January 1994. Failure to complete negotiations in this time frame will result in TPA dispute resolution.

(2) The Department of Energy commits to initiate negotiations for the purpose of establishing milestones and target dates for stabilization, transition, and D&D as follows:

1. For stabilization/transition, within three months of an official mission termination/change decision.

2. For D&D, within three months after the official shutdown decision.

The goal is to complete negotiations within six months. Negotiations for PUREX/UO3 stabilization and transition will be completed in 1994. Although no shutdown decision has been made for PFP, negotiations for the stabilization of the PRF and Oxide Process Lines will be completed in 1994. The criteria for stabilization of the PRF and Oxide process Lines is intended to meet the same or equal goal of transition. Engineering, safety, cost, and schedule analyses for dispositioning the eight surplus reactors and PUREX and UO3 will begin in

1993. This information will be used in discussions with Ecology and EPA with the goal of completing negotiations for the eight surplus reactors and PUREX and UO3 no later than December, 1996. Failure to complete the above-cited negotiations in this time-frame will result in TPA dispute resolution.

(3) DOE, Ecology and EPA agree on the policy that, in general, transition of major facilities (such as Purex/UO3 and PFP) to a safe and stable condition is a high priority. It is further agreed that, after transition goals have been met, priority and resources should be focused on facilities near the Columbia River, consistent with the goal of prioritization of activities to achieve geographic cleanup. The parties also recognize that adjustments to milestones may be required to achieve timely transition of major facilities and to coordinate effective D&D actions with cleanup along the Columbia River.

1/25/94

Rev 4

Change Number	Federal Facility Agreement and Consent Order Change Control Form	Date
M-34-93-01	DDo not use blue ink. Type or print using black ink.	Jan. 25, 1994

Originator: K. Michael Thompson — Phone: 376-6421

Class of Change
[X] I - Signatories [ ] II - Project Manager [ ] III - Unit Manager

Change Title

Remediation of the K-Basins

Description/Justification of Change

It is the common goal of DOE, Ecology and EPA to reduce a source of groundwater contamination from nuclear materials that have leached into the K-East Basin water. It is also the common goal of DOE, Ecology and EPA to move the fuel and sludge (once encapsulated) from the K-East Basin and the encapsulated materials from K-West Basin to a safer long-term storage facility and to remediate both basins as part of the 100-KR-02 CERCLA Past Practice Operable Unit activities. To meet these goals, the following Tri-Party Agreement milestones have been set:

* M-34-01 Contaminated K-East basin water will be removed, replaced, or treated. The timing of this action must be coordinated with encapsulation and the cleaning of the residual contamination in the basin and (as noted below) the alternative selection is dependant on the feasibility of moving encapsulated K-East Basin fuel and sludge to the K-West Basin. The contaminated water will be dispositioned in accordance with reasonable available Hanford Site treatment and/or disposal processes and methods, available at the time of this action. Unless a better option becomes available, the water will be trucked to C-018 for disposal.

(Continued on next Page)

Impact of Change

None

Affected Documents

Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Appendix D.

Approvals X Approved ___Disapproved

This change form approved by Amendment Four to the Hanford Federal Facility Agreement and Consent Order executed by the signatories on January 25, 1994.

John Wagoner, DOE	January 25, 1994, Date
Gerald Emison, EPA	January 25, 1994, Date
Mary Riveland, Ecology	January 25, 1994, Date

If the K-East fuel and sludge, once encapsulated, can be moved to the K-West Basin (determined through a September, 1994 engineering study target date) the removal and disposal of the contaminated water shall be completed by September, 2000. This date is an eighteen month action, starting in March, 1999, three months after fuel and sludge encapsulation is completed. If the transfer of encapsulated K-East Basin fuel and sludge to K-West Basin is infeasible, contaminated K-East Basin water will be replaced by fresh water, starting in September, 1996 at a rate of two million gallons/year and will continue until such time that the tritium concentration in the basin is decreased and is maintained at or below 300,000 pCi/L (The goal is to reduce the tritium concentration in the basin such that resulting groundwater tritium concentration meet drinking water concentration standards, recognizing a lag between basin and groundwater concentrations.

* M-34-02 June, 1996 - Initiate negotiations with Ecology and EPA on incorporation of transition activities including stabilization of the basins, consistent with Section 3.1 of the Agreement (as amended) and the Record of Decision regarding long-term storage and ultimate disposition of the irradiated fuel. DOE will submit a signed Tri-Party Agreement change request proposing milestones for (1) the completion of removal of fuel and sludges from the K-Basins and (2) the completion of stabilization of the basins.

* M-34-00 Complete actions specified by agreed interim milestones related to remediation of the K-East Basins. Due Date: TBD

K-East Basin is an unlined rectangular, reinforced concrete basin, 125 feet long, 67 feet wide, 21 feet deep, with a cooling/shielding water depth of approximately 16 feet. The basin has a water recirculation system including filters, ion exchange and chillers. K-East basin was constructed in the early 1950's and operated in support of KE Reactor until 1971. The basin was reactivated in 1975 for short-term storage of N Reactor fuel. Approximately 1144 metric tons of irradiated metallic uranium fuel, contained in open-ended canisters and approximately 2,000 empty canisters are stored in the K-East Basin. Approximately 800 cubic feet of sludge and approximately 500 cubic feet of debris rest on the basin floor. Unlike the K-West Basin it is not epoxy lined and the nuclear materials stored there are not encapsulated.

It is the intent and long-term goal of DOE to remove all nuclear fuel and sludge from both the K-East Basin and the K-West Basin; however, a suitable facility is not presently available as an alternate storage facility. The DOE decision for long-term storage and ultimate disposition of the fuel is dependent upon the ROD of the EIS to be conducted regarding the fuel. DOE will develop options and plans concurrently with the EIS process to expedite the implementation of the decision.

The DOE is presently planning to encapsulate the fuel and sludge stored in K-East Basin to prevent further degradation of the exposed fuel and to provide an additional environmental containment barrier. Encapsulation is also necessary prior to the effective treatment of the water in the basin. Materials stored in K-West Basin are encapsulated. DOE is also assessing the possibility of reracking encapsulated materials in K-West Basin and moving materials from K-East Basin once encapsulated.

Ecology, EPA and DOE have agreed to attach target dates on key activities for the encapsulation, disposition of the fuel and sludge, and the initiation of the NEPA process that will determine the long-term storage and ultimate disposition of the fuel and sludge. Target dates are justified because the potential source for groundwater degradation, contaminated water in K-East basin, will be cleaned-up under TPA milestones, dependant on encapsulation. Failure to meet the target dates because of factors within the control of DOE will not be grounds for changing the enforceable milestone for contaminated water

disposition. DOE has determined that the NEPA process is required to determine long-term storage and ultimate disposition of the nuclear materials. Encapsulation target dates, and the subsequent TPA milestone, are dependant on timely receipt of necessary permits and regulatory approvals necessary to proceed.

The following target dates have been selected:

M-34-00-T01 June, 1994 - Issue Notice of Intent for N-Reactor Fuel EIS.

M-34-00-T02 June, 1994 - Initiate K-East Basin fuel encapsulation.

M-34-00-T03 September, 1994 - Submit an engineering study to determine the feasibility of moving and temporarily storing K-East fuel and sludge (once encapsulated) to the KW-Basin.

M-34-00-T04 October, 1994 - Submit a schedule describing activities for the final disposition of contaminated K-East Basin water for planning purposes to support the 100-KR-4 Record of Decision.

M-34-00-T05 March, 1995 - DOE shall provide a schedule for fuel and sludge encapsulation and contaminated water removal or replacement to Ecology and EPA that supports the TPA milestone

M-34-00-T06 June, 1996 - Initiate K-East Basin sludge encapsulation.

M-34-00-T07 December 1998 - Complete encapsulation of the fuel and sludge within K-East Basin.

M-34-00-T08 December, 2002 - Remove all fuel and sludge from both K-East and K-West Basins in an encapsulated form.

Change Number	Federal Facility Agreement and Consent Order Change Control Form	Date
M-16-93-03	Do not use blue ink. Type or print using black ink.	Jan. 25, 1994

Originator: Walter D. Perro, DOE-RL, ERB — Phone: (509) 372-3704

Class of Change

[ ] I - Signatories [X] II - Project Manager [ ] III - Unit Manager

Change Title

North Slope Assessment and Remediation

Description/Justification of Change

The change package provides milestone (M-16-82) for the remediation of the North Slope of the Hanford site.

See attached pages for justification and specific milestone description.

Impact of Change

The implementation of this change will add interim milestone M-16-82
Due Date: October 1994.

Affected Documents

Hanford Federal Facility Agreement and Consent Order Action Plan, Appendix D.

Approvals _X_ Approved ___ Disapproved

This change form approved by Amendment Four to the Hanford Federal Facility Agreement and Consent Order executed by the signatories on January 25, 1994.

John Wagoner DOE	January 25, 1994 Date
Gerald Emison EPA	January 25, 1994 Date
Mary Riveland Ecology	January 25, 1994 Date

Description/Justification of Change (Continued)

On March 31, 1993, an "Agreement in Principle" (AIP) was signed by DOE-RL, Ecology, and USEPA. The AIP committed the three parties to identify additional measures which will be taken to accelerate cleanup of the Hanford site. The Three parties agreed to look for such cleanup opportunities both within the outside the current scope of the Hanford Federal Facility Agreement and Consent Order. To this end, DOE has committed to expedite the remediation of the North slope to complete all remediation activities by October 1994.

The DOE proposes that a Tri-Party Agreement milestone be established to provide accelerated remediation for the North Slope. The following are the activities to be performed:

A. The North Slope area was selected as an Expedited Response Action (ERA) candidate site in April 1992, by Ecology and EPA. To date, historical research of the area, site inspections, and characterization activities have been completed on suspect waste sites. The North slope ERA Proposal, which includes an Engineering Evaluation/Cost Analysis (EE/CA), will be released for a 30-day public review and comment period and public meeting.

B. Upon completion of the public review and comment period. Ecology and EPA will prepare the Action Memorandum for EPA and Ecology signing.

C. Prepare design for the North Slope remediation based upon the requirements of the Action Memorandum. The design will be provided to Ecology and EPA for review and approval concurrent with DOE.

D. Upon completion of the design phase for the North Slope, a remediation contract will be awarded. However, remediation will not actually commence until completion of the cultural resources review process.

E. Upon completion of field remediation activities, a CERCLA Action Assessment Report will be developed to document remediation activities for both the CERCLA and non-CERCLA (e.g. cisterns, underground bunkers) areas.

The major milestone shall read:

M-16-82: Complete remediation and submit draft CERCLA Action Assessment Report for the North Slope. Due Date: October 1994

Change Number	Federal Facility Agreement and Consent Order Change Control Form	Date
M-16-93-02	Do not use blue ink. Type or print using black ink.	Jan. 25, 1994

Originator: Walter D. Perro, DOE-RL, ERB

Phone: (509) 372-3704

Class of Change

[ ] I - Signatories [X] II - Project Manager [ ] III - Unit Manager

Change Title

Arid Land Ecology Reserve (ALE) Assessment Remediation

Description/Justification of Change

This change package provides a milestone for the remediation of the ALE Reserve, including the 1100-IU-1 Operable Unit.

Impact of Change

The implementation of this change will add interim milestone M-16-81 due date: October 1994.

See attached pages for justification and specific milestone description.

Affected Documents

Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Action Plan, Appendix D.

Approvals _X_ Approved ___ Disapproved

This change form approved by Amendment Four to the Hanford Federal Facility Agreement and Consent Order executed by the signatories on January 25, 1994.

John Wagoner DOE	January 25, 1994 Date
Gerald Emison EPA	January 25, 1994 Date
Mary Riveland Ecology	January 25, 1994 Date

Description/Justification of Change (Continued)

On March 31, 1993, an "Agreement in Principle" (AIP) was signed by DOE-RL, Ecology, and USEPA. The AIP committed the three parties to identify additional measures which will be taken to accelerate cleanup of the Hanford site. The three parties agreed to look for such cleanup opportunities both within and outside the current scope of the Hanford Federal Facility Agreement and Consent Order. To this end, DOE has committed to expedite the remediation of the ALE Reserve to complete all remediation activities by October 1994. The expedited remediation of the ALE Reserve will include the 1100-IU-1 Operable Unit which is located within the ALE Reserve.

The DOE proposes that a Tri-Party Agreement milestone be established to provide accelerated remediation for the ALE Reserve. The following are the activities to be performed:

A. Perform Preliminary Assessment Screening (PAS) of the ALE Reserve with the exception of the 1100-IU-1 Operable Unite (OU). The PAS will identify non-CERCLA areas that are candidates for action . Since present information indicate Hazardous substance will not be encountered the PAS will consist of a review of past disposal practices, inspection of areas for possible stressed vegetation, ordnance debris, and physical/radiological hazards), review of future land uses, and completion of a cultural resources review with the State Historical Preservation Office (SHPO) of candidate areas for action. A summary of ecological conditions will be developed based on existing reports and assessments. The PAS Report does not require formal regulatory review (i.e. submittal, comment, comment disposition, etc.). However, Ecology and USEPA will be given the Opportunity to informally review the PAS Report concurrently with DOE. Based upon the action alternatives presented in the PAS, the DOE will make an internal decision as to the extent and type of remediation required.

B. Prepare Remedial Design (RD) for the ALE Reserve, with the exception of the 1100-IU-1 OU, based upon the results of the PAS Report. Ecology and USEPA will be given the opportunity to informally review the RD concurrent with DOE.

C. A Limited Field Investigation and Focused Feasibility Study (LFI/FFS) of the 1100-IU-1 OU has been completed. The LFI/FSS underwent public review in conjunction with the entire 1100 Area NPL Site. A Record of Decision (ROD) for the 1100 Area was completed September 30, 1993. The ROD for the 1100-IU-1 OU is now being prepared. The RD will be provided to Ecology and EPA for review and approval concurrent with DOE.

D. Upon completion of the RD phase for the ALE Reserve, including the 1100-IU-1 OU, a remediation contract will be awarded. However, remediation will not actually commence until completion of the cultural resource review process.

E. Upon completion of field remediation activities, a CERCLA Construction Completion Report will be developed to document remediation activities for both the CERCLA (1100-IU-1 OU) and non-CERCLa (e.g. cisterns, underground bunkers) areas.

The interim milestone shall read:

M-16-81: Complete remediation and submit draft CERCLA Construction Completion Report for the entire ALE Reserve.

Due Date: October 1994

Change Number	Federal Facility Agreement and Consent Order Change Control Form	Date
M-70-93-01	Do not use blue ink. Type or print using black ink.	Jan. 25, 1994

Originator: J. K. Erickson

Phone: 376-3603

Class of Change

[X] I - Signatories [ ] II - Project Manager [ ] III - Unit Manager

Change Title: Design, approve, construct and operation of the Environmental Restoration Disposal Facility (ERDF).

Description/Justification of Change

The Hanford Federal Facility Agreement and Consent Order (the Tri-Party Agreement) details the approach to cleanup of the Hanford Site. The Tri-Party Agreement is a legal document that binds the Department of Energy (DOE) to actions that comply with the Resource Conservation and Recovery Act (RCRA), the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and the State of Washington Hazardous Waste Management Act.

The operations of the Hanford Site by the Federal Government since 1943 have resulted in approximately 1100 waste sites that must be investigated and if necessary, cleaned up. The waste sites have been grouped into 78 operable units. Investigation of the operable units and the examination of the cleanup alternatives has been initiated and the schedule is detailed in the Tri-Party Agreement. Preliminary screening of the remedial alternatives in the initial feasibility studies for many of the operable units indicates that the removal, treatment and disposal of contaminated material from waste sites is required.

Impact of Change

None

Affected Documents

Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Appendix D; work schedules.

Approvals: X Approved ___Disapproved

This change form approved by Amendment Four to the Hanford Federal Facility Agreement and Consent Order executed by the signatories on January 25, 1994.

John Wagoner DOE	January 25, 1994 Date
Gerald Emison EPA	January 25, 1994 Date
Mary Riveland Ecology	January 25, 1994 Date

ENVIRONMENTAL RESTORATION DISPOSAL FACILITY

Removal actions resulting from 100 and 300 Area operable unit Records of Decision (RODs) are expected to produce large volumes of hazardous, radioactive, and mixed waste, beginning approximately September, 1996. A disposal facility capable of receiving large quantities of these wastes is needed at Hanford at that time. Technology does not exist to effectively treat or destroy the majority of these wastes and off-site disposal is not cost effective or acceptable for many reasons (e.g. transportation of massive quantities of waste on public highways). The Hanford Future Site Uses Working Group in the report "The Future for Hanford: Uses and Cleanup", December 1992, recommends that waste management activities at the Hanford Site be concentrated in the interior portion of the Central Plateau. Therefore, Ecology, EPA and DOE agree to proceed with the steps necessary to design, approve, construct and operate such a disposal facility, the Environmental Restoration Disposal Facility (ERDF).

DOE shall prepare a comprehensive "package" for EPA and Ecology to consider in evaluating a disposal facility. The package shall address the criteria listed in 40 CFR 264.552(c) for Corrective Action Management Unit (CAMU) designation and a CERCLA Record of Decision (ROD). Each individual source operable unit ROD will specify how wastes from that operable unit will be treated and will reference a disposal facility, as appropriate.

Timing for the construction and operation of the facility is critical. The proposed plans for the operable units are due beginning in October 1994. Delay in construction of the facility would impact cleanup of the waste sites. The three parties are committed to working together to resolve issues affecting the design, construction and operation of the facility and to maintain the schedule to support the cleanup program.

The parties agree that a phased approach for construction of the disposal facility is appropriate. Design and construction of the initial phase shall be adequate for disposal of waste volumes projected to result from 100 and 300 Area RODs for operable units presently under investigation. Incremental future expansion of the facility shall be maintained such that remedial action schedules are not adversely impacted by inadequate Hanford waste disposal capacity. Since the facility will require significant resources, a phased approach should minimize impacts on other operations such as cleanup. A phased approach will minimize the land use requirement since disposal units will be brought on line on an "as needed basis".

The parties agree that public involvement is an essential part of the process and commit to early public participation. We agree that it is necessary to hear and consider public concerns as early as possible. A Public Involvement Plan shall be developed by the three parties in October, 1993. Public involvement will begin with the public interaction resulting from these negotiations and will continue through the design and regulatory approval process and subsequent facility expansions.

One target milestone, one major milestone and two interim milestones have been assigned to the ERDF to assure that the facility is available to support cleanup actions.

Target Milestone M-70-00-T01 Due date: October 1993 Completed: 10/28/93

Submit a Public Involvement Plan for the ERDF

Major Milestone M-70-00

The ERDF will be operational (available to receive remediation waste) on September, 1996 Due: September 1996

Interim Milestone M-70-01 Due: February 1994

Submit a single-design ERDF Draft Conceptual Design Report (CDR) for regulatory review and comment.

Interim Milestone M-70-02 Due: April 1994

Submit information necessary for CAMU designation (40 CFR 264) and a CERCLA ROD for regulatory approval.

The following decisions and assumptions are implicit in the milestones:

* All regulatory comments to the Draft CDR will be reconciled to the satisfaction of the three agencies by April 15, 1994 to support subsequent ERDF milestones. If resolution is not accomplished by April 15, 1994, the TPA dispute process will govern the decisions. The principles in the final CDR shall serve as the basis for design, construction and operation.

* The definitive design package describing the form and function of the disposal facility will be submitted to Ecology and EPA for approval three months after regulatory approval of the facility. If this is not accomplished, TPA dispute resolution will be invoked.

* A standard RCRA double flexible membrane liner (RCRA subtitle C), including a clay base and a leachate collection system, shall be used for the initial design. This design standard will be reevaluated for expansions and/or subsequent trenches.

* The disposal facility shall be designed to be cost efficient and minimize the "footprint" of the overall disposal facility.

* Regulatory authority - Approval under CERCLA ROD and/or HSWA using the CAMU Rule, for the acceptance of Hanford-generated remedial action waste.

* The parties agree on the following risk assessment parameters:

  - The point of assessment will be the intersection of the groundwater and the vertical line drawn from the edge of the disposal facility.

  - The time of assessment for radionuclides will be 10,000 years.

  - The compliance standard will be 10 exp-5 for the first 100 years, 10 exp-4 thereafter.

* Based on existing analyses and data it is expected that treatment at the operable unit will generally be segregation, compaction, and waste volume reduction. Based on analysis of 100 Area source operable units, all three TPA parties anticipate that mass solidification of the waste form will not be necessary for the disposal of the bulk of the waste.

Description/Justification of Change (Continued)

* A pilot project concept for NEPA/CERCLA integration (functional equivalency) will be utilized; additional or separate NEPA process and documentation will not be required. The pilot project concept for NEPA/CERCLA integration will be presented to the public through the Hanford Tank Waste Task Force and public meetings.

* There is agreement between Ecology, EPA and DOE that this facility is critical path for Hanford cleanup, and there is a willingness by all parties to adjust TPA milestones in the future (if it is necessary to reconcile unavailability of appropriated funds), to assure that this facility is completed in time to support 100 and 300-Area RODs.

* The application for regulatory approval shall include discussion of:

  - Siting and compatibility with the Hanford Future Site Uses Working Group recommendations described in "The Future for Hanford: Uses and Cleanup", December 1992.

  - How to handle existing contaminated sites that are located within the footprint of the ERDF.

  - How landfill footprint is minimized.

  - Landfill expansion.

Change Number	Federal Facility Agreement and Consent Order Change Control Form	Date
M-15-93-04	Do not use blue ink. Type or print using black ink.	Jan. 25, 1994

Originator: K.M. Thompson

Phone: 376-6421

Class of Change

[ ] I - Signatories [X] II - Project Manager [ ] III - Unit Manager

Change Title

ESTABLISH MILESTONES FOR A TREATABILITY TEST AT A BURIAL GROUND IN THE 100-B AREA

Description/Justification of Change

Establish the following target date and milestones:

M-15-16A-T01	Finalize the scope of work for the 100-B Area Burial Ground Treatability Test before starting the test plan.	February 15, 1994
M-15-16A	Submit to the EPA and Ecology the 100-B Area Burial Ground Test Plan.	May 1994
M-15-16B	Commence remedial field work for the 100-B Area Burial Ground.	August 1994
M-15-16C	Submit to the EPA and Ecology a 100-B Area Burial Ground Field Work Report.	May 1995

Description continued on page 2 of this change form.

Impact of Change

None.

Affected Documents

Hanford Federal Facility Agreement and Consent Order, Action Plan, Appendix D.

Approvals X Approved ___Disapproved

This change form approved by Amendment Four to the Hanford Federal Facility Agreement and Consent Order executed by the signatories on January 25, 1994.

John Wagoner — DOE — January 25, 1994 — Date

Gerald Emison — EPA — January 25, 1994 — Date

Mary Riveland — Ecology — January 25, 1994 — Date

ACTION:

Conduct a treatability test at a burial ground in the 100-B Area to obtain additional engineering information for remedial design of burial grounds receiving waste generated from 100 Area removal actions. The test will consist of collecting waste for analysis for development of waste acceptance criteria, evaluations of safety considerations for contingency planning, waste removal and transportation technology, and verification of existing information from historical records.

BACKGROUND:

The 100 Area burial grounds, such as the 118-B-1, contain a great variety of different waste forms as per historical records. Some of the wastes were segregated into specific trenches during disposal. The waste types range from typical office trash to chemical and radiologically contaminated equipment. The 118-B-1 Burial Ground first received wastes in 1944 and continued to receive wastes until 1973. The 118-B-1 Burial Ground was sampled for radionuclide contaminants in April 1976 and reported by Dorian and Richards (1978). The 118-B-1 Burial Ground is the preferred site (to conduct a treatability test) as selected by the U.S. Environmental Protection Agency (EPA) and State of Washington Department of Ecology (Ecology).

SCOPE:

The 118-B-1 Burial Ground is part of the 100-BC-2 Operable Unit. The strategy negotiated between the Tri-Party signatories and being used for burial grounds in the 100 Area relies on existing information and the observational approach to achieve remediation goals. The data generated from the exhumation of selected trenches in the 118-B-1 Burial Ground will help evaluate existing information on waste forms and other engineering information that is useful in planning the remediation. This information includes but is not limited to the following:

- Types of waste media that will need to be addressed.
- Amount of overburden covering trenches.
- Depth of waste material in trenches.
- Analytical Screening techniques to utilize during remediation.
- Types of contaminants for Safety planning, removal and transportation equipment, data for treatment or immobilization considerations and Waste Acceptance Criteria development.
- Segregation, decontamination and volume reduction (compaction).

The exhumation of the test pits in the 118-B-1 Burial Ground will be no less than 5000 cubic yards and up to 10,000 cubic yards. The waste generated from the test pits will be managed as "investigation-derived-waste" or returned to the excavation in a manner that will facilitate final remediation. The majority of the wastes will be handled in a manner similar to test pit wastes. The specifics of the waste management will be detailed in the treatability test plan.

An individual burial ground is heterogeneous and an excavation study may not be sufficient to develop a complete and comprehensive analog for waste acceptance criteria or analogous site strategies. Other contingencies may be found to be necessary in the planning for remediating any burial ground regardless of any prior burial ground knowledge or experience. The proposed tests will, however, serve to help identify the probability of a specific waste scenario to occur during remediation.

ASSUMPTIONS:

- Use field screening techniques for contamination identification with minimal lab samples for confirmation. No high activity samples will be collected.

- Utilize information and techniques from the 100-HR-1 Excavation Treatability Study.

- The Scope of Work including number and location of trenches selected will be negotiated and agreed to by the EPA, Ecology, and the U.S. Department of Energy, Richland Operations Office (RL) before starting the Test Plan.

- Wastes will be returned to the excavation in the reverse order of the removal or will be handled as "investigation-derived-waste".

Change Number	Federal Facility Agreement and Consent Order Change Control Form	Date
M-13-94-01	Do not use blue ink. Type or print using black ink.	Jan. 25, 1994

Originator: Julie Erickson

Phone: 376-3603

Class of Change

[ ] I - Signatories [X] II - Project Manager [ ] III - Unit Manager

Change Title

Consolidation of 300 Area Operable Units 300-FF-2, 300-FF-3, 300-FF-4, and 300-IU-1

Description/Justification of Change

Consolidate all remaining 300 Area waste sites into a single CERCLA operable unit (OU). The waste sites from 300-FF-3, 300-FF-4, and 300-IU-1 will be grouped into 300-FF-2. The Limited Field Investigation Workplan for the expanded 300-FF-2 will be submitted to the Regulators in November 1994.

The remedial decisions for the 300-FF-2, 300-FF-3, 300-FF-4, and 300-IU-1 will be significantly accelerated by this change. 300-FF-2 and 300-FF-3 are both close to the Columbia River and City of Richland.

See attached.

9413138.1911

Impact of Change

Consolidating the OUs will make a single, more complex OU but it will allow the remainder of the 300 Area NPL site to be addressed with a single record of decision.

The consolidation of these four OUs into one will constitute the equivalent of one workplan milestone (M-13-00) in Calendar Year (CY) 1994 and two in CY 1995.

Affected Documents

Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement), Appendix C; Hanford Site Waste Management Units Report: WIDS, Appendix D; Work Schedules.

Approvals X Approved ___Disapproved

This change form approved by Amendment Four to the Hanford Federal Facility Agreement and Consent Order executed by the signatories on January 25, 1994.

John Wagoner DOE	January 25, 1994 Date
Gerald Emison EPA	January 25, 1994 Date
Mary Riveland Ecology	January 25, 1994 Date

CONSOLIDATION OF 300 AREA OPERABLE UNITS
300-FF-2, 300-FF-3, 300-FF-4, AND 300-IU-1

Action: Consolidate the remaining 300 and 400 Area Operable Units (OU) (300-FF-2, 300-FF-3, 300-FF-4, and 300-IU-1) into one OU, designated 300-FF-2 and prepare a workplan. Consolidating these OU's and initiating a workplan in calendar year 1994 will significantly accelerate the 300 Area NPL Site in its entirety.

Background: The 300-FF-2 OU is the area generally north of the facilities in the 300 Area and consists of burial grounds. Within the boundaries of the 300-FF-3 OU are most of the facilities, buildings, and staff that work in the 300 Area and storage tanks, tanks, drain fields, a burial ground, and numerous spills. The 300-FF-4 OU is located around the FFTF, a considerable distance from the 300 Area Proper with waste management units (WMU) that consist of french drains, sanitary sewer, tile fields and a pond. Finally the 300-IU-1 OU is located northwest of the 300 Area Proper and contains burial grounds, a crib and a spill.

Scope/Discussion: There are many operational facilities in the 300-FF-3 OU which house a large work force. Many of the spills are under or close to facility foundations, road ways, and around underground utilities. This complicates the ability to safely and appropriately characterize and remediate the OU while these facilities are occupied and remain in place. The 300-FF-3 characterization/remediation work scope aspects of the new workplan will reflect a schedule based on when 300 Area operational facilities are no longer staffed and utilized. Current data would suggest that there are not any immediate threats to human health or the environment from WMUs in 300-FF-3. Until such time that 300-FF-3 WMUs are addressed, 300-FF-5 groundwater monitoring activities and routine radiological surveys will be performed to verify that no changes have occurred within the 300-FF-3 OU. WMUs in 300-FF-2, 300-FF-4, and 300-IU-1 could be addressed sooner as agreed to by the parties.

The Hanford Past Practice Strategy will be utilized to the highest degree possible such that analogous waste site and observational approach concepts are factored into the workplan and that remediation work will be focused on high priority sites based on qualitative risk assessments.

Schedule:

M-13-08

- Issue Limited Field Investigation workplan for the 300-FF-2 expanded Operable Unit for regulator review. Due Date: November 1994

Change Number	Federal Facility Agreement and Consent Order Change Control Form	Date
M-13-93-03	Do not use blue ink. Type or print using black ink.	Jan. 25, 1994

Originator: J. K. Erickson

Phone: 376-3603

Class of Change

[ ] I - Signatories [X] II - Project Manager [ ] III - Unit Manager

Change Title

200 AREA GROUNDWATER OPERABLE UNITS SCOPE REVISION

Description/Justification of Change

See attached

Impact of Change

Revise Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) and add new milestones as follows:

1) Begin pilot-scale pump and treat operations for 200-ZP-1 30 days after the Interim Record of Decision is issued but no sooner than February 28, 1994 (M-13-04A*).

2) Begin pilot-scale pump and treat operations for 200-UP-1 30 days after the Limited Field Investigation Workplan is approved but no sooner than March 31, 1994 (M-13-02A*).

3) Begin pilot-scale pump and treat operations for 200-BP-5 30 days after the Treatability Test Plan is approved but no sooner than August 31, 1994 (M-13-06A*).

* New Tri-Party Agreement Milestones.

Affected Documents

Tri-Party Agreement Action Plan, Appendix D, work schedules.

Approvals X Approved ___Disapproved

This change form approved by Amendment Four to the Hanford Federal Facility Agreement and Consent Order executed by the signatories on January 25, 1994.

John Wagoner DOE	January 25, 1994 Date
Gerald Emison EPA	January 25, 1994 Date
Mary Riveland Ecology	January 25, 1994 Date

ACCELERATED REMEDIATION OF GROUNDWATER IN THE 200 AREA

ACTION:

Begin groundwater cleanup through the accelerated start of pilot-scale pump and treat projects for the 200 Area groundwater. Contaminants to be addressed in the 200 West Area are carbon tetrachloride, chloroform, TCE, uranium, technetium, nitrate and in the 200 East Area technetium, plutonium, strontium, cesium, and cobalt. The treatment, if determined effective, will continue to operate until the record of decision (ROD). The treatment systems (wells, pumps, surface equipment and disposal), will be modified/expanded as needed during the treatability and remediation activities to improve the efficiency of the cleanup activities. As part of the optimization other treatment systems and disposal sites (e.g. C-018 or W-049) to be constructed in the future at the Hanford Site will also be evaluated and may be utilized if the three parties agree it is appropriate. In conjunction with the treatment and disposal alternatives, the use of hydraulic control to retard movement of plumes will be evaluated.

BACKGROUND:

The 200 East and 200 West Groundwater Aggregate Area Management Study Reports (AAMSR) were issued in fiscal year (FY) 92 and FY-93 summarizing and interpreting existing data from the groundwater in the 200 Area. Using the Hanford Site Past Practice Strategy as a basis for evaluating future actions, it was recommended to separate groundwater from source operable units (OU) into separate and distinct "groundwater only" OUs. This has been formally done via Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) change request in the 200 West Area by creating the 200-UP-1 and 200-ZP-1 Groundwater OUs. Similar changes have been discussed among the three parties for the 200 East Area that would result in creation of two "groundwater only" OUs presently identified as 200-BP-5 and 200-PO-1. Formal change packages for these two OUs, are currently in process per Change Request C-93-06. Tri-Party Agreement milestones presently exist for issuance of Limited Field Investigation (LFI) work plans for the 200-UP-1, (M-13-02 issued April 30, 1993), 200-ZP-1 (M-13-04 due August 31, 1993) and 200-BP-5, (M-13-06 due December 31, 1993) OUs. The scope of work detailed in the LFI work plans has been discussed at length among the three parties with the primary issues being the type of treatability testing to be performed, the contaminants to be addressed by the treatability tests, the amount of characterization required to support remediation objectives, and the process/deliverables (and subject interim milestones) necessary to obtain a ROD.

200-ZP-1

ACTION:

Begin groundwater cleanup through the accelerated start of pilot-scale pump and treat projects for the 200 Area groundwater. Contaminants to be addressed in the 200-ZP-1 OU are carbon tetrachloride, chloroform, and TCE. The treatment system (wells, pumps, surface equipment and disposal), will be continuously modified/expanded during the treatability and remediation phases to optimize the cleanup activities.

SCOPE:

The 200-ZP-1 LFI Workplan Milestone will be changed to 200-ZP-1 Interim Remedial Measures (IRM) Proposed Plan (see Tri-Party Agreement Change Request M-13-93-02). The IRM Proposed Plan will be based on the recommendations from the 200 West Groundwater AAMSR, will specify the remediation alternative(s) which will be tested at the field-scale (e.g. pilot-scale) under a treatability test program, and will specify other characterization or engineering activities necessary to support the interim ROD (IROD). The plan will be concise, provide an overall schedule for the above activities, and will outline the remedial strategy. The IRM Proposed Plan will focus on the Expedited Response Action (ERA) and IRM volatile organic contaminants (carbon tetrachloride, TCE, and chloroform) identified in the 200 West Groundwater AAMSR. It is understood that the IROD will be written with sufficient flexibility to allow for the refinement and optimization of the treatment schemes. In addition, the IROD will include decision points and criteria sufficient to assess the need for continuation/expansion/cessation of the treatment schemes. The proposed CCL, Groundwater ERA will be dropped as a separate activity and will be integrated within the IRM Proposed Plan. Upon agreement by the three parties, bench scale testing will commence immediately to refine a treatment train for the primary groundwater contaminants (carbon tetrachloride, chloroform, and TCE). The pilot-scale test will use existing wells. The same configuration (without additional modification) will also be assessed for its effectiveness on secondary contaminants known to exist in the groundwater. Treated effluent will be returned to the soil column or to the aquifer.

200-UP-1

ACTION:

Begin groundwater cleanup through the accelerated start of pilot- and bench-scale pump and treat projects for the 200 Area groundwater. Contaminants to be addressed in the 200-UP-1 OU are uranium, technetium and nitrate. The treatment system (wells, pumps, surface equipment and disposal), will be continuously modified/expanded during the treatability and remediation phases to optimize the cleanup activities.

SCOPE:

The 200-UP-1 LFI Workplan will be revised during the regulatory/public comment disposition cycle to include a defined treatability testing program. The workplan will detail a schedule for accomplishing treatability testing activities. The treatability test(s) will include pilot-scale testing for uranium and technetium and lab/bench-scale testing for nitrate contaminated plumes beneath U-Plant as identified in the 200 West Groundwater AAMSR. Following the completion of the treatability tests, an IRM Proposed Plan would be prepared to support an IROD. The IROD will include decision points and criteria sufficient to assess the need for continuation/expansion/cessation of the treatment schemes. Upon agreement by the three parties, bench scale testing will commence immediately to refine the treatment train for the primary groundwater contaminants (e.g. determining the optimum and most cost effective ion exchange resin or activated carbon for uranium and technetium removal). The pilot-scale test will use existing wells. The same configuration (without additional modification) will also be assessed as to its effectiveness on secondary contaminants known to exist in the groundwater. Treated effluent will be returned to the soil column or to the aquifer.

200-BP-5

ACTION:

Begin groundwater cleanup through the accelerated start of pilot-scale pump and treat projects for the 200 Area groundwater. Contaminants to be addressed in the 200-BP-5 OU are plutonium, strontium, cesium, technetium and cobalt. The treatment system (wells, pumps, surface equipment and disposal), will be continuously modified/expanded during the treatability and remediation phases to optimize the cleanup activities.

SCOPE:

The 200-BP-5 LFI Workplan Milestone will be changed to a 200-BP-5 Treatability Test Plan (TTP) (see Tri-Party Agreement Change Request M-13-93-02). This plan will contain a detailed evaluation and screening of a limited range of available technologies/alternatives and recommend treatability test(s) be performed for the most viable technology(ies). The plan will detail a schedule for implementing these tests which are expected to be field scale efforts. This plan will focus on the IRM and ERA contaminants identified in the 200 East Groundwater AAMSR (both from the BP-5 reverse well and those associated with the 200-BP-1 groundwater plume). The AAMSR recommended SR-90 Groundwater ERA in the 200-BP-5 OU will be integrated into the TTP. Following completion of the activities specified in the TTP, an IRM Proposed Plan will be prepared for use in preparation of the IROD. It is understood that the IROD will be written with sufficient flexibility to allow for the refinement and optimization of the treatment schemes. The IROD will include decision points and criteria sufficient to assess the need for continuation/expansion/cessation of the treatment schemes. The 216-B-5 reverse well and the 699-50-53A wells will be utilized to implement pilot-scale testing of techniques for removal of the above stated primary contaminants from the groundwater. The pilot-scale test will use existing limited well field capacity. The same configuration (without additional modification) will also be assessed as to its effectiveness on secondary contaminants known to exist in the groundwater. The ability to treat nitrate groundwater contamination will be evaluated as part of the 100 Area Treatability Testing Program and may be incorporated into the 200-BP-5 IRM Proposed Plan, if deemed necessary. Treated effluent will be returned to the soil column or to the aquifer.

MILESTONES:

- Begin pilot-scale pump and treat operations for 200-ZP-1 30 days after the IROD is issued but no sooner than February 28, 1994 (M-13-04A).
- Begin pilot-scale pump and treat operations and lab/bench-scale studies for 200-UP-1 30 days after the LFI Workplan is approved but no sooner than March 31, 1994 (M-13-02A).
- Begin pilot-scale pump and treat operations for 200-BP-5 30 days after the Treatability Test Plan is approved but no sooner than August 31, 1994 (M-13-06A).

The above Milestones are predicated on the following:

- Bench scale testing confirms treatment assumptions.
- The groundwater in the southern portion of the 200 East Area (200-PO-1) has low priority contaminants.
- Treated effluent containing contaminants above State water quality standards can be returned to the soil column or to the aquifer.
- Hazardous, radioactive and/or mixed waste (e.g. resins) will be stored and/or disposed of on-site at locations as agreed to by the three parties.
- Additional details and clarifications will be developed by the responsible unit managers documented on a Tri-Party Agreement, Unit Manager Agreement Forms.

Change Number	Federal Facility Agreement and Consent Order Change Control Form	Date
M-15-93-02	Do not use blue ink. Type or print using black ink.	Jan. 25, 1994

Originator: Julie Erickson

Phone: 376-3603

Class of Change

[ ] I - Signatories [X] II - Project Manager [ ] III - Unit Manager

Change Title

100-HR Area Groundwater Operable Unit Milestone Revision.

Description/Justification of Change

Add to the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) the following milestone:

M-15-06E:
Begin pilot-scale pump and treat operations for 100-HR-3. Due Date: August 1994

The scope of the test will be determined based upon the results of the lab/bench scale tests currently being conducted to meet interim Milestone M-15-06B.

Impact of Change

Pilot-scale testing of chemical reduction/precipitation will be necessary to support remedian design and full scale implementation. However, pilot-scale testing of ion exchange will likely not be necessary since scale-up effects are well-known for this technology.

Conduct of pilot-scale test activities may lead to accelerated cleanup of groundwater in the 100-HR-3 Operable Unit.

Affected Documents

Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Action Plan, Appendix D, Work Schedule.

Approvals X Approved ___Disapproved

This change form approved by Amendment Four to the Hanford Federal Facility Agreement and Consent Order executed by the signatories on January 25, 1994.

John Wagoner DOE	January 25, 1994 Date
Gerald Emison EPA	January 25, 1994 Date
Mary Riveland Ecology	January 25, 1994 Date

ACCELERATED CLEANUP OF GROUNDWATER, 100-HR-3 OPERABLE UNIT

ACTION:

Begin groundwater cleanup through the accelerated start of pilot-scale pump and treat projects for the 100 Area groundwater. Contaminants to be addressed in the 100-H Area are chromium. The treatment system will continue to operate until the record of decision (ROD), unless determined to be ineffective or unjustified for human or ecological risk reduction. The treatment systems (wells, pumps, surface equipment and disposal) will be modified/expanded as needed during the treatability and remediation activities to improve the efficiency of the cleanup activities.

BACKGROUND:

Activities conducted within the bounds of the 100-HR-3 Operable Unit (OU) resulted in chromium contamination of the groundwater and subsequently of springs discharging to the Columbia River. These discharges exceed both chronic (11 ug/L) and acute (16 ug/L) lowest observable effect levels for juvenile salmon (EPA, 1986). All chromium analyses available for the 100-HR-3 OU report total chromium, whereas the hexavalent form of chromium is toxic.

There are two areas of concern where chromium concentrations exceed ecological levels of concern. In the 100-D Area, chromium concentrations in wells adjacent to the river are as great as 378 ug/L (Well 199-D8-54A). The maximum concentration of chromium (123 ug/L), determined during sampling of springs in 1990, was found near this same location. A sample of the Columbia River was collected simultaneously with the groundwater sample. The river sample was collected 0.5 feet above the bottom. The chromium concentration of that sample was 2.4 ug/L. In the 100-H Area, chromium concentrations in wells adjacent to the river are as great as 230 ug/L (Well 199-H4-18). The data indicate that chromium concentrations are decreasing with time in the 100-H Area. The maximum chromium concentration determined during the 1990 spring sampling was 51.6 ug/L; the river sample at that location yielded a concentration of 2 ug/L. These are total chromium values and are assumed to be hexavalent chromium as a worst case scenario.

Concern has been expressed by the U.S. Environmental Protection Agency (EPA) and the State of Washington Department of Ecology (Ecology) relative to potential hexavalent chromium impact to aquatic life in the Columbia River. These concerns will be addressed by the ongoing activities discussed in this change request.

SCOPE:

A Qualitative Risk Assessment (QRA) will assess the ecological risk for three scenarios: (1) maximum well concentrations from near river wells; (2) maximum spring concentrations; and (3) maximum river concentrations. A LFI will use these risks, along with other factors to determine whether an Interim Remedial Measure (IRM) is justified. Also, there is ongoing bench scale treatability testing to address four contaminants and areas of concern: chromium, nitrates, gross alpha and gross beta.

A bench scale treatability test is being conducted on reduction/precipitation processes and ion exchange for removal of chromium.

These laboratory/bench scale tests will be completed to meet a Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) milestone, M-15-06B, for remedy selection which will provide the necessary data to support feasibility studies and the OU ROD. A second phase, groundwater treatability study involving pilot-scale testing (on-site) will be performed to generate data for remedial design. The scope of the studies will be determined based upon the results of the lab/bench scale tests but is anticipated

to include pilot-scale studies of chemical reduction/precipitation only. Location of pilot-scale treatability test within the 100-HR Area will be based on the potential for the greatest reduction of risk to the ecological system utilizing the existing well system. Field testing activities will be completed in October 1994. A test plan will be prepared to establish the criteria for determination of what constitutes a successful test. Assuming the pilot scale test is successful it would continue to operate until the ROD. Full-scale operation would be implemented if it were determined to be the selected remedy under the 100-HR-3 ROD. If the pump and treat operation is the selected remedy under the ROD it would continue until the three parties evaluate the operation using the following criteria:

1) Hexavalent chromium measured in wells near the Columbia River fall below the MTCA standard (50 ug/L) for two consecutive sampling periods.

2) Sampling of water occurring in the river bottom substrate environment, where springs are suspected to discharge contaminated groundwater, in concentrations representative of the plume, indicates that hexavalent chromium in this environment is below and will remain below the chronic ambient water quality criterion for the protection of freshwater aquatic life for hexavalent chrome (11 ug/L) set by the EPA.

3) Groundwater/Columbia River interaction studies, numerical models or physical models indicate that predicted levels of hexavalent chromium within the riverbed substrate environment, where contaminated groundwater is suspected to discharge, in concentrations representative of the plume, are below the chronic ambient water quality criterion for the protection of freshwater aquatic life for hexavalent chrome (11 ug/L) set by the EPA.

4) Biological surveys, such as aerial photographic records, of Columbia River sections where contaminated groundwater discharges may be reasonably be expected to occur, indicate that contemporary salmonid redd distributions are at concentrations and locations expected if hexavalent chromium were not an influence.

5) The effectiveness (including cost/unit of hexavalent chromium removed) of the treatment technology does not justify further operation.

6) An alternate treatment technique, such as chemical reduction of the hexavalent chromium to a less toxic valence, that is more effective or is less costly is substituted.

ASSUMPTIONS:

- The LFI activities do not identify hexavalent chromium data inconsistent with data to date.
- The QRA justifies the need for remediation.
- Treated effluent containing contaminants above State water quality standards can be disposed of to the soil column or aquifer.
- Hazardous, radioactive and/or mixed waste (e.g. resins) will be stored and/or disposed of on-site at locations as agreed to by the three parties.
- Bench scale tests will confirm treatment assumptions.
- The pilot-scale treatability test will be performed in accordance with the 100-HR-3 Groundwater Treatability Test Plan.

Description/Justification of Change (Continued)

- Additional details and clarifications will be developed by the responsible Unit Managers and documented on a Tri-Party Agreement, Unit Manager Agreement Forms.

SCHEDULE:

M-15-06E
Begin pilot-scale pump and treat operations for 100-HR-3 Due Date: August 1994

Change Number	Federal Facility Agreement and Consent Order Change Control Form	Date
M-26-93-01	Do not use blue ink. Type or print using black ink.	Jan. 25, 1994

Originator: J. M. Hennig

Phone: 509/376-1366

Class of Change

[ ] I - Signatories [X] II - Project Manager [ ] III - Unit Manager

Change Title

Tritiated Waste Water Treatment Evaluation

Description/Justification of Change

A technological solution needs to be found for controlling or removing residual tritium from water at the concentrations and quantities which presently exist in the environment or which will remain in liquid effluent streams after treatment. The two major applications for this treatment technology at the Hanford Site would potentially be the clean up of tritium contaminated groundwater and waste water which contains residual tritium after treatment (e.g., the 242-A Evaporator Process Condensate liquid effluent).

(continued on next page)

Impact of Change

This change will provide a regular comprehensive review of tritium control and treatment technologies that would be applicable for use at the Hanford Site. Tritium treatment technology will be reviewed for application to the treatment of tritium contaminated waste water and tritium contaminated groundwater with the purpose of identifying solutions which look promising for large scale applications. DOE, Ecology and EPA will work together to screen emerging promising technologies to identify those technologies suitable for bench and pilot-scale testing with Hanford contaminated water. If application of a technology is mutually agreed-upon, implementation (e.g., bench scale, pilot scale, full scale) of the technology will be incorporated into the Agreement Action Plan through negotiation. Timely resolution of these negotiations (within six months) is expected. Failure to complete negotiations within six months from annual report submission will result in dispute resolution.

Affected Documents

Hanford Federal Facility Agreement and Consent Order Action Plan Table D-3 and Figure D-1.

Approvals X Approved ___Disapproved

This change form approved by Amendment Four to the Hanford Federal Facility Agreement and Consent Order executed by the signatories on January 25, 1994.

John Wagoner DOE	January 25, 1994 Date
Gerald Emison EPA	January 25, 1994 Date
Mary Riveland Ecology	January 25, 1994 Date

The DOE proposes that a Tri-Party Agreement interim milestone be established to provide a comprehensive annual review of the development status of tritium contaminated water treatment and control technologies. The summary report would be written in a non-technical fashion and would contain a bibliography to reference technical reports, and would be less than 30 pages in length. The report should cover:

A. A brief background discussion about tritium, the Drinking Water Standards established for tritium by the Environmental Protection Agency and the environmental and health risks (short term and long term) associated with exposure to tritium.

B. A summary of the expected discharge of tritium contaminated waste water from the 200 Area Effluent Treatment Facility and other current or future liquid effluents which have tritium present in concentrations in excess of the Drinking Water Standards. This summary will include the expected concentration of tritium in the effluent after treatment, the expected volume of discharge, and the total curies of tritium expected to be discharged.

C. Summary of the extent of tritium contamination in the groundwater beneath the Hanford Site. This summary will describe the direction, speed, movement, and concentration gradients of the tritium ground water plume(s).

D. A comparison of the extent of the tritium contamination, tritium control and treatment technologies and permit conditions at Hanford against other DOE sites.

E. A survey of the major permits granted for the disposal of tritiated waste water. A comparison of the disposal mechanisms and permitting approach being used at other facilities in the United States disposing of tritiated discharges in concentrations in excess of the EPA Drinking Water Standards. The report will contain an evaluation and comparison of the permit conditions being imposed at these sites and release limits being used worldwide for tritiated waste water discharges to the environment.

F. The current waste management practices and summary of technology development associated with tritium contaminated water currently used in:

- The DOE complex
- Commercial Nuclear Facilities within the U.S.
- Internationally; Canada, France, Belgium, Germany, Japan, Russia

G. The background and basis for continuing to discharge the tritiated waste water to the soil column. This section should provide an analysis of the treatment technologies evaluated, the disposal options considered and the basis for the selection of soil column disposal. Included should be the summary of the groundwater modeling done to select the site for disposal of the liquid effluent.

H. A discussion and status of tritiated water treatment and control technologies. An analysis of the application of sufficiently developed technologies to the tritium contamination issues at the Hanford Site. If the technologies appear feasible, develop rough order of magnitude cost estimates and schedules for specific technology application at Hanford.

I. An analyses of options for reuse of all or parts of the tritium contaminated waters at the site including, but not limited to, use as a feed water in sludge washing, cooling water in new facilities or as hydraulic barriers for containment of more dangerous plumes.

The interim milestone:

M-26-05 Commencing August 1994 and annually thereafter:

Submit to EPA and Ecology an evaluation of development status of tritium treatment technology that would be pertinent to the cleanup and management of tritiated waste water (e.g., the 242-A Evaporator Process Condensate liquid effluent) and tritium contaminated groundwater at the Hanford Site.

9413381529

Change Number	Federal Facility Agreement and Consent Order Change Control Form	Date
M-13-93-06	Do not use blue ink. Type or print using black ink.	Jan. 25, 1994

Originator: K. Michael Thompson — Phone: 376-6421

Class of Change
[x] I - Signatories [ ] II - Project Manager [ ] III - Unit Manager

Change Title

Cleanup Strategy Documents for the Columbia River and Hanford Groundwater

Description/Justification of Change

Ecology, EPA and DOE agree that, in order to achieve effective and timely remedial decisions and actions concerning the Columbia River and Hanford groundwater, certain strategies must be developed to clearly describe the objectives, goals and technical approaches in these areas.

Milestone	Description	Date
M-13-80	Submit Compendium of Existing Columbia River Contaminant Data to EPA and Ecology	Apr. 1994
M-13-80A	Complete Columbia River Contaminant Workshops	Jun. 1994
M-13-80B	Submit the Columbia River Comprehensive Impact Assessment to EPA and Ecology (Human Health and Environmental Risk Assessment)	TBD
M-13-81	Submit Work Plan on the Hanford Groundwater Remediation Strategy to EPA and Ecology	Aug. 1994
M-13-81A	Submit Work Plan on the Hanford Groundwater Protection Management Plan to EPA and Ecology	Oct. 1994

Impact of Change

The implementation of this change will select three remedial strategy documents that will be submitted in-lieu of operable unit work plans under TPA Milestone M-13 in 1994. The Documents will describe the overall investigation and remediation objectives, goals and technical approaches for the Columbia River and Hanford groundwater that has been demonstrated to be impacted by Hanford operations.

Affected Documents
Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Action Plan, Appendix D.

Approvals X Approved ___Disapproved

This change form approved by Amendment Four to the Hanford Federal Facility Agreement and Consent Order executed by the signatories on January 25, 1994.

John Wagoner — DOE — January 25, 1994 — Date

Gerald Emison — EPA — January 25, 1994 — Date

Mary Riveland — Ecology — January 25, 1994 — Date

COLUMBIA RIVER COMPREHENSIVE IMPACT ASSESSMENT

Assessment for cleanup decisions at the Hanford Site requires a comprehensive impact assessment of current and residual Hanford-derived contaminants to the Columbia River and its natural resources. Associated current human health and environmental impacts will be assessed. This process will utilize an ecosystem approach for guiding remedial decisions. 100-Area, 200-Area and 300-Area operable units will continue to assess contaminant sources and remediation. The Columbia River Comprehensive Impact Assessment will address all Columbia River contaminants, risk assessments and remediation. If unacceptable levels of human health or environmental risk are found, appropriate remedial actions will be initiated consistent with the National Contingency Plan and the Tri-Party Agreement through the Hanford Past Practice Strategy. Remedial decisions resulting from the Columbia River Comprehensive Impact Assessment will consider impacts to the environment and natural resources from alternative remedial options as part of the remedial decision process.

The Columbia River Comprehensive Impact Assessment will benefit activities undertaken pursuant to the natural resource damages provisions of CERCLA by providing data that will be of value in such activities.

The initial Columbia River Comprehensive Impact Assessment effort will be the development of a "compendium" of existing data on Columbia River contamination. This will be followed by a workshop, open to the affected American Indian Tribes, The State of Oregon, the Hanford Advisory Board (HAB), and the public, that will give a concise briefing on Columbia River contaminants from Hanford Site operations and resultant human health and environmental impacts. Subsequently, the wealth of data that currently exists will be collected and distributed to Ecology, EPA and the Public Reading Rooms. An analysis of the data by Ecology, EPA and DOE, as well as stakeholders such as affected American Indian Tribes, the State of Oregon, the HAB and other users of the Columbia River who wish to participate will be performed. A determination will be made if human health and environmental risk assessments can be performed with the existing data. Additional data necessary to verify key existing data that may be of inadequate quality to support no action decisions or to fill-in data gaps will be collected under a limited field investigation work plan, with appropriate new TPA milestones. Due to this uncertainty no date is applied to the milestone that falls after the analysis of the existing data base. Data analyses and decisions will undergo peer review by a technically qualified, independent group, acceptable to Ecology, EPA and DOE. Throughout this process, government-to-government consultations on the "compendium" and other related issues will be proceeding between the DOE and the affected American Indian Tribes, supported by the other signatories. The State of Oregon, the HAB, other stakeholder groups and the public will also be provided the opportunity to provide input during this process.

The reporting of existing data on Hanford-derived contamination to the Columbia River and its natural resources has no constraints on downstream boundaries. However, an analysis of the data will be used to determine an appropriate downstream boundary for any subsequent data collection.

HANFORD GROUNDWATER REMEDIATION STRATEGY

The planned initiation of several pilot-scale groundwater pump-and-treat operations in 1994 has resulted in significant public interest in the review of a Hanford groundwater remediation strategy. A concise strategy needs to be documented that describes how Hanford groundwater remediation will be accomplished at Hanford. The objectives/goals, prioritization of actions and technical approaches will be addressed. This strategy document will be submitted in-lieu of an operable unit work plan required by TPA milestone M-13 in 1994.

HANFORD SITE GROUNDWATER PROTECTION MANAGEMENT PROGRAM

Ecology, EPA and DOE agree that there is a need to coordinate measures required to manage and protect groundwater resources at Hanford. A mechanism is needed that coordinates discharge to the ground, groundwater withdrawal and treatment, and the treatment of liquid effluents that are discharged to the soil column. DOE Order 5400.1 requires such a groundwater protection management program. Ecology, EPA and DOE agree that the document describing the Hanford Site Groundwater Protection Management (DOE/RL-89-12) will be revised to incorporate cleanup goals, TPA requirements and permitting concerning discharge to the ground, groundwater withdrawal and treatment, and the treatment of liquid effluents that are discharged to the soil column. The plan will be used to coordinate these efforts and to manage the Hanford Site groundwater resource. It will be submitted in-lieu of an operable unit work plan required by TPA Milestone M-13 in 1994. The plan will be reviewed on an annual basis to determine if amendments are necessary.

Change Number	Federal Facility Agreement and Consent Order Change Control Form	Date
M-16-93-01	Do not use blue ink. Type or print using black ink.	Jan. 25, 1994

Originator: Julie Erickson

Phone: 376-3603

Class of Change

[ ] I - Signatories [X] II - Project Manager [ ] III - Unit Manager

Change Title

Effluent Pipeline Expedited Response Action

Description/Justification of Change

Add to the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) the following milestone:

M-16-80
Submit to the U.S. Environmental Protection Agency and the State of Washington Department of Ecology the Engineering Evaluation/Cost Analysis (EE/CA) for 100 Area Reactor Effluent Pipeline Removal.

Due: September 1994

Impact of Change

The action should eliminate the physical and potential radiological hazards associated with deteriorating conditions of the pipelines. Broken sections of the pipeline could become a physical hazard to tribal and recreational uses of the river.

Affected Documents

Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Action Plan, Appendix D, Work Schedule.

Approvals _X_ Approved ___ Disapproved

This change form approved by Amendment Four to the Hanford Federal Facility Agreement and Consent Order executed by the signatories on January 25, 1994.

John Wagoner DOE	January 25, 1994 Date
Gerald Emison EPA	January 25, 1994 Date
Mary Riveland Ecology	January 25, 1994 Date

Effluent Pipeline Expedited Response Action

Action

Removal and/or stabilization of the 100 Area Reactor river discharge lines and outfall structures. The action should eliminate the physical and potential radiological hazards associated with deteriorating conditions of the pipelines. Broken sections of the pipeline could become a physical hazard to tribal and recreational uses of the river.

Background

The river discharge lines were constructed as part of each reactor area process effluent system and operated until the associated reactor was shut down. The pipelines are under or on the river bed and need to be stabilized or removed. The pipelines are no longer in use and information indicates the pipes' structural integrity is poor. Additionally, residual contamination is present primarily as scale inside the pipelines. In 1986 the radiological and physical characteristics of the pipelines were assessed. The location, size, and number of the pipes were verified and the conditions assessed. It was found that pipe segments were missing from the 100-F pipelines, which were later discovered downriver. All pipelines at the time were suffering from the deteriorating conditions from river action. The pipes and their anchors were being undermined and will eventually give way.

Health Physics surveyed the pipes and analyzed sediments and scraping samples to determine the radionuclides inventory. The predominate isotopes in the pipelines were europium-152 and -154. Most of the activity seemed to be fixed within the rust on the interior pipe surface from which the scrapings were collected. Sediment samples indicated that isotopic concentrations were less in the sediment than in the pipe scrapings. The contact dose rate on the outside of the pipe surface was zero. The contact dose rate on the interior surface was less than 1 mrem/h.

Scope

Engineering studies will be conducted to evaluate the alternatives for stabilization or removal of the river discharge pipelines. These studies will follow the Expedite Response Action non-time critical implementation pathway. Studies will consider the ecological and human health risks associated with in-place stabilization or removal of the pipes. Additionally, the permitting requirements will also be evaluated to determine schedule and cost impacts.

Assumptions

- Cost and schedule for pipeline and outfall removal will be addressed in the EE/CA.
- A remedial alternatives risk assessment will be performed.

Schedule

- M-16-80 Prepare and issue the EE/CA study by September 1994.

Vent Pipe Removal and Eliminate Surface Contamination at D-Island

Action

Actions include A) removal of D-Island and 100-D Reactor river effluent pipeline ventilation pipes; B) removal of miscellaneous speck contamination identified during D-Island surveillance; and, C) survey for speck contamination along river banks in the 100 Area. The D-Island and southern shoreline river banks (while posted for no trespassing) are readily accessible to the public. The objective is to remove radiological hazards as an additional safety precaution.

Background

The 100-D Reactor was outfitted with two process effluent lines, both 42 inches in diameter, that traversed under a channel of the river, crossed an island, and discharged into the main channel of the Columbia River. The effluent pipeline has approximately 40 one-inch T-shaped vent pipes extending one to 3 feet above the island. These pipes are underwater, except at periods of low water. During high water periods, river water has flushed contamination from the pipes on to D-Island. Previous surveys (going back to 1978) have found surface contamination on the island and the vent pipes contain low levels of radioactive contamination and could be the source of the D-Island speck contamination. To gain a more concise understanding of the problem, Westinghouse Hanford Company conducted a radiological survey from April 12 through April 28, 1993, of approximately 50% of the island that surrounds the vent pipes. The survey was conducted using sodium iodide detectors and utilizing the USRADS. A total of 106 radioactively contaminated particles was identified and removed. The suspected source of the contamination has been identified as the vent pipes; however, there has been some speculation that other sources may be involved. Similar types of contaminated particles have been detected and removed from the southern shoreline of the river downstream from the D-Island.

Additionally, as part of the 100 Area-wide operable unit investigations, a shoreline radiological survey has been conducted along 8.3 miles of the 100-HR-3 operable unit shoreline. A total of 6,850 data points was logged, and six small areas of contamination were detected and removed. No additional contamination areas were detected.

Scope

Activities include the following:

A) Removal of the vent pipes during the next low-river stage. Required permits have been requested and should be in place by fall when the river levels are expected to drop. Approximately 6 to 12 inches of cobbles, rubble and sediment will be excavated at each vent pipe, and the pipe cut and capped. Clean material (if material removed is contaminated) will then be backfilled into the remaining hole.

B) A radiological survey will then be conducted for the entire D-Island using the USRADS during the low-river stage and contamination, if any, will be removed.

C) Resurvey of D-Island within 24 months of the removal action. Future need for surveys will be evaluated based on the results of the resurvey.

D) Due to the stakeholder interest in this action U.S. Department of Energy, Richland Operations Office will notify the Regulators 5 days prior to any field work on D-Island.

E) Perform a periodic survey of the 100 Area shoreline for radiological contamination, consistent with the results of the Comprehensive Columbia River Study initiated in 1994.

E) Perform a periodic survey of the 100 Area shoreline for radiological contamination, consistent with the results of the Comprehensive Columbia River Study initiated in 1994.

Assumptions

- Removal actions can only be conducted during low river levels.
- Contamination found during future radiological surveys will be picked up at that time.
- Shoreline surveys will be conducted as part of the Pacific Northwest Laboratory routine monitoring program.
- Shoreline surveys will be between the high- and low-water marks.

Schedule

- D-Island vent pipes were removed and the main effluent pipe was plugged in October 1993. Radiological surveys at D-Island were performed at that time. Additional D-Island radiological surveys will be conducted in the September to November 1994 time frame, after appropriate radiological thresholds for remediation have been established.

ARTICLE I. JURISDICTION

Add at the end of paragraph 6 the following new paragraph:

(6.A). On April 13, 1993, the District Court for the Eastern District of Washington issued an Order Granting in Part and Denying in Part Motions to Dismiss claims of the plaintiffs in Heart of America Northwest v. Westinghouse Hanford Company, No. CY-92-144-AAM. The court concluded in its opinion that this Agreement embodies an integrated response action under sections 120 and 104 of CERCLA, and that plaintiffs' claims consequently were barred by section 113(h) of CERCLA. Plaintiffs did not seek to enforce this Agreement, but instead sought to impose requirements that were not part of this Agreement. Nothing in the court's opinion affects the enforceability of this Agreement. All parties reaffirm that this Agreement is enforceable in accordance with all its terms, reservations and applicable law.

PART TWO

PERMITTING/CLOSURE OF TSD UNITS/GROUPS

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ARTICLE VII. WORK

25. DOE agrees to perform the work described in this Article VII in accordance with ~~Attachment 2 to this Agreement is~~ the Action Plan. The Action Plan delineates the actions to be taken, schedules for such actions, and establishes the overall plan to conduct RCRA permitting and closures, and remedial or corrective action under CERCLA or RCRA. The Action Plan lists the Hanford TSD Units and TSD Groups which are subject to permitting and closure under this Agreement. Additional TSD Units may be listed as they are identified. Units listed in Appendix B of the Action Plan are subject to regulation under RCRA and Ch. 70.105 RCW. Ecology agrees to provide DOE with guidance and timely response to requests for guidance to assist DOE in the performance of its work under Part Two of this Agreement.

26. DOE shall comply with RCRA Permit requirements for TSD Units specifically identified for permitting or closure by the Action Plan and shall submit permit applications in accordance with the Action Plan. EPA shall issue the HSWA ~~corrective action~~ provisions of such permits ~~established in accordance with Part Three~~ until such authority is delegated to Ecology pursuant to Section 3006 of RCRA. EPA and Ecology shall

review such permit applications in accordance with applicable law. The RCRA Permit, whether issued by Ecology and EPA, or Ecology alone after delegation of HSWA authority, shall reference the terms of this Agreement, and provide that compliance with this Agreement and corrective action permit conditions developed pursuant to this Agreement shall satisfy all substantive corrective action requirements of RCRA/HSWA.

27. DOE shall bring its facility into compliance with RCRA ~~interim status~~ requirements specified in the Action Plan according to the schedule set forth therein ~~in the Action Plan~~. DOE shall comply with RCRA closure requirements under applicable regulations for those TSD Units specifically identified in the Action Plan. DOE shall implement closures in accordance with the Action Plan. Closures under this Article shall be regulated by Ecology under applicable law, but shall, as necessary, be coordinated with remedial action requirements of Part Three.

28. If Ecology determines that DOE is violating or has violated any RCRA requirement of this Agreement, and that formal enforcement action is appropriate, it will notify DOE in writing of the following: the facts of the violation(s); the regulation(s) or statute(s) violated; and Ecology's intention to take formal enforcement action; provided, however, that no such notice will necessarily be given for violations that Ecology considers egregious. The purpose of providing this notice is to allow DOE an opportunity to identify any facts it believes are erroneous. This notice shall be sent to the Program Manager for DOE's Office of Environmental Assurance, Permits & Policy no

later than seven (7) days before Ecology intends to take formal enforcement action. This notice (or the failure to give notice of violations that Ecology considers egregious) shall not be subject to dispute resolution under this Agreement. If Ecology takes formal enforcement action, the adequacy of the notice provided pursuant to this paragraph may not be challenged in any appeal. For purposes of this paragraph, taking "formal enforcement action" means issuing an order and/or penalty under chapter 70.105 RCW. ~~If Ecology determines that DOE is violating any permit or interim status requirement or other applicable requirement, it shall notify DOE in writing of the alleged violation, actions necessary to achieve compliance and a schedule for doing so. DOE shall have twenty-one (21) days to respond in writing to such notice. Such response shall indicate whether DOE disputes the alleged violation, in whole or in part, and what actions DOE will take to achieve compliance and the schedule for such action. Any disputes regarding the alleged violation or DOE's response shall be subject to Article VIII (Resolution of Disputes).~~

ARTICLE VIII. RESOLUTION OF DISPUTES

29. Except as otherwise specifically provided in this Agreement, if DOE objects to any Ecology disapproval, proposed modification, decision or determination made pursuant to Part Two of this Agreement (or Part Three requirements imposed by Ecology pursuant to HSWA provisions upon authorization) it shall notify Ecology in writing of its objections within seven (7) ~~twenty-one (21)~~ days of receipt of such notice. Thereafter, DOE and Ecology

shall make reasonable efforts to informally resolve disputes at the unit manager level. If resolution cannot be achieved at this level within thirty (30) days after Ecology's receipt of DOE's objection, the objection shall be elevated to Ecology's Project Manager who shall continue to make reasonable efforts to resolve the dispute at the Project Manager level. ~~make a written decision or determination.~~ Ecology's Project manager shall issue a written decision or determination no later than forty-four (44) days after Ecology's receipt of DOE's objections. These Dispute Resolution provisions shall not apply to Dangerous Waste permit actions which are otherwise subject to administrative or judicial appeal. These Dispute Resolution provisions shall not apply to enforcement actions which are otherwise subject to administrative or judicial appeal, except that these Dispute Resolution provisions shall apply in the event of the assessment of stipulated penalties under Article (Article VIII.A).

A. Within ten (10) ~~thirty (30)~~ days after receipt of the Project Manager's decision, DOE may submit to the Dispute Resolution Committee (DRC) ~~Ecology~~ a written statement of dispute setting forth the nature of the dispute, the disputing Party's position with respect to the dispute, ~~and~~ the information the disputing Party is relying upon to support its position, and a description of the steps taken to try to resolve the dispute. ~~to the Dispute Resolution Committee (DRC).~~ The DRC will serve as a forum for resolution of disputes for which agreement has not been reached through informal dispute resolution. The Parties agree to utilize the Dispute Resolution process only in good faith and

agree to expedite, to the extent possible, the Dispute Resolution process whenever it is used. Any challenge as to whether a dispute is raised in good faith shall be subject to the provisions of this Article and addressed as part of the underlying dispute.

B. The Ecology designated member of the DRC is the Assistant Director for Waste Management. DOE's designated member of the DRC is the Program Manager, Office of Environmental Assurance, Permits & Policy ~~Assistant Manager for Environmental Management~~ of the Richland Operations Office. Notice of any delegation of authority from a Party's designated member on the DRC shall be provided to the other Party.

C. During the ten (10) ~~thirty (30)~~ day~~s~~ period preceding the submittal of the written statement to the DRC, the Parties may engage in informal dispute resolution among the Project Managers. During this informal dispute resolution period, the Parties may meet as many times as necessary to discuss and attempt resolution of the dispute.

D. Following elevation of a dispute to the DRC, the DRC shall have twenty-one (21) days to unanimously resolve the dispute. If the DRC is unable to unanimously agree on a resolution of the dispute, the Director of Ecology shall make a final written decision or written determination no more than ~~thirty-five (35) days after elevation of the dispute to the DRC within twenty-one (21) days~~. Upon request and prior to resolution of the dispute, the Director shall meet with the Manager of DOE-RL to discuss the matter. Any such meeting shall

not extend the deadline by which the Director of Ecology shall make a final decision or determination. All parties agree that this final decision or determination shall be deemed to have been decided as an adjudicative proceeding and that DOE may challenge Ecology's final decision or determination as provided by and subject to the standards contained in Ch. 34.05 RCW. If DOE objects to the decision or determination, DOE may file an appeal, at DOE's discretion, in either the Pollution Control Hearing Board (PCHB) or in the courts. If DOE elects to file an appeal from the decision directly in the courts, Ecology agrees that it will not raise an argument that initial jurisdiction of the matter should lie with the PCHB. ~~Such decision or determination shall be deemed to have been decided as a contested case, pursuant to Ch. 34.04 RCW, or as an adjudicative proceeding, pursuant to Ch. 34.04 RCW, as amended. If DOE objects to such decision or determination, DOE may appeal to the appropriate tribunal for review. DOE and Ecology stipulate that DOE's appeal of the Director's final decision may be challenged directly in court thereby avoiding an appeal to the Pollution Control Hearings Board (PCHB). All Parties agree that DOE may challenge Ecology's final decision as provided by and subject to the standards contained in Ch. 34.04 RCW, as amended.~~

(D.1).Any deadline in the Dispute Resolution process may be extended with the consent of Ecology and DOE.

E. The pendency of any dispute under this Article shall not affect DOE's responsibility for timely performance of the work required by this Agreement, except that, when DOE has

delivered a change request to Ecology one hundred and ten (110) days or more in advance of when a milestone or other enforceable schedule or deadline under this Agreement is due and Ecology's action on the change request has been disputed under this Article, the time period for completion of work directly affected by such dispute shall be extended for at least a period of time equal to the actual time taken to resolve any good faith dispute beyond ninety-six (96) days. In accordance with the procedures specified ~~herein~~ in Article XL (Extensions) and Section 12 of the Action Plan, the Parties may agree to extend or postpone any milestone or other enforceable schedule or deadline under this Agreement during the pendency of any dispute. All elements of the work required by this Agreement which are not directly affected by the dispute shall continue and be completed in accordance with this Agreement.

(E.1).In the event that Ecology assesses stipulated penalties under Article (VIII.A) and DOE disputes the matter under this Article VIII, stipulated penalties with respect to the disputed matter shall continue to accrue but payment shall be stayed pending resolution of the dispute. Notwithstanding the stay of payment, stipulated penalties shall accrue from the first day of noncompliance with any applicable provision of the Agreement. In the event that Energy does not prevail on the disputed issue, stipulated penalties may be assessed and shall be paid as provided in Article (VIII.A).

F. When Dispute Resolution is in progress, work affected by the dispute will immediately be discontinued if Ecology requests, in writing, that such work be stopped, and states the reason as to why stoppage is required. After stoppage of work, if DOE believes that the work stoppage is inappropriate, DOE may meet with Ecology to discuss the work stoppage. Within twenty-one (21) days of this meeting, Ecology will issue a final written decision with respect to the stoppage. This final written decision of the Ecology Project Manager may immediately be subjected to dispute resolution at the DRC level.

G. DOE shall abide by all terms and conditions of a final resolution of any dispute. Within twenty-one (21) days of the final resolution of any dispute under this Article, or under any appeal action, DOE shall incorporate the resolution and final determination into the appropriate plan, schedule or procedure(s) and proceed to implement this Agreement according to the amended plan, schedule or procedure(s). DOE shall notify Ecology as to the action(s) taken to comply with the final resolution of a dispute.

H. Under the applicable portions of the Action Plan attached to this Agreement, Ecology will make final written decisions or determinations regarding compliance with Ch. 70.105 RCW. Disputes regarding these decisions or determinations shall be resolved utilizing the procedures described above, except as otherwise specifically provided in this Agreement. Ecology will also be making certain decisions and determinations as Lead Regulatory Agency at certain CERCLA units pursuant to the Action

Plan. Disputes involving Ecology's CERCLA decisions or determinations shall be resolved utilizing the Dispute Resolution process in Part Three, Article XV.

I. When DOE submits RCRA Permit applications, closure plans, and post-closure plans required under Ch. 70.105 RCW which are deficient, Ecology ~~the Lead Regulatory Agency~~, as appropriate, may ~~shall~~ respond~~, when appropriate,~~ with a Notice of Deficiency (NOD) documenting revisions necessary for compliance, or may, in the event the submission is found by Ecology to be not in good faith or to contain significant deficiencies, assess stipulated penalties in accordance with Article (VIII.A). In the event that NOD(s) are issued, the first two NODs on any submittal shall not be subject to the formal dispute resolution process. Any subsequent NOD may be so subject. ~~The Parties~~ Ecology and DOE may agree, however, to subject any NOD to dispute resolution.

NEW ARTICLE

ARTICLE (VIII.A). STIPULATED DANGEROUS WASTE PENALTIES

(VIII.A.1).In the event that DOE fails to submit a Primary Document pursuant to the appropriate timetable or deadline or fails to comply with a term or condition of Part Two of this Agreement including milestones (or Part Three Corrective Action requirements upon authorization of Ecology to implement such requirements), Ecology may assess a stipulated penalty against DOE. A stipulated penalty may be assessed in an amount up to $5,000 for the first week (or part thereof), and up to $10,000 for each additional week (or part thereof) for which a failure set forth in this Paragraph occurs.

If the failure in question is not already subject to Dispute Resolution at the time such assessment is received, DOE shall have seven (7) days after receipt of the assessment to invoke Dispute Resolution on the question of whether the failure did in fact occur. DOE shall not be liable for the stipulated penalty assessed by Ecology if the failure is determined, through the Dispute Resolution process, not to have occurred. No assessment of a stipulated penalty shall be final until the conclusion of dispute resolution procedures on DOE's failure to comply.

(VIII.A.2).The annual reports required by Section 120(e)(5) of CERCLA shall include, with respect to each final assessment of a stipulated penalty against DOE under this Agreement, each of the following:

A. The facility responsible for the failure;

B. A statement of the facts and circumstances giving rise to the failure;

C. A statement of any administrative or other corrective action taken at the relevant facility, or a statement of why such measures were determined to be inappropriate;

D. A statement of any additional action taken by or at the facility to prevent recurrence of the same type of failure; and

E. The total dollar amount of the stipulated penalty assessed for the particular failure.

(VIII.A.3).Stipulated penalties assessed pursuant to this Article shall be payable to the Hazardous Waste Control and Elimination account of the State Treasury.

(VIII.A.4). All funds collected by the state from DOE penalties under this Agreement shall be used by the State as provided by the Federal Facility Compliance Act, Section 102(b).

(VIII.A.5).In no event shall this Article give rise to a stipulated penalty in excess of the amount set forth in RCRA Section 3008.

(VIII.A.6).This Section shall not affect DOE's ability to request an extension of a timetable, deadline, or schedule pursuant to any Section of this Agreement, including Article XL (Extensions). No penalty shall be assessed for a violation of a timetable, deadline or schedule caused by an event of force majeure as defined under Article XLVII (Force Majeure).

(VIII.A.7).Nothing in this Agreement shall be construed to render an employee or authorized representative of DOE personally liable for the payment of any stipulated penalty assessed pursuant to this Article.

(VIII.A.8).Nothing in this Agreement shall be construed as prohibiting, altering, or in any way limiting the ability of Ecology to seek any remedies or sanctions available by virtue of DOE's violation of this Agreement or, for matters not specifically addressed by this Agreement, of the statutes and regulations upon which it is based, including but not limited to penalties, pursuant to Ch. 70.105 RCW; provided, however, that the assessment of stipulated penalties shall preclude Ecology from seeking any other penalty payments from DOE under Ch. 70.105 RCW for the same violations.

PART THREE

REMEDIAL AND CORRECTIVE ACTIONS

ARTICLE XV. RESOLUTION OF DISPUTES

50. If a dispute arises under Part Three of this Agreement or as specifically set forth elsewhere in this Agreement, the procedures of this Article shall apply. These procedures shall not apply, however, where otherwise specifically excluded. The Parties to this Agreement shall make reasonable efforts to informally resolve disputes among Project Managers or their immediate supervisors. Except as provided in Paragraph 37, if resolution cannot be achieved informally, the procedures of this Article shall be implemented to resolve a dispute. These Dispute Resolution provisions shall not apply to RCRA permit actions which are otherwise subject to administrative or judicial appeal. These Dispute Resolution provisions shall not apply to enforcement actions which are otherwise subject to administrative or judicial appeal, except that these Dispute Resolution provisions shall apply in the event of the assessment of stipulated penalties.

A. Within thirty (30) days after: (1) the period established for review of a primary document pursuant to Article XIV (Review of Documents), or (2) any action which leads to or generates a dispute, the disputing Party shall submit to the other Parties a written statement setting forth the nature of the dispute, the work affected by the dispute, the disputing Party's

position with respect to the dispute, ~~and~~ the information the disputing Party is relying upon to support its position, and a description of all steps taken to resolve the dispute.

B. Prior to issuance of a written statement of dispute, the disputing Parties shall engage the other Parties in informal Dispute Resolution among the Project Managers and/or their immediate supervisors. During this informal Dispute Resolution period the Parties shall meet as many times as necessary to discuss and attempt resolution of the dispute.

C. If agreement cannot be reached on any issue within the informal Dispute Resolution period, the disputing Party shall forward the written statement of dispute to the Dispute Resolution Committee ("DRC") within the 30 days specified in subparagraph A above, thereby elevating the dispute to the DRC for resolution.

D. The DRC will serve as a forum for resolution of disputes for which agreement has not been reached through informal dispute resolution. The Parties shall each designate in writing one individual and an alternate to serve on the DRC. The individuals designated to serve on the DRC shall be employed at the policy level or be delegated the authority to participate on the DRC for the purposes of dispute resolution under this Agreement. The EPA representative on the DRC is the Hazardous Waste Division Director of EPA's Region 10. DOE's representative on the DRC is the ~~Assistant Manager for Environmental Management~~ Program Manager, Office of Environmental Assurance, Permits and Policy, of the Richland Operations Office. Ecology's

representative on the DRC is the Assistant Director for Waste Management. Written notice of any delegation of authority from a Party's designated representative on the DRC shall be provided to all other Parties pursuant to the procedures of Article XXXIII (Notification).

E. Following elevation of a dispute to the DRC, the DRC shall have twenty-one (21) days to unanimously resolve the dispute and issue a written decision. If the DRC is unable to unanimously resolve the dispute within this 21-day period, the written statement of dispute shall be forwarded by the disputing Party within seven (7) days to the Senior Executive Committee (SEC) for resolution.

F. The SEC will serve as the forum for resolution of disputes for which agreement has not been reached by the DRC. EPA's representative on the SEC is the Regional Administrator of EPA Region 10. Ecology's representative on the SEC is its Director. DOE's representative on the SEC is the DOE Richland Operations ~~Office~~ Manager. The SEC members shall, as appropriate, confer, meet and exert their best efforts to resolve the dispute. The SEC shall have twenty-one (21) days to unanimously resolve the dispute.

G. If unanimous resolution of the dispute is not reached within twenty-one (21) days, EPA's Regional Administrator shall issue a final written decision resolving ~~position on~~ the dispute within 14 days. This authority can not be delegated. The time for issuing a final decision may be extended by EPA upon notice to the other parties. If the dispute involves a decision

where Ecology serves as the lead regulatory agency, EPA's Regional Administrator shall consult with the Director of Ecology before issuing a final ~~in preparing the~~ written decision ~~position on the dispute. Within twenty-one (21) days of the Regional Administrator's issuance of the written position on the dispute, the disputing Party may issue a written notice elevating the dispute to the Administrator of EPA for resolution in accordance with all applicable laws and procedures. If no election to elevate the dispute is made within the 21-day period, the disputing Party shall be deemed to have agreed with the Regional Administrator's written position with respect to the dispute.~~

H. Within fourteen (14) days of the Regional Administrator's issuance of the final written decision on the dispute, DOE may request that the Administrator of EPA resolve the dispute if the Secretary of Energy determines that the decision of the Regional Administrator has significant national policy implications. The request must be in writing, and must identify the basis for the determination by the Secretary that the decision has significant national policy implications. If no such request is made within the 14 day period, DOE shall be deemed to have agreed with the Regional Administrator's written decision. If such a request is made,

~~H. Upon escalation of a dispute to the Administrator of EPA,~~ the Administrator will review and resolve the dispute in accordance with applicable law and regulations within twenty-one (21) days. Upon request and prior to resolving the dispute, the Administrator may ~~shall~~ meet and confer with all the Parties to

discuss the issues under dispute. The Administrator shall provide five (5) days advance notice of such meeting to all Parties in order to afford the Parties the opportunity to attend. Upon resolution, the Administrator shall provide the Parties with a written final decision setting forth resolution of the dispute. The duties of the EPA Administrator and Secretary of Energy set forth in this Article XV shall not be delegated.

I. The pendency of any dispute under this Part shall not affect DOE's responsibility for timely performance of the work required by this Agreement, except that, when DOE has delivered a change request to EPA one hundred seven (107) days or more in advance of when a milestone or other enforcement schedule or deadline under this Agreement is due and EPA's action on the change request has been disputed under this Article, the time period for completion of work directly affected by such dispute shall be extended for a period of time usually not to exceed the actual time taken to resolve any good faith dispute beyond ninety-three (93) days. In accordance with the procedures specified ~~herein~~ in Article XL (Extensions) and Section 12 of the Action Plan, the Parties may agree to extend or postpone any milestone or other enforceable schedule or deadline under this Agreement during the pendency of any dispute. All elements of the work required by this Agreement which are not directly affected by the dispute shall continue and be completed in accordance with this Agreement.

(I.1) In the event that EPA assesses stipulated penalties under Article XIX (Stipulated Penalties) and DOE disputes the matter under this Article XV, stipulated penalties with respect to the disputed matter shall continue to accrue but payment shall be stayed pending resolution of the dispute. Notwithstanding the stay of payment, stipulated penalties shall accrue from the first day of noncompliance with any applicable provision of the Agreement. In the event that Energy does not prevail on the disputed issue, stipulated penalties may be assessed and shall be paid as provided in Article XIX (Stipulated Penalties).

J. When Dispute Resolution is in progress, work affected by the dispute will immediately be discontinued if the Hazardous Waste Division Director for EPA's Region 10, after consultation with Ecology, requests in writing that such work be stopped because, in EPA's opinion, such work is inadequate or defective, and such inadequacy or defect is likely to yield an adverse affect on human health and environment, or is likely to have a substantial adverse affect on the remedy selection or implementation process. To the extent possible, EPA shall give DOE prior notification that a work stoppage request is forthcoming. After stoppage of work, if DOE believes that the work stoppage is inappropriate, DOE may meet with the Division Director and Ecology to discuss the work stoppage. Following this meeting, and further consideration of the issues, the Division Director, after consultation with Ecology, will issue a final written decision with respect to the stoppage. This final

written decision may immediately be subjected to formal dispute resolution. Such dispute may be brought directly to the DRC or the SEC, at the discretion of DOE.

K. Within twenty-one (21) days of resolution of any dispute, DOE shall incorporate the resolution and final determination into the appropriate plan, schedule or procedures and proceed to implement this Agreement according to the amended plan, schedule or procedures.

L. Resolution of a dispute pursuant to this Article constitutes final resolution of the dispute and all Parties shall abide by all terms and conditions of such final resolution.

ARTICLE XIX. STIPULATED ~~CERCLA~~ PENALTIES

63. In the event that DOE fails to submit a primary document pursuant to the appropriate timetable or deadline in accordance with Part Three of this Agreement, or fails to comply with a term or condition of Part Three of this Agreement which relates to an interim or final remedial or corrective action, including milestones associated with the development, implementation and completion of an RI, FS, RFI or CMS, EPA may assess a stipulated penalty against DOE. If Ecology determines that DOE has failed in a manner as set forth above ~~at a CERCLA area or CERCLA Unit~~ for which it is the lead regulatory agency, Ecology may identify stipulated penalties to EPA and, unless it is a disputed matter under Paragraph 64, these penalties shall be assessed in accordance with this Article. When Ecology receives authorization from EPA to implement the corrective action provisions of RCRA pursuant to Section 3006 of RCRA, stipulated penalties for violations of corrective action requirements will be assessed in accordance with Part Two of this Agreement. A stipulated penalty may be assessed in an amount up to $5,000 for the first week (or part thereof), and up to $10,000 for each additional week (or part thereof) for which a failure set forth in this paragraph occurs.

64. Upon determining that DOE has failed in a manner set forth in Paragraph 63, EPA shall so notify DOE in writing. If the failure in question is not or has not already been subject to Dispute Resolution at the time such notice is received, DOE shall have fifteen (15) days after receipt of the notice to

invoke Dispute Resolution on the question of whether the failure did in fact occur. DOE shall not be liable for the stipulated penalty assessed by EPA if the failure is determined, through the Dispute Resolution process, not to have occurred. No assessment of a stipulated penalty shall be final until the conclusion of dispute resolution procedures on DOE's failure to comply ~~related to the assessment of the stipulated penalty~~.

65. The annual reports required by Section 120(e)(5) of CERCLA shall include, with respect to each final assessment of a stipulated penalty against DOE under this Agreement, each of the following:

A. The facility responsible for the failure;

B. A statement of the facts and circumstances giving rise to the failure;

C. A statement of any administrative or other corrective action taken at the relevant facility, or a statement of why such measures were determined to be inappropriate;

D. A statement of any additional action taken by or at the facility to prevent recurrence of the same type of failure; and

E. The total dollar amount of the stipulated penalty assessed for the particular failure.

66. Stipulated penalties assessed pursuant to this Article for violations of CERCLA requirements shall be payable to the Hazardous Substances Response Trust Fund from funds authorized and appropriated for that specific purpose.

(66.A). Stipulated penalties assessed pursuant to this Article for violations of RCRA requirements shall be payable to the "Treasurer of the United States." Payment shall be mailed to:

U.S. Environmental Protection Agency
(Region 10)
P.O. Box 360903M
Pittsburgh, Pennsylvania 15251

A transmittal letter, giving DOE's name, complete address, account receivable control number, and case docket number must accompany each payment. A copy of the check and of the transmittal letter that accompanies the check shall be delivered or mailed to the Regional Hearing Clerk at the following address:

U.S. Environmental Protection Agency
Region 10 Hearing Clerk
1200 Sixth Avenue, SO-155
Seattle, Washington 98101

67. In no event shall this Article give rise to a CERCLA stipulated penalty in excess of the amount set forth in CERCLA Section 109. In no event shall this Article give rise to a RCRA stipulated penalty in excess of the amount set forth in RCRA Section 3008.

68. This Article shall not affect DOE's ability to obtain an extension of a timetable, deadline or schedule pursuant to Article XL (Extensions).

69. Nothing in this Agreement shall be construed to render an employee or Authorized Representative of DOE personally

liable for the payment of any stipulated penalty assessed pursuant to this Article.

(69.A). Nothing in this Agreement shall be construed as prohibiting, altering, or in any way limiting the ability of EPA to seek any remedies or sanctions available by virtue of DOE's violation of this Agreement or, for matters not specifically addressed by this Agreement, of the statutes and regulations upon which it is based, including but not limited to penalties, pursuant to CERCLA and RCRA; provided, however, that the assessment of stipulated penalties shall preclude EPA from seeking any other penalty payments from DOE under RCRA or CERCLA for the same violations.

PART FIVE

COMMON PROVISIONS

ARTICLE XLVI. RESERVATION OF RIGHTS

126. The Parties have determined that the activities to be performed under this Agreement are in the public interest. EPA and Ecology agree that compliance with this Agreement shall stand in lieu of any administrative and judicial remedies against DOE and its contractors, which are available to EPA and Ecology regarding the currently known release or threatened release of hazardous substances, hazardous wastes, pollutants or contaminants at the Hanford Site which are the subject of the activities being performed by DOE under Articles VII (Work) and XIII (Work). Provided, that nothing in this Agreement, except as provided in paragraphs (VIII.A.8) and 69(A) on stipulated penalties, shall preclude EPA or Ecology from the direct exercise of (without employing dispute resolution) ~~exercising~~ any administrative or judicial remedies available to them under the following circumstances:

A. In the event or upon the discovery of a violation of, or noncompliance with this Agreement, or any provision of CERCLA, RCRA or Ch. 70.105 RCW, not addressed by this Agreement.

B. ~~including~~ Any discharge or release of hazardous waste which the Parties choose not to address under this Agreement.

C. Upon discovery of new information regarding hazardous substances or hazardous waste management, including but not limited to, information regarding releases of hazardous waste or hazardous substances to the environment which the Parties choose not to address under this Agreement.

D. Upon Ecology's or EPA's determination that action beyond the terms of this Agreement is necessary to abate an imminent and substantial endangerment to the public health or welfare or the environment.

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127. In the event of any action by EPA or Ecology under Paragraph 126 to address matters not covered in this Agreement, DOE reserves all rights and defenses available under law. In the event of any action by EPA or Ecology under Paragraph 126 to address matters covered in this Agreement, DOE reserves all rights and defenses specified in this Agreement.

128. Except as otherwise expressly provided herein, nothing in this Agreement shall constitute or be construed as a bar or release from any claim, cause of action or demand in law or equity by or against any person, firm, partnership or corporation not a signatory to this Agreement for any liability it may have arising out of or relating in any way to this Agreement or the generation, storage, treatment, handling, transportation, release, or disposal of any hazardous substances, hazardous wastes, hazardous constituents, pollutants, or contaminants found at, taken to, or taken from the Hanford Site.

ARTICLE XLIX. COMPLIANCE WITH APPLICABLE LAWS

144. All actions required to be taken pursuant to this agreement shall be taken in accordance with the requirements of all applicable federal and state laws and regulations. All Parties acknowledge that such compliance may impact schedules to be performed under this Agreement. Extensions of schedules shall be provided in accordance with Article XL (Extensions).

145. In any judicial challenge arising under this Agreement the court shall apply the law in effect at the time of the challenge, including any amendments to RCRA or CERCLA enacted after entry of this agreement. Where the law governing this agreement has been amended or clarified, any provision of this agreement which is inconsistent with such amendment or clarification shall be modified to conform to such change or clarification.

ARTICLE XL. EXTENSIONS

Modify paragraph 110.C. with the following:

A delay caused by the ~~good faith~~ invocation of dispute resolution ~~or the initiation of judicial action~~ to the extent provided by paragraph 29(E) and paragraph 50(I) or judicial order.

PART FIVE

COMMON PROVISIONS

ARTICLE XXVIII. RECOVERY OF STATE COSTS

88. DOE agrees to reimburse Ecology for all of its costs related to the implementation of this Agreement as provided below:

~~A. Permit Fees and Reasonable Service Charges:~~

A. Reimbursement of Department of Ecology RCRA Costs:

1. DOE agrees to pay to the appropriate account of the Treasury of the State of Washington, all ~~permit fees and other~~ reasonable fees and other service charges which would be payable by any person ~~permitting TSD Units~~ managing hazardous and/or radioactive mixed waste under applicable Washington law, including the mixed waste management fee assessed pursuant to RCW 70.105.280 and chapter 173-328 WAC. Program elements or activities for which the mixed waste management fee may be assessed include (a) office, staff, and staff support for the purposes of facility or unit permit development, review, and issuance, and (b) actions taken to determine and ensure compliance with the state's hazardous waste management act, as detailed in WAC 173-328-040. In the event DOE disputes any fees or service charges by Ecology, DOE may contest the disputed fees or service charges in accordance with the ~~Dispute Resolution Procedures of Article VIII~~ appeal procedures provided under applicable law.

2. Ecology shall provide DOE-RL by June 15 of each year a preliminary billing statement reflecting the fee to be assessed to DOE-RL for the upcoming twelve-month period, by quarter, beginning July 1. Ecology shall, prior to September 15, notify DOE-RL of actual adjustments arising from the previous twelve-month

period's cost performance against amounts paid by DOE-RL in response to the previous October's billing statement. Ecology shall after October 1 send DOE-RL a final billing statement which identifies the mixed waste management fee costs assessed to DOE-RL for the twelve-month period beginning the previous July 1. This statement shall be accompanied by an itemization of changes from the preliminary statement sent prior to June 15. DOE-RL shall promptly pay this billing.

4. Ecology shall by January 31 of each year provide DOE-RL a forecast of planned waste management fees chargeable to DOE-RL. The forecasts shall be annual projections for a period of seven federal fiscal years beginning the previous October 1. Such forecasts shall include supporting information which explains significant annual changes in proposed funding requirements. The Parties acknowledge that these forecasts are estimates and that actual fees may differ from the forecasts.

B. Reimbursement of Department of Ecology CERCLA Costs:

1. DOE agrees to reimburse Ecology for its CERCLA costs directly related to implementation of the Agreement up to the amount authorized through a yearly grant by DOE to Ecology.

2. ~~On an annual basis~~ By July 1, Ecology shall submit to DOE a proposed workscope and estimates of cost to be incurred relating to CERCLA work to be performed under this Agreement by Ecology for the upcoming ~~year~~ period October 1 to September 30. DOE shall respond, in writing, with questions regarding this proposal, no later than August 1. The two Parties shall work diligently toward completion of grant negotiations leading to placement of award by October 1. ~~Subsequent to review by DOE, DOE shall issue grant funds to Ecology in an amount consistent with the cost estimated.~~ DOE shall award grant funds to Ecology for the upcoming budget period from October

1, to September 30, in the amount consistent with the negotiated funding. In the event of delay in congressional appropriation and Continuing Resolution, funding under this grant shall be in incremental amounts. Initial funding of 70 percent of the negotiated amount for the grant period will be provided upon receipt of an OMB funding allotment. Total approved funding shall be provided to Ecology within 30 days after receipt by DOE-RL of the final Financial Status Report from Ecology for the previous grant period. All CERCLA costs incurred by Ecology shall be costs directly related to this Agreement and costs not inconsistent with CERCLA and the NCP.

3. In the event that DOE contends that any costs incurred were not directly related to the implementation of this Agreement or were incurred in a manner inconsistent with CERCLA or the NCP, DOE may challenge the costs allowable under the grant to Ecology. If unresolved, Ecology's demand, and DOE's challenge, may be resolved though the appeals procedures set forth in 10 C.F.R. part 600 and 10 C.F.R. part 1024.

4. DOE shall not be responsible for reimbursing Ecology for any costs actually incurred in excess of the amount authorized each budget period in the grant award.

5. Ecology shall by January 31 of each year provide DOE-RL a forecast of planned CERCLA grant funding requirements. The forecasts shall be annual projections for a period of seven federal fiscal years beginning the previous October 1. Such forecasts shall include supporting information which explains significant annual changes in proposed funding requirements. The Parties acknowledge that these forecasts are estimates, and that actual grant requests may differ from the forecasts.

~~C. Environmental Monitoring Costs:~~

C. Reimbursement of other Department of Ecology Costs:

1. DOE agrees to pay ~~any~~ justifiable costs incurred by Ecology in the implementation of this Agreement which are not covered by payments made pursuant to subparagraphs A and B above ~~shall be paid pursuant to the Mutual Cooperation Funding Agreement executed by DOE and Ecology on May 15, 1989. A copy of the Mutual Cooperation Funding Agreement is appended to this Agreement as Attachment 3.~~.

2. For such costs that may be recouped through the assessment of a fee, other than a mixed waste fee, DOE agrees to pay the fee assessed in the time permitted by law. In the event DOE disputes any fees assessed by Ecology, DOE may contest the disputed fees in accordance with the appeal procedures provided under applicable law.

3. For costs such as those costs related to Public Involvement, Emergency Preparedness Planning and oversight of Environmental Monitoring that may not be recouped through the assessment of a fee, DOE agrees to reimburse Ecology through a yearly grant. On an annual basis, Ecology shall submit to DOE a proposed cost estimate for work and services, not otherwise covered by subparagraphs A, or B, above, to be performed by the State in the implementation of this Agreement during the upcoming federal fiscal year. Subsequent to review by DOE, DOE shall issue funds to Ecology in an amount consistent with the estimated approved workscope and costs.

4. Ecology shall by January 31 of each year provide DOE-RL a forecast of planned funding requirements for other grants or fees not identified in subparagraphs A and B above. The forecasts shall be in the form

of annual projections for a period of seven federal fiscal years beginning the previous October 1. Such forecasts shall include supporting information which explains significant annual changes in proposed funding requirements.

D. Report, Records, and Accounts:

1. Ecology agrees to keep records and books of account, in accordance with generally accepted accounting principles and practices, covering DOE's payment of funds and Ecology's use of such funds under subparagraphs B and C.3 above.

2. Ecology will provide to DOE within 30 days after the end of each quarter and 90 days after the end of each state fiscal year, a Financial Status Report (SF 269, short form) showing the expenditure of DOE funds provided pursuant to subparagraphs B and C.3 above.

3. DOE shall at all reasonable times be afforded access to books and records and to related correspondence, receipts, voucher, memoranda, and other data reflecting the use of DOE funds provided pursuant to subparagraphs B and C.3 above. Ecology shall preserve such books and papers in accordance with the retention requirements referenced in subparagraph D.4 below.

4. The Comptroller General of the United States or any of his or her duly authorized representatives shall, until the expiration of 3 years after the payment of funds pursuant to subparagraphs B or C.3 above, have access to and the right to examine any directly pertinent books, documents, papers, and records of the State involving transactions covered by subparagraphs B or C.3 above.

5. Expenditures of funds received pursuant to subparagraphs B or C.3 above are subject to the requirements of the Single Audit Act of 1984

(P.L. 98-502) and Office of Management and Budget Circular A-128 (Audits of State and Local Governments).

6. Nothing herein shall be deemed to preclude an audit by the General Accounting Office of any funds received pursuant to subparagraph B or C.3 above.

89. Ecology's performance of its obligation under this Agreement shall be excused if its justifiable costs are not paid as required by this Article.

ARTICLE XLVIII. FUNDING

138. It is the expectation of the Parties that all obligations of DOE arising under this Agreement will be fully funded. DOE shall take all necessary steps and make efforts to obtain timely funding to meet its obligations under this Agreement.

139. The purpose of this paragraph is to assure that the Parties adequately communicate and exchange information about funding concerns that affect the implementation of this Agreement. These provisions are intended to apply solely to the Hanford Federal Facility and Consent Order.

A. Ecology, DOE and EPA project managers shall meet periodically throughout each fiscal year to discuss projects to be funded in the current budget year, the status of the current year projects and events causing significant changes to any milestone, or activity within such milestones upon the agreement of all three project managers. DOE shall provide information that shows projected and actual costs for each major milestone in the Agreement.

B. Ecology and EPA shall comment on DOE RL's estimate of the funding levels required to support the corresponding negotiated work schedule for each fiscal year. These funding levels shall be included in the submittal sent from DOE RL to DOE HQ for the relevant fiscal year.

C. On or about June of each year, DOE shall provide EPA and Ecology with current five year planning cost estimates based upon revisions to its Five Year Plan. These estimates shall include projections based on the Activity Data Sheet (ADS) level. This submission shall include a correlation of relevant ADSs with major milestones.

~~D. After the President has submitted the Budget to Congress, DOE shall notify EPA and Ecology in a timely manner of any differences between the estimates submitted in accordance with subparagraph B above and the actual dollars that were included in the President's budget submission to the Congress for major milestones.~~

~~E. Whenever DOE proposes a reprogramming, requests a supplemental appropriation due to a program disruption, or some other similar event occurs which may result in the inability of DOE to meet milestones under this Agreement, DOE shall notify Ecology and EPA of its plans and shall prior to submittal of the reprogramming or supplemental appropriation request to Congress consult with them about the effect that such a change may have on the milestones in the Agreement.~~

~~F. This participation by the State and EPA is limited solely to the aforementioned and is in no way to be construed to allow Ecology or EPA to become involved with the internal DOE budget process, nor to become involved in the Federal budget process as it proceeds from DOE to OMB and ultimately to Congress through the President's submittal. Nothing shall affect DOE's authority over its budgets and funding level submission.~~

ARTICLE XLVIII. COST, SCHEDULE, AND SCOPE PLANNING AND REPORTING

138. DOE shall take all necessary steps to obtain timely funding in order to fully meet its obligations under this Agreement. This shall be accomplished in the following manner:

A. In its annual budget request, DOE shall include estimated funding levels required to achieve full compliance with this Agreement.

B. In the process of formulating its annual budget request, DOE may be subject to target funding guidance directed by the Office of Management and Budget (OMB). When DOE's target budget case differs from its full compliance funding case, the Parties agree to attempt to reach agreement regarding workscope, priorities, schedules/milestones, and Activity Data Sheet (ADS) funding levels required to accomplish the purpose of the Agreement, provided satisfactory progress has been made in controlling costs in accordance with the cost efficiency initiatives. These discussions shall be conducted before DOE-RL submits its annual budget request and supporting ADSs to DOE Headquarters (DOE-HQ) under signature of the DOE-RL manager.

C. DOE-RL will submit its budget request with detailed ADSs, identifying both target and compliance funding levels, to DOE-HQ and identify any unresolved issues raised by Ecology and EPA. If these issues are not subsequently resolved prior to DOE's submission of its budget request to OMB, DOE-HQ will also identify these issues and the funding required for compliance to OMB.

D. In determining the workscope, priorities, and schedules, the Parties shall consider the values expressed by the Hanford stakeholders.

E. The Parties recognize that successful implementation of this Agreement is dependent upon the prudent use of resources, and that resource requirements and constraints should be considered during the work planning, budget formulation, and budget execution process. To ensure the development of responsible budget requests, consistent with the requirements of this

Agreement and applicable federal/state statutes, the Parties will work cooperatively and in good faith.

139. The purpose of this paragraph is to establish a mechanism that will help assure adequate progress toward meeting the requirements of this Agreement. It provides for communication and consulation on work scope, priorities, schedules/milestones, and cost/funding matters. It further provides a means for performance measurement and for early identification of problems which could jeopardize compliance with the schedules and milestones of the Agreement.

A. Within two weeks after DOE Headquarters (DOE-HQ) issuance of Environmental Management planning and/or budget guidance, including target level funding guidance, to the Richland Operations Office (DOE-RL), DOE-RL shall provide a copy of it to Ecology and EPA along with a preliminary assessment of its impacts. DOE-RL shall also provide a copy of its initial contractor budget guidance to Ecology and EPA within two weeks after issuance.

B. EPA and Ecology agree not to release confidential budget information to any other entities prior to submission by the President of his budget request to Congress, unless authorized by DOE or required to do so by court order. DOE shall seek to intervene in any proceeding brought to compel or enjoin the release of this information. If allowed to intervene, DOE shall assert its interest in, and the legal basis for, maintaining the confidentiality of this information.

C. As soon as possible after DOE-HQ issuance of its initial planning guidance but no later than two weeks prior to DOE-RL's submission of its

budget request and supporting Activity Data Sheets to DOE-HQ, Ecology and EPA shall be given: 1) a management level briefing at the ADS level on the budget, including an assessment of impacts on the requirements of this Agreement; and 2) the opportunity to review, comment and make recommendations on that budget request, including workscope, priorities, schedules/milestones, and five year target and compliance cost/funding projections. DOE-RL shall, to the extent it deems appropriate, revise its budget request and ADSs, including workscope, to address or resolve Ecology and EPA comments prior to transmittal to DOE-HQ. DOE-RL shall notify DOE-HQ in its budget request of any comments not fully resolved to the satisfaction of all Parties, and shall identify full compliance funding levels.

D. Within 30 days after the President's submission of the budget to Congress, DOE-RL shall brief Ecology and EPA on the President's budget request at the ADS level detail. At this briefing, DOE-RL shall notify Ecology and EPA of any differences between the target and compliance case workscope and cost/funding levels submitted in accordance with subparagraph C. above, and the actual work scope and funding levels included in the President's budget request to Congress. DOE-RL shall also provide Ecology and EPA its assessment of the impacts such differences may have on DOE's ability to meet milestones or satisfy other requirements of this Agreement.

E. DOE shall notify and discuss with Ecology and EPA, prior to transmittal to OMB, any budget amendment, supplemental appropriation request or reprogramming request and any corresponding impacts upon the workscope and schedules, and DOE's ability to meet milestones or other requirements of this Agreement with and without the amendment, supplemental appropriation or reprogramming request.

F. Within 30 days after congressional budget appropriation, DOE-RL shall brief Ecology and EPA on the budget appropriation and subsequent funding allocations for the new fiscal year at ADS level detail. If there is a delay in congressional appropriation after the start of the fiscal year, DOE-RL shall inform Ecology and EPA of any congressional continuing resolution action, and the potential impacts, if any, on progress to achieve milestones and other requirements of the Agreement. Ecology and EPA will be given timely opportunity to review and comment on these budget appropriation and funding allocation actions, and to make recommendations for reallocation of available funds.

G. If the Congressional budget appropriation differs from the funding levels required to comply with any milestones or other requirements of the Agreement, DOE-RL shall take whatever action is appropriate under the Agreement. Such action may include submitting a change request in accordance with the Action Plan, Section 12.0 entitled Changes to Action Plan/Supporting Schedules. The Parties shall attempt to reach agreement on adjustments in workscope or milestones consistent with the Congressional appropriation which will minimize impacts on the requirements of this Agreement. If agreement cannot be reached, Ecology and EPA reserve the right to take appropriate action as provided for in this Agreement.

H. Ecology, DOE, and EPA project managers shall meet periodically throughout the budget execution year to discuss the status of projects to be funded for the current fiscal year, and events that have affected, or may affect milestones or activity within such milestones.

I. In order to ensure continuing, effective and timely interface between DOE, Ecology and EPA regarding work scope planning/scheduling,

budget/funding, current year performance status, milestone tracking, and notification of problem areas, DOE shall, unless otherwise agreed to, provide the following, or their equivalent, to EPA and Ecology:

1. Annual Multi-Year Program Plans, including ADS level funding projections, as soon as possible after their development;

2. Annual Fiscal Year Work Plans, including ADS level funding profiles, as soon as possible after start of each fiscal year;

3. The monthly Approved Funding Plan (AFP), at ADS level detail, within two weeks following the start of each month;

4. Monthly Site Management System reports shall be provided to EPA and Ecology to identify: any anticipated delays in meeting time schedules, the reason(s) for such delay and actions taken to prevent or mitigate the delay, and any potential problems that may result in a departure from the requirements and time schedules. In accomplishing this, the SMS reports shall, as a minimum, include for each program: monthly and cumulative budget, actual monthly and cumulative costs, performance measurement information including explanations of cost/schedule variances, progress in achievement of milestones, and notification of problems and program/project delays. The appropriate contractor program managers shall sign the monthly Site Management System report. The signature block shall contain the statement: "The information contained within this report is complete and accurate to the best of my knowledge." At the monthly milestone review meetings, the appropriate DOE program manager will provide DOE's assessment of milestone progress and the extent to which DOE agrees or disagrees with the preceeding month's SMS report. The assessment will be documented in meeting minutes signed by the three parties. With regard to these assessments,

signature of the minutes by Ecology and EPA shall indicate only that the assessment information was provided by DOE. The monthly Site Management System report shall also be placed in the Public Information Repositories as identified in Section 10.2 of the Action Plan.

5. Upon request, EPA and Ecology shall be provided access to available information below the ADS level of detail.

J. During the budget execution year, DOE-RL shall notify Ecology and EPA of any proposed action to internally reallocate funding at ADS levels, if such an action significantly affects workscope and schedules.

K. Within 30 days following the completion of DOE's annual midyear management review (approximately April-May of each year), DOE-RL shall brief Ecology and EPA on any decisions that significantly affect milestones under this Agreement.

L. As soon as possible following the end of each federal fiscal year, DOE-RL shall provide to EPA and Ecology the fiscal year-end SMS report, and a summary briefing on the amount of funds that have been obligated and spent during the fiscal year ended and the work that has been performed. This summary shall include, at ADS level detail, actual versus planned expenditures for the fiscal year end; a summary of carryover amounts including those available for expenditures in the following budget execution year; and summaries/information explaining the extent of work planned versus work completed or performed during the year.

M. The three parties agree to inform and involve the public and stakeholders at key stages of budget formulation and execution consistent with the Interim Report of the Federal Facilities Environmental Restoration Dialogue Committee. The process for informing and involving the public and

stakeholders will be developed and included in the TPA Community Relations Plan.

N. The participation by Ecology and EPA in DOE's planning and budget formulation and execution process shall not affect DOE's authority over its budgets and funding level submission.

Paragraph 142: Change to the following.

142. EPA and DOE agree that any requirement for the payment or obligation of funds, including stipulated penalties under Article XIX (Stipulated CERCLA or RCRA penalties) of this Agreement, by DOE established by the terms of this Agreement shall be subject to the availability of appropriated funds, and no provision herein shall be interpreted to require obligation or payment of funds in violation of the Anti-Deficiency Act, 31 U.S.C. Sec. 1341. In cases where payment or obligation of funds would constitute a violation of the Anti-Deficiency Act, the dates established requiring the payment or obligation of such funds shall be appropriately adjusted.

Paragraph 143: Change to the following.

If appropriated funds are not available to fulfill DOE's obligations under this Agreement, the Parties shall attempt to agree upon appropriate adjustments to the ~~dates~~ workscope or milestones which require the payment or obligation of such funds. If no agreement can be reached then Ecology and DOE agree that in any action by Ecology to enforce any provision of this Agreement, DOE may raise as a defense that its failure or delay was caused by the unavailability of appropriated funds. Ecology disagrees that lack of appropriations or funding is a valid defense. However, DOE and Ecology agree

and stipulate that it is premature at this time to raise and adjudicate the existence of such a defense. Acceptance of the Paragraph 143 does not constitute a waiver by DOE that its obligations under this Agreement are subject to the provisions of the Anti-Deficiency Act, 31 U.S.C. Sec. 1341.

Delete Article XXXII "REPORTING" in it's entirety.

Modify the Action Plan as follows:

Delete the words "and reports" from the first line in the third paragraph of section 1.3 as follows: "Section 8.0 describes meetings ~~and reports~~ to be used..."

Delete reference to the Quarterly Progress Report in Section 6.3.3 as follows:

6.3.3 Procedural Closure

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

Delete Section 8.3 "Quarterly Progress Report" in its entirety.

Delete the Quarterly Progress Report from table 9-2 (Secondary Documents).

Delete the last bulleted item in Section 9.5 requiring the distribution of the Quarterly Progress Report to the Unit Managers and Project Managers.

Modify Section 11.4 of the Agreement Action Plan as follows:

11.4 WORK PLANS AND SUPPORTING SCHEDULES

~~Supporting work plan schdules are more definitive schedules in support of the work schedule contained in this action plan. These schedules are included in the following supporting plans:~~

Unless otherwise specified, workplans, including those workplans prepared under the Hanford Past Practice Investigation Strategy, shall be prepared, reviewed and approved as primary documents. At the time work plans are submitted for approval they shall describe in detail the work to be done and include the performance standards to be met. They shall also include an implementation schedule with start and completion dates. The work plan schedule shall identify completion dates for major tasks and deliverables as interim milestones. Milestones shall be set in a manner which fits the requirements of the work to be accomplished, with at least one milestone every twelve months, unless otherwise agreed to by the Unit Managers. A change package shall be submitted with the workplan which identifies the interim milestones.

Schedules may be constructed in a manner that allows tasks or deliverables which require or follow regulatory agency review and approval to be due a fixed number of days after approval, rather than on a fixed date.

Required workplans include:

- RI/FS work plan
- Remedial action work plan
- Closure plan
- RFI/CMS work plan
- CMI plan
- LFI work plan
- ERA work plans/EECA's
- ~~Other work plans~~

These ERA work plans/EECA's are not to be prepared, reviewed and approved as primary documents, but are subject to approval in accordance with 7.2.4 of the Action Plan. Additional detailed schedules, beyond those contained in the above plans, may be needed as agreed to by the relevant unit managers to provide more definitive schedules to track progress. These ~~could~~ may be part of other plans or ~~could~~ may be stand-alone schedules.

11.5 OTHER WORK PLANS

In addition to the work plans previously described ~~(e.g., RI/FS Work Plan)~~, other work plans may be developed for special situations at the request of the lead regulatory agency. ~~One example is a Single Shell Tank System Closure/Corrective Action Work Plan which will be prepared to address closure and/or corrective action of the Single Shell Tank Operable Units.~~ These work plans will be considered primary documents as discussed in Section 9.1, and are subject to all work plan requirements, including those identified above in Section 11.4.

~~9.6 DATA REPORTING REQUIREMENTS~~

~~The unit managers will provide a list of the nonlaboratory data collected at each operable unit on behalf of their respective parties at the monthly unit managers meetings. This will allow each party to determine its data needs and to establish the format, quality, and timing for submitting the data. This process will be followed until such time that electronic transfer of data from DOE to the regulators is established. At that time, Appendix F will be expanded to include a specific procedure for submittal of data to the regulatory agencies. The document to describe these procedures is the "Data Reporting Requirements for the Hanford Site."~~

~~The DOE shall make available to EPA and Ecology all validated laboratory analytical data collected pursuant to this Agreement within fifteen days of validation. Validation procedures (Data Validation Guidelines for Contract Laboratory Program Organic Analyses and Data Validation Guidelines for Contract Laboratory Program Inorganic Analyses) are being developed and shall be included in the Sample Management Administrative Manual. This requirement will be met with data entry into HEIS as soon as it becomes operational (see Section 9.6.3) or other environmental data bases currently in use. EPA and Ecology shall have direct "read only" access to these data bases from remote locations.~~

~~The validation process shall not exceed twenty one days after receipt of laboratory data. After electronic access to such data has been made available to the regulatory agencies, Ecology and EPA shall be notified of data availability via electronic mail or facsimile transmission. Notification shall occur within one week of data entry, and shall include the following information:~~

- ~~date(s) of collection~~
- ~~unit(s) where data collected~~
- ~~type of data, e.g., ground water~~
- ~~list of sample parameters, e.g., target compound list, Appendix IX, or discrete parameters~~

~~9.6.1 Non-Electronic Data Reporting~~

~~For data not available in electronic format, DOE shall meet the data reporting requirements by providing a summary list of new data at the unit managers meetings, or as otherwise requested by EPA or Ecology. This list will include, at a minimum, the information described in the preceding paragraph addressing notification. The lead regulatory agency shall determine on a case by case basis if data warrants a more detailed presentation or analysis. This reporting method shall also be used for field screening data. Field screening data shall be accompanied by maps or sketches with sufficient detail to determine where the data was obtained.~~

~~The information shall be submitted to the requesting party within ten days of receipt of EPA's or Ecology's written request, or as otherwise~~

agreed to by the parties involved. In addition, other reporting requirements may be specifically required by the RCRA permit, RCRA closure plans or work plans.

9.6.2 Data Analyses Schedules

The level of quality assurance for each sample shall meet the requirements of Article XXX and shall depend on the specified data quality objectives as stated in the specific sampling and analysis plan. Laboratory analysis and quality assurance documentation, excluding validation, shall be limited to the following schedule:

- Transuranic and hot cell analyses -- 100 days annual average, but not to exceed 140 days
- Single shell tank analyses -- 180 days
- Low level and mixed waste (up to 100 mr/hour) analyses -- 75 days annual average, but not to exceed 90 days
- Nonradioactive waste analyses -- 50 days

All schedules in this section are effective beginning with the date of individual sampling activities. For unique circumstances, a schedule other than that specified in this section can be agreed to by DOE and the lead regulatory agency.

The DOE shall make available to the regulatory agencies nonlaboratory data collected pursuant to this Agreement (e.g., surface geophysical data) within thirty days after sampling has been completed.

The DOE will integrate all of the data discussed in this section into the appropriate RCRA or CERCLA reports which are described in Section 6.0 and 7.0 in accordance with approved permits, closure plans, or work plans.

9.6.3 Electronic Data Reporting Requirements

Computer based information systems shall be defined as "Operational" when data may be entered and the system is capable of generating reports. Remote access to validated data in the following computer based information systems supporting site investigation, remediation and closure action activities; will be provided to EPA, Ecology and their respective contractor staff in accordance with the following schedule:

1. Hanford Groundwater Database (HGWDB) -- June 8, 1990
2. Hanford Environmental Information System (HEIS) -- October 15, 1990 [HEIS is partially operational as defined in Section 9.6.4. The HEIS does not include remote access to the Geographic Information System (GIS).]
3. Other databases indicated in Section 9.6.4 will be provided remote access in accordance with a schedule agreed to by the parties.

The term "remote access" is defined as emulating all read only capabilities of the information system accessed, including data transfer. The GIS may be accessed by EPA, Ecology and their respective contractor staff in a DOE facility.

9.6.4 Hanford Environmental Databases

There are a number of technical computer based information systems that are currently in use or will be used in the future to support site investigation, remediation and closure action activities. Depending on the system selected, information may be provided by remote access or by hard copy for work plan development and site investigation. The information shall be provided by DOE within 10 days of receipt of written requests by EPA and Ecology or as otherwise agreed to by the parties involved. These systems currently identified include:

- o Crib Waste Management (CWM)
- o Hanford Environmental Information System (HEIS) *
- o Hanford Groundwater Database (HGWDB)
- o Hanford Meteorological Data Collection System (HMS)
- o Hazardous Waste Tracking Database (HWTD) *
- o Laboratory Information Management System (LIMS) *
- o Project and Data Management System
- o Richland Solid Waste Information Management System (RSWIMS)
- o Waste Information Data System (WIDS)

The above list may be modified during the course of the investigative process and remedial actions conducted at Hanford.

* Information system in development

The HEIS is being developed as part of a computer based system necessary to support site investigation, remediation, and closure activities. The HEIS will serve to facilitate graphic interpretation and presentation of data. It will also provide a means of interactive access to selected data sets extracted from other databases that are relevant to the activities conducted pursuant to this agreement. The HEIS is scheduled to be partially operational in October 1990 and will access the HGWDB. The HEIS will also include atmospheric, biotic, geophysics, geologic, and soil gas data.

9.6 DATA ACCESS AND DELIVERY REQUIREMENTS

9.6.1 Data Reporting Requirements

The unit managers will provide a list of the nonlaboratory data collected at each operable unit on behalf of their respective parties at the monthly unit managers meetings. This will allow each party to determine its data needs and to establish the format, quality, and timing for submitting the data.

9.6.2 TPA Data

Ecology and EPA shall be granted access to all data that is relevant to work performed, or to be performed, under the TPA. Access to TPA related databases will be documented in the TPA Appendix F document "TPA Databases, Access Mechanisms, and Procedures" (includes all databases and the method of accessing each database). This document will also describe method(s) for regulatory access to DOE communications networks and system configurations to meet electronic transfer of data.

9.6.3 Validation

Data validation shall be performed in accordance with approved sampling and analysis plans and quality assurance project plans (QUAPjPs). Laboratory analytical data validation procedure shall incorporate *Data Validation Guidelines for Contract Laboratory Program Organic Analyses* and *Data Validation Guidelines for Contract Laboratory Program Inorganic Analyses*. The DOE shall make available to EPA and Ecology validated and unvalidated laboratory analytical data. Any document produced by any of the three parties which contains unvalidated or otherwise caveated data shall be marked as such.

Ecology and EPA shall be notified of the availability of laboratory analytical data via electronic mail, facsimile transmission, or other means as agreed by the parties involved. Notification shall occur within one week of data entry and shall include the following information:

- date(s) of collection
- unit(s) where data collected
- type of data, e.g., ground water
- location of where data is stored, e.g. database
- unique identifier given to each piece of data, e.g. sample ID.

9.6.4 Non-Electronic Data Reporting

For data not available in electronic format, DOE shall meet the data reporting requirements by providing a summary list of new data at the unit managers meetings, or as otherwise requested by EPA or Ecology. This list will include, at a minimum, the information described in the preceding paragraph addressing notification. The lead regulatory agency shall determine on a case-by-case basis if data warrants a more detailed presentation or

analysis. This reporting method shall also be used for field screening data. Field screening data shall be accompanied by maps or sketches with sufficient detail to determine where the data was obtained.

The information shall be submitted to the requesting party within ten days of receipt of EPA's or Ecology's written request, or as otherwise agreed to by the parties involved. In addition, other reporting requirements may be specifically required by the RCRA permit, RCRA closure plans or work plans.

9.6.5 Electronic Data Access Requirements

EPA and Ecology shall have direct read, retrieve, and transfer access to all relevant electronic data and databases. All validated data will be entered into the selected database in accordance with the Data Delivery Schedules in Section 9.6.6. Unvalidated data will be available within 7 days after receipt from the laboratories. Electronic access to Hanford data will be provided to EPA, Ecology and their respective contractor staff when:

- The computer network infrastructure is available to support user access (for systems that cannot support direct access data shall be provided through redundant systems or through copies of data stored in other systems), and

- The database system is accessible and utilized by Hanford personnel doing TPA related work.

9.6.6 Data Delivery Schedules

The level of quality assurance for each characterization sample shall meet the requirements of Tri-Party Agreement Article XXX (Quality Assurance) and shall depend on the specified Data Quality Objectives (DQO) as stated in the specific sampling and analysis plans and quality assurance project plans (QAPjPs). Laboratory analysis and quality assurance documentation, including validation, and transmittal to the regulators, shall be limited to the following schedule:

- Transuranic and hot cell samples - 136 days annual average, but not to exceed 176 days

- Single-shell tank samples - 216 days

- Low-level and mixed waste (up to 10 mr/hour) samples - 111 days annual average, but not to exceed 126 days

- Nonradioactive waste samples - 86 days

All schedules in this section are effective beginning with the date of individual sampling activities. For unique circumstances, a schedule other than that specified in this section can be agreed to by DOE and the lead regulatory agency. The DOE will integrate all of the data discussed in this section into the appropriate databases and reports.

9.6.7 Other Data Reporting Requirements

The TPA Strategic Data Management Plan (reference M-35-02) will identify what types of information the DOE will index and a schedule to accomplish the indexing. The indexes will be available to all parties. Depending on the information, the regulators may request the information either electronically and/or by hardcopy. The hardcopy information shall be provided by DOE within 10 days after receipt of written request.

9.6.8 EPA and Ecology Data

Analytical data that is developed by EPA and/or Ecology and is of value to the three parties will be made available in the appropriate media to the three parties. The regulator(s) developing the analytical data shall provide the data in a format suitable for data storage and retrieval. Other data or information requests will be reviewed and handled on a 'case-by-case' basis directly by the parties involved.

9.6.9 Data Management Agreements

The Data Management Unit Manager meeting will provide the forum for addressing data management needs and issues. Meetings will be held with EPA and Ecology at a frequency agreed to by the parties.

Change Number	Federal Facility Agreement and Consent Order Change Control Form	Date
M-35-93-01	Do not use blue ink. Type or print using black ink.	Jan. 25, 1994

Originator: Susan Bullard

Phone: 376-8275

Class of Change

[X] I - Signatories [ ] II - Project Manager [ ] III - Unit Manager

Change Title

Add Data Management milestones M-35-00, M-35-01, M-35-02, M-35-03 and M-35-04 to the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement).

Description/Justification of Change

The 1993 Tri-Party Agreement negotiations on data management (Enclosure 3, Issue #8) resulted in an agreement to revise Section 9.6 of the Tri-Party Agreement and to add four enforceable milestones M-35-00, M-35-01, M-35-02, M-35-03 and M-35-04, which are described below.

- M-35-00 Complete Data Management enhancements as negotiated and approved in M-35-00 interim milestones.

  Date: TBD

Continued on Page 2

Impact of Change

Modifies Tri-Party Agreement.

Affected Documents

Tri-Party Agreement, Appendix D

Approvals X Approved ___Disapproved

This change form approved by Amendment Four to the Hanford Federal Facility Agreement and Consent Order executed by the signatories on January 25, 1994.

John Wagoner, DOE — January 25, 1994 Date

Gerald Emison, EPA — January 25, 1994 Date

Mary Riveland, Ecology — January 25, 1994 Date

TPACHG.DM

Description/Justification of Change (continued)

- M-35-01 Laboratory analytical data developed from SST and DST characterization, as required by Milestone M-44, will be provided to EPA and Ecology via offsite electronic database access with the following characteristics:
  - Direct high speed access via T-1 datalink or direct LAN connection.
  - Read, table creation, and downloading capability in the TCD and/or TWINS.
  - User will be provided 40 MB of user disk space for storage and manipulation of tank data.

  Date: 4/30/94

- M-35-02 DOE shall develop and submit to the regulators a "TPA Strategic Data Management Plan" as a primary document which will include or address the items listed below:

  a. Identification of TPA related data, TPA data users, purpose of data use, information to be indexed and accessed, and an implementation schedule.

  b. Site standards for data management, GIS spatial data, locational data collection, etc.

  c. Data Management organizational structure to implement the processes defined in this plan.

  d. The following ten data management initiatives will be evaluated and where appropriate implementation actions and schedules will be included in the Strategic Data Management Plan.
  The initiatives are:
  - Locational Data Collection Standards
  - Database Documentation and Listing of Existing Systems Update
  - Data Reference Search Information System
  - EII Procedures Update
  - Digital GIS Base Map Data Collection
  - Sitewide Orthophotography Program
  - Monument Control Network System
  - Engineering Survey Data Collection Standards
  - Standard Well ID/Naming and Location Coordinates
  - Historic Data Management.

  An agreed upon description is documented under "Purpose" for each of these

initiatives in Appendix G, Data Management Initiatives, dated September 20, 1993.

DATE: 09-30-94

- M-35-03 Develop and submit to the regulators Data Management plans for each DOE-RL program office (ER, WM, TWRS).

  DATE: 03-31-95

- M-35-04 DOE submit a signed change package with major and interim milestones and target dates for data management initiatives in the Strategic Data Management Plan.

  DATE: 01-31-95

APPENDIX G

DATA MANAGEMENT INITIATIVES
September 20, 1993

LOCATIONAL DATA COLLECTION STANDARDS

Purpose:

Establish standards to be followed by all organizations collecting locational information at the Hanford Site. This will ensure that during the collection of locational information that standards and guidelines will be followed to assure accuracy and usability of the information.

A set of minimum standards for information needs associated with all X, Y, and Z coordinate data (surveyed or GPS) will be defined. Some examples of the ancillary information to be carried include: accuracy; coordinate type; type of collection method used; data collector; and the intended use and application.

DATABASE DOCUMENTATION AND LISTING OF EXISTING SYSTEMS UPDATE

Purpose:

Undertake a full inventory of existing data management systems, their location, information contained in them, and the source of their information. With the existing and growing databases on the Hanford site, an effort to understand what computer/automated systems exist on site needs to occur. This task should be assigned to all contractors. Their respective management should assign and require this task to be fulfilled internally.

DATA REFERENCE SEARCH INFORMATION SYSTEM

Purpose:

Create a system to provide information regarding site characterization historic documents, records, and photography that directly relate to TPA activities.

All resulting information gathered needs to be indexed, referenced, and automated. This will reduce redundant data collection of historic documents on closely associated operable units, and thus save valuable research time and costs.

EII PROCEDURES UPDATE

Purpose:

Disseminate the data and locational standards and guideline to the users in the field. Coordinate EII instructions and data collection to ensure EII's are reviewed and updated to incorporate data management changes, standards, and guidelines for managing information.

DIGITAL GIS BASE MAP DATA COLLECTION

Purpose:

Provide the necessary base map information to carry out compliance and cleanup activities at the Hanford Site. This milestone will ensure TPA participants an accurate, dependable and controlled set of base map data.

SITEWIDE ORTHOPHOTOGRAPHY PROGRAM

Purpose:

Establish a comprehensive, usable and long-term site-wide historical record of the Hanford site. The orthophotography will provide the site with a single up-to-date source for all geographic baseline information from which to obtain automated spatial information.

MONUMENT CONTROL NETWORK SYSTEM

Purpose:

With the transition from the Hanford Plant Coordinates from the WA State Plane Coordinate system, one, up-to-date official survey monument system needs to be adopted by all contractors and used in all engineering and GPS survey work conducted on site. This will enable a more uniform collection standard, and have assurance that all information collected meets that standard.

ENGINEERING SURVEY DATA COLLECTION STANDARDS

Purpose:

Develop procedures and guidelines for engineering survey data collection, recording, and storage. At present, engineering surveys are conducted on site without regard to the importance or cost associated with the collection or generation of locational information.

STANDARD WELL ID/NAMING AND LOCATION COORDINATES

Purpose:

Adopt a unique site wide naming standard for well designations at the Hanford site. These standards will be maintained and available in an on-line computer system. This system would also function as a cross reference table between existing standards and previous standards, and would also store the official X, Y, & Z coordinate location to be used by all other computer systems.

HISTORIC DATA MANAGEMENT

Purpose:

Establish a Site historical data management system. As TPA activities develop, a system describing how the site looked, where buildings were located before D&D activities, and where historic waste sites existed will need to be developed.

At present, when buildings are removed from an area, the buildings are also removed from the engineering drawing without regard to its historical or environmental significance. In some cases these same buildings and their footprints are later classified as waste sites. Numerous types of historic information need to be saved, inventoried and tracked:

Photography
CAD Infrastructure Drawings
Written Documents
Borehole Logs

MISCELLANEOUS UPDATES AND CHANGES

To the Hanford Federal Facility Agreement and Consent Order

Legal Agreement, Article 1, paragraph 6, at end of sixth line, page 5.

Modify by adding the following note:

> "Four subareas of the Hanford Site have been proposed by EPA for addition to the NPL, 53 Fed. REG. 23988 (June 24, 1988) [Note: The four areas of the Hanford Site were officially listed on the NPL on November 3, 1989 (Federal Register 41015, October 4, 1989)]. When the Hanford Site...."

Legal Agreement, Article XL, Paragraph 112.

Modify text as follows:

> 112. Within ~~seven (7)~~ fourteen (14) days of receipt of a request for an extension of a timetable and deadline or a schedule, or as otherwise agreed to by the parties in writing, each Party shall advise DOE in writing of its respective position on the request. Any failure of a Party to respond within the ~~seven (7)~~ fourteen (14) day period (or other period agreed to in writing) shall be deemed to constitute concurrence in the request for extension. If a Party does not concur in the requested extension, it shall include in its statement of nonconcurrence an explanation of the basis for its position.

Action Plan, Section 2.0.

Tables 2-1, 2-2, and 2-3 and their associated figures on page 2-3 through page 2-16 are deleted. In addition the following changes are made to the text of Section 2.0:

2.0 ~~MAJOR~~ MILESTONES

2.1 INTRODUCTION

This section ~~identifies~~ discusses the ~~major~~ milestones that have been agreed to by all parties in support of this Agreement. These milestones represent the actions necessary to ensure acceptable progress toward Hanford Site compliance with RCRA, CERCLA, and the Washington State Hazardous Waste Management Act (HWMA). ~~The work schedule included in~~ Appendix D contains interim milestones and target dates ~~to~~ which support ~~these~~ major milestones.

The major milestones ~~have been grouped~~ fall into the following categories:

- Disposal of tank wastes
- Cleanup of past-practice units
- ~~Permitting and closure of TSD units.~~
- RCRA and HWMA operating requirements

New facilities required to support these activities are included in the category that they most directly support, recognizing that some of the facilities (e.g., laboratories) support more than one category.

The major milestones discussed in this section are based on existing funding and anticipated funding levels in the future. If funding levels are greater than anticipated, or if new sources of funding become available, the parties agree to renegotiate the milestones to decrease the amount of time necessary to complete the work.

2.2 DISPOSAL OF TANK WASTES

This category addresses the closure of the Hanford single-shell storage tanks and the final disposition of the wastes that are stored in single and double-shell tanks. ~~Table 2-1 describes the major milestones in support of this category.~~ The goals of these milestones are to reduce the current risk associated with single-shell tanks and to implement the long-term solutions for final disposition of all tank wastes. ~~Figure 2-1 graphically displays these milestones and reflects their major interrelationships.~~ The milestones associated with single-shell tank closure support a schedule to complete all actions in accordance with a ~~30~~ 40-year tank closure schedule.

2.3 CLEANUP OF PAST-PRACTICE UNITS

This category addresses the investigation and resultant remedial or corrective actions for past-practice units (see Section 3.3 for discussion of past-practice units) on the Hanford Site. ~~Table 2-2 describes the major milestones in support of this category.~~ The goal of these milestones is to achieve timely and appropriate cleanup of the Hanford Site. ~~Figure 2-2 graphically displays these milestones and reflects their major interrelationships.~~ The milestones associated with operable unit investigations and cleanup support a schedule to complete all site cleanup actions in accordance with a 30-year site cleanup schedule.

~~2.4 PERMITTING AND CLOSURES OF TREATMENT, STORAGE, AND DISPOSAL UNITS~~

2.4 RCRA and HWMA OPERATING REQUIREMENTS

This category addresses those actions necessary to satisfy ~~interim status~~ RCRA requirements and obtain a final operating permit for all TSD units on the Hanford Site. It also addresses closure of those TSD units that are not being closed in conjunction with past-practice units. ~~Table 2-3 describes the major milestones in support of this category.~~ The goal of these milestones is to achieve compliance with all RCRA and State Dangerous Waste Program ~~TSD~~ requirements. ~~Figure 2-3 graphically displays these milestones and reflects their major interrelationships.~~

Action Plan, Section 8.2, page 8-1.

Modify text as follows:

8.2 UNIT MANAGERS MEETING

Unit managers shall meet to discuss progress, address issues, and review near-term plans pertaining to their respective operable units and/or TSD groups/units. For TSD groups and operable units, meetings shall be held monthly, unless the unit managers for three parties agree that a meeting is not appropriate, once work plans, closure plans, or Part B permit applications have been submitted to EPA and Ecology for review.

Action Plan, Section 9.2.1 Table 9-1.

The following changes are made to Table 9-1.

Add to the bottom of table 9-1:

Other documents as specified elsewhere in the Agreement

Action Plan, Section 9.3, last paragraph, third sentence.

The following change is made:

The change notice will be prepared by the appropriate DOE unit manager and approved by the assigned unit manager from the lead regulatory agency. The approved change notice will be distributed as part of the next issuance of the applicable unit managers' meeting minutes. ~~For RI/FS and RFI/CMS work plans,~~ ~~T~~the change notice will thereby become part of the Administrative Record.

Section 9.4, three bullets on page 9-10.

Update the DOE-RL administrative record address to:

Westinghouse Hanford Company
Environmental Data Management Center
2440 Stevens Center
Room 1101
Mail Stop: H6-08
Richland, Washington 99352

Update the EPA administrative record address to:

EPA Region 10
Superfund Administrative Record Center
1200 Sixth Avenue
Park Place Building
Mail Stop: HW-113
Seattle, Washington 98101

MISCELLANEOUS UPDATES AND CHANGES

To the Hanford Federal Facility Agreement and Consent Order
(Continued)

Update the Ecology administrative record address to:

Washington State Department of Ecology
300 Desmond Drive
P.O. Box 47600
Lacey, Washington 98503

Action Plan, Section 9.4, fifth paragraph, third sentence.

Remove the third sentence in it's entirety as follows:

> The DOE will compile and maintain the administrative record file at Richland, Washington, and provide copies to the EPA and Ecology for their respective files. At the time when the decisional document is signed, all documents forming the basis for selection of the final action(s) must have been placed in the administrative record file. ~~Hard copies will initially be provided to each location once they are available.~~ Every 6 months, microfilm copies will be provided to the EPA and Ecology for use in their files. This will include microfilm for all documents included since the last set of microfilm was provided. Microfilm readers will be made available for use at these locations.

Section 9.4, fifth paragraph, fourth sentence.

Revise fourth sentence as follows:

> The DOE will compile and maintain the administrative record file at Richland, Washington, and provide copies to the EPA and Ecology for their respective files. At the time when the decisional document is signed, all documents forming the basis for selection of the final action(s) must have been placed in the administrative record file. Hard copies will initially be provided to each location once they are available. ~~Every 6 months,~~ Mmicrofilm copies will be regularly provided to the EPA and Ecology for use in their files. This will include microfilm for all documents included since the last set of microfilm was provided. Microfilm readers will be made available for use at these locations.

MISCELLANEOUS UPDATES AND CHANGES

To the Hanford Federal Facility Agreement and Consent Order
(Continued)

Section 9.4, eighth paragraph, first set of bullets on page 9-11.

Add an additional bullet as follows:

- For public comment documents, the public comments and lead regulatory agency responses (if no comments are received, a letter from the lead regulatory agency shall be included documenting that fact).

Action Plan, Section 10.2.

Update the Richland Public Information Repository address to:

DOE-RL Public Reading Room
Washington State University/Tri-Cities
100 Sprout Road
Room 130
Richland, Washington 99352
(509) 376-8583

Update the Portland Public Information Repository address to:

Portland State University
Branford Price Millar Library
SW Harrison and Park
P.O. Box 1151
Portland, Oregon 97207
(503) 725-3690

Update the Spokane Public Information Repository address to:

Gonzaga University
Foley Center
E. 502 Boone
Spokane, Washington 99258
(509) 328-4220, extension 3125

MISCELLANEOUS UPDATES AND CHANGES

To the Hanford Federal Facility Agreement and Consent Order
(Continued)

Action Plan, page 12-2.

Modify the change control form signature block to indicate which parties approve or disapprove a particular change as follows:

MISCELLANEOUS UPDATES AND CHANGES

To the Hanford Federal Facility Agreement and Consent Order
(Continued)

Change Number	Federal Facility Agreement and Consent Order Change Control Form Do not use blue ink. Type or print using black ink.	Date
Originator		Phone
Class of Change [ ] I - Signatories [ ] II - Project Manager [ ] III - Unit Manager		
Change Title		
Description/Justification of Change		
Impact of Change		
Affected Documents		
Approvals _____ DOE _____ Date ___ Approved ___ Disapproved _____ EPA _____ Date ___ Approved ___ Disapproved _____ Ecology _____ Date ___ Approved ___ Disapproved		

Action Plan, Executive Summary, page 7, first paragraph, first sentence.

Modify the sentence as follows:

"The approximately 55 TSD groups on the Hanford Site...."

Action Plan, Executive Summary, page 7, second paragraph, second sentence.

Modify the sentence as follows:

"They have been grouped into approximately 74 operable units..."

Action Plan, Executive Summary, page 7, fourth paragraph, last sentence.

Modify the sentence as follows:

"The unit manager shall represent their respective party for all activity on the applicable operable unit, each TSD group/unit, or other specific Agreement activity on which they participate."

Action Plan, Executive Summary, page 11, Current Status of Activities at Hanford section.

Delete entire section and replace with the following:

"CURRENT STATUS OF ACTIVITIES AT HANFORD

Current status of activities addressed by the Agreement may be obtained from the status reports which are produced as a requirement of this Agreement. These reports are available for inspection at any of the four Information Repositories described in section 10.2 of this action plan. Current status is also provided through regular and special mailings from the three parties. Any person may be placed on the Hanford Site mailing list by contacting any of the community relations contacts shown in Appendix E of this action plan. Quarterly Public Information Meetings and other special public involvement meetings held in various locations in Washington and Oregon are also a source of current information. These meetings are announced via newspapers and direct mail notices to those on the Hanford Site mailing list."

MISCELLANEOUS UPDATES AND CHANGES

To the Hanford Federal Facility Agreement and Consent Order
(Continued)

Action Plan, Section 1.3, page 1-3, last paragraph.

Add the following description of new section 13.0:

"Section 13.0 addresses requirements for management of discharges of liquid effluents to the soil column at Hanford."

Appendix A, page A-8, definition of HSWMUR.

Modify definition as follows:

"~~data base~~ document listing all known waste management units at Hanford..."

Action Plan, Section 4.1, page 4-1 second bullet.

Modify text as follows:

Approve changes to the action plan ~~work schedule annual updates and other revisions discussed in~~ per Section ~~11.3~~ 12.0

Action Plan, Section 5.2.3, page 5-2, paragraph 2, first sentence.

Modify sentence as follows:

For the purposes of this action plan, it is necessary to distinguish between a CPP unit, ~~an~~ a RPP unit, and a TSD unit.

Action Plan, Section 10.6, page 10-4, first bullet.

Modify text as follows:

The documents to be made available for public comment are as follows.

- ~~Work Schedule Update. One of the more significant opportunities for public comments pertains to updates and revisions to the work schedule (Appendix D). The schedule specifies the work to be done under both the State's dangerous waste program and the EPA's Superfund program. The work schedule will be updated on an annual basis and may require major revisions at any time. See Section 11.0 for further discussion of work schedule revisions. Prior to approval of annual updates or major revisions, the new schedule~~

~~will be made available for public comment. The comment period will be 45 days. Work will proceed pending finalization of the work schedule and the public comment process.~~

- Significant Changes to the Agreement. One of the more significant opportunities for public comments pertains to changes made to the Agreement or its Action Plan. Changes to the Agreement or its Action Plan which are significant, as defined by the Community Relations Plan, shall be made available for public comment for a period of 45 days.

Action Plan, Section 11.1, second paragraph.

Modify text as follows:

The work schedule is contained in Appendix D. It includes major and interim milestones and additional target dates that support the accomplishment of the major milestones ~~contained~~ described in Section 2.0. Both major and interim milestones are considered enforceable under the Agreement.

Action Plan, Section 11.2, page 11-2 first paragraph.

Modify text as follows:

The work schedule will be the primary vehicle for the project managers to track progress. The unit managers will rely primarily on the supporting schedules (see paragraph 11.4) for tracking progress. Until such schedules are issued, the work schedule will depict the necessary detail to track progress. The work schedule was initially prepared and approved as part of this action plan. ~~Subsequent revisions will be reviewed and approved separately in accordance with Subsection 11.3. An approval block for the project managers' signatures is provided on the first page of the work schedule.~~

MISCELLANEOUS UPDATES AND CHANGES

To the Hanford Federal Facility Agreement and Consent Order
(Continued)

Action Plan, Section 11.3, page 11-2.

Modify text as follows:

11.3 ANNUAL UPDATES AND OTHER REVISIONS

The work schedule will be updated annually, at a minimum, with the primary purpose to expand the level of detail for the upcoming calendar year and to include an additional year at the end of the work schedule. In addition, any approved schedule changes (see Section 12.0 for formal Change Control System) will be incorporated at this time if not previously incorporated. Each annual update will be performed during the three months prior to the beginning of the upcoming calendar year or as agreed by the three parties.

~~The annual updates to the work schedule shall require approval by the project managers and shall be subject to the public comment process defined in Section 10.0.~~ The work schedule may also be revised for clarity to incorporate previously approved changes made in accordance with Section 12.2. Such revisions do not require ~~new~~ approval signatures and are not subject to the public comment process.

~~In the event that an annual update requires the deferral of previously planned work, the parties shall agree to what tasks will continue to be performed, and what shall be deferred. In such cases, priority will generally be given to completion of ongoing work, rather than initiation of new work.~~

Changes made between annual updates ~~in most cases~~ will be accomplished in accordance with Section 12.0. Only in extreme circumstances, and with the concurrence of all parties, will the work schedule be ~~revised~~ updated during the year except for as noted above. ~~Such a revision will require approval of the project managers and shall be subject to the public comment process defined in Section 10.0.~~

~~The DOE shall certify as part of the annual updates of the work schedule that the milestones as previously negotiated have not changed, and that actions being incorporated are consistent with meeting such milestones. If a milestone has to be changed, the change process described in Section 12.0 will be used.~~

MISCELLANEOUS UPDATES AND CHANGES

To the Hanford Federal Facility Agreement and Consent Order
(Continued)

Action Plan, Section 11.6, last paragraph, page 11-3.

Modify text as follows:

Appendix F contains a listing of current supporting technical plans and procedures and their respective status. Changes to Appendix F will be accomplished in accordance with Section 12.0. Appendix F will be updated annually in conjunction with the annual update to the Work Schedule.

Action Plan, Sections 12.1 and 12.2, page 12-1.

Modify text as follows:

12.1 INTRODUCTION

This section provides the process for changing elements of this action plan without having to process a formal revision. The following identifies what can be modified with this process:

- Major milestones (as identified Appendix D ~~in Section 2.0~~)
- Appendix A--definition of terms and acronyms
- Appendix B--listing of TSD units
- Appendix C--prioritized listing of operable units
- Appendix D--work schedule
- Appendix E--key individuals
- Appendix F--Supporting Technical Plans and Procedures
- Appendix G--Data Management Initiatives
- Supporting schedules.

12.2 AUTHORITY TO APPROVE CHANGES

The appropriate authority level for approval of a change is based on the content of the change as follows.

- Class I Change--A Class I change is a change to a major milestone as defined in Section 2.0. A Class I change requires the approval of the signatories or their successors as shown in Section ~~13.0~~ 14.0.

- o Class II Change--A Class II change is any change to Appendices A, B, C, ~~or~~ D, E, F or G except as specified for Class I or Class III changes. A Class II change requires the approval of the project managers.

Action Plan, Sections 10.10, page 10-6 and 10-7.

Modify text as follows:

10.10 INDIAN TRIBES

~~The parties recognize the cultural and environmental significance of the Hanford Site to the Indian Tribes in the area. Several Tribes have expressed an interest in being involved in the Superfund cleanup effort at the Hanford Site.~~

The parties recognize that several Northwest Indian tribes have treaty-reserved rights to resources outside their reservation boundaries. In some instances, these resources are either located on the Hanford Reservation or could be affected by activities on the Hanford Reservation. Treaty-reserved rights give these tribes a governmental interest in waste management and environmental restoration activities at Hanford.

DOE and EPA also recognize that, as agencies of the federal government, they have a trust responsibility to American Indian Tribes to consult with the tribes and whenever possible, protect tribal resources which may be affected by agency decision-making. Moreover, DOE, EPA, and the State of Washington have adopted policies which recognize tribal sovereignty and commit to a government-to-government relationship with the tribes.

Given these responsibilities and policies, the parties recognize the unique position of the tribes and the distinction between the rights and responsibilities of the tribes and those of the public. Accordingly, the three parties will seek to facilitate tribal participation in TPA decision-making at the government-to-government level. Among actions to be taken in this regard are:

1. To involve these Tribes in the hazardous waste cleanup and management processes at the Hanford Site, the parties will hold special briefings for all interested Tribes periodically on major issues that have arisen and/or may arise. Such briefings will include status reports of the significant projects and will be consistent with the methods used to inform and respond to questions of appointed and elected officials, and other governments, regarding ongoing CERCLA and RCRA activities. These briefings may be in writing or in person and may be conducted by either the EPA, Ecology, or the DOE, as appropriate. Notice will be provided to all Tribes in the Hanford region. These briefings and the procedures

for determining which Tribes will be briefed are further described in Section 2.0 of the CRP.

2. The DOE will provide copies of any of the documents that are sent to the public information repositories directly to the Tribes upon request. The procedure for determining which documents will be sent is described in Section 2.0 of the CRP. The public information repositories are further discussed in Section 10.2 and in the CRP. The specific list of documents that will be sent directly to each repository is included in the CRP. As discussed in Section 10.2, this may include copies of drafts submitted for public comment. Any comments on these documents must be received by the lead regulatory agency within the time period allowed for public comment. The length of each comment period is specified in Section 10.6, and the specific comment period for each document will be noted in the public notice for comment.

Add the following text to page D-1 of Appendix D to the Action Plan:

NOTE:
Major Milestones are indicated by a -00 suffix (example M-21-00). Interim Milestones are indicated by a suffix greater than zero (example M-22-02). A target date is indicated by a "T" (example M-21-02-T01). See Section 2.0 of this Action Plan for more details.

Appendix G "Data Management Initiatives" is added to the Agreement Action Plan.

M-32-92-01	Federal Facility Agreement and Consent Order Change Control Form	Date Jan. 25, 1994

Originator

Phone

Class of Change

[X] I - Signatories [ ] II - Project Manager [ ] III - Unit Manager

Change Title

Interim Status Dangerous Waste Tank Systems Hanford Federal Facility Agreement and Consent Order Milestone, M-32.

Description/Justification of Change

Add milestone.

The proposed milestone establishes Tri-Party Agreement compliance schedules for the Hanford interim status dangerous waste tank systems.

Impact of Change

This change establishes a new major milestone with interim milestones. Completion of interim milestone tasks may identify the need for additional actions or interim milestones in the future. This milestone does not impact any other Tri-Party Agreement interim or major milestone.

Affected Documents

Affected Documents: Hanford Federal Facility Agreement Consent Order Action Plan, Appendix D, Figure D-1 Work Schedule, and Table D-3.

Approvals _X_ Approved ___Disapproved

This change form approved by Amendment Four to the Hanford Federal Facility Agreement and Consent Order executed by the signatories on January 25, 1994.

John Wagoner DOE	January 25, 1994 Date
Gerald Emison EPA	January 25, 1994 Date
Mary Riveland Ecology	January 25, 1994 Date

Proposed Interim Status Dangerous Waste Tank Systems Hanford Federal Facility Agreement and Consent Order Milestone M-32

M-32-00	**Complete Identified Dangerous Waste Tank Corrective Actions.** Completion of interim milestone tasks may identify the need for additional actions or interim milestones in the future. The reports and deficiency correction schedules prepared to satisfy current milestones will be used to identify any appropriate new interim milestones. Any new interim milestones will subsequently be established via the change process in Section 12 of the Action Plan. Tank integrity assessments will not be required for terminal cleanout of the Plutonium-Uranium Extraction Plant, except for Tanks F18, U3, and U4. Integrity assessments for Tanks F18, U3, and U4 have been completed.	Sept. 99
M-32-01	**Complete Plutonium Finishing Plant (PFP) Tank Interim Status Actions.** Stabilization activities at the Plutonium Finishing Plant (PFP), dependent on evaluation of alternatives under the National Environmental Policy Act, will be limited to a liquid waste generation of 300,000 gallons or less to the 241-Z tank system. The waste is temporarily stored in the 241-Z Tank System prior to transfer to the Double-Shell Tank Farms. Following any such stabilization activity, the PFP will not initiate any additional mission(s), except as described below, that results in the discharge of waste to the 241-Z tanks prior to completion of tank system upgrades necessary for compliance with state and federal dangerous waste regulations. Glove-box scale, laboratory, plant maintenance, and miscellaneous support activities necessary for safe, secure storage of materials and protection of personnel and the environment will continue. With exception of the stabilization activities, discharge to 241-Z will be limited to 50,000 gallons per year until compliance is achieved or terminal cleanout is completed. Any terminal cleanout discharge requirements in excess of 50,000 gallons per year will be reviewed and approved by the three parties prior to implementation.	Dec. 94

M-32-01-T01	Complete and submit integrity assessment report for PFP interim status tank system. Provide a schedule to address any deficiencies described in the report related to tank system compliance (Deficiencies not addressed in this schedule will be addressed in the compliance strategy of target action M-32-01-T02).	Oct. 93
M-32-01-T02	Submit proposed compliance strategy for remaining dangerous waste tank system issues.	June 94
M-32-01-T03	Complete construction of piping upgrades between 234-5Z, 236-Z and 241-Z Tank System (Project C-031H).	Dec. 94
M-32-02	**Complete 219-S Tank Interim Status Actions.**	**Sept. 97**
M-32-02-T01	Provide notification of completion of Definitive Design for Project W-178 - Construction of Interim Status Tank System Upgrades for 219-S Tank System.	Jan. 96
M-32-02-T02	Upgrade existing transfer lines to meet secondary containment requirements.	Sept. 97
M-32-03	**Complete T Plant Tank Actions.**	**Sept. 99**
M-32-03-T01	Implement periodic visual inspection and static leak test program for 2706-T and 211-T tanks.	Oct. 93
M-32-03-T02	Complete Conceptual Design Report (Project W-259) for T Plant tank system upgrades.	Apr. 94
M-32-03-T03	Submit schedule for completion of T Plant tank system upgrades (Project W-259).	June 94
M-32-03-T04	Complete modification of 2706-T Staging Pad to eliminate accumulation of precipitation.	June 94
M-32-03-T05	Install level indication device for 211-T tank.	June 94
M-32-03-T06	Complete scheduled upgrades to T Plant tank system (Project W-259).	Sept. 99
M-32-04	**Complete Double-Shell Tank Interim Status Tank Actions.**	**June 94**
M-32-04-T01	Submit design standards review for one tank farm.	Sept. 93
M-32-04-T02	Prepare and submit report documenting non-destructive examination equipment development and implementation plans.	Sept. 93
M-32-04-T03	Complete all DST visual examination and prepare and submit reports.	Sept. 93
M-32-04-T04	Complete and submit the Transfer Facility Compliance Plan.	June 94
M-32-04-T05	Submit to Ecology a final plan and schedule for completion of the Double-Shell Tank integrity assessments.	June 94
M-32-05	**Complete 242-A Evaporator Interim Status Tank Actions.**	**1 Month after hot restart**

M-32-05-T01	Complete and submit integrity assessment report for the 242-A Evaporator interim status tank system. Provide a schedule to address any deficiencies described in the report related to tank system compliance.	1 Month after hot restart
M-32-06	**Complete 244-AR Vault Interim Status Tank Actions.**	**Prior to restart**
M-32-06-T01	Complete and submit integrity assessment report and identified upgrades for 244-AR Vault interim status tank system (except that DST transfer lines that penetrate the 244-AR Vault will continue to be used). Provide a schedule to address any deficiencies described in the report related to tank system compliance.	Prior to restart
M-32-07	**Complete B Plant Interim Status Tank Actions.**	**Dec. 95**
M-32-07-T01	Identify additional dangerous waste tanks and ancillary equipment that will be routinely used during cleanout and stabilization activities. Submit schedule to perform integrity assessments on identified additional dangerous waste tanks and ancillary equipment. B Plant will not accept any waste for treatment, except waste generated as a result of on-going B Plant/WESF operations, without completion of tank integrity assessments and completion of upgrades necessary for compliance with WAC 173-303-640 or an applicable permit on systems used for the treatment, storage or disposal of the waste.	Apr. 94
M-32-07-T02	Complete and submit integrity assessment plan for Tanks 25-1, 25-2, 23-1, concentrator E-23-3, and identified ancillary equipment.	Oct. 94
M-32-07-T03	Complete and submit integrity assessment report for Tanks 25-1, 25-2, 23-1, concentrator E-23-3, and ancillary equipment as identified in the integrity assessment plan. Provide a schedule to address any deficiencies described in the report related to tank system compliance. The integrity assessment report of the low level waste concentrator, E-23-3, and the concentrated waste receiver, TK-23-1, will be completed only if their operation is planned beyond December 1995. The determination to include these two tanks in the integrity assessment report will be made by October 1994.	Dec. 95
M-32-08	**Complete Grout Interim Status Tank Actions.**	**Prior to processing DST waste**

M-32-08-T01	Complete and submit integrity assessment report for Grout interim status tank system. Complete activities required to correct any deficiencies described in the report related to tank system compliance.	Prior to processing DST waste

IT IS SO AGREED:

Each undersigned representative of a Party certifies that he or she is fully authorized to enter into this Agreement and Action Plan and to legally bind such Party to this Agreement and Action Plan. These change requests and amendments shall be effective upon the date on which this amendment agreement is signed by the Parties. Except as amended herein, the existing provisions of the Agreement shall remain in full force and effect.

FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY:

Gerald Emison — Date: 1-25-94
Acting Regional Administrator
Region 10
U.S. Environmental Protection Agency

FOR THE UNITED STATES DEPARTMENT OF ENERGY:

John D. Wagoner — Date: 1/25/94
Manager
U.S. Department of Energy
Richland Operations Office

FOR THE WASHINGTON STATE DEPARTMENT OF ECOLOGY:

Mary Riveland — Date: 1/25/94
Director
State of Washington
Department of Ecology