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Hanford Federal Facility

Agreement and Consent Order

Volume 1 of 2

First Amendment, August 1990

by

Washington State
Department of Ecology

United States
Environmental Protection Agency

United States
Department of Energy

89-10 Rev. 1

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

IN THE MATTER OF:	)	
	)	FIRST 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 following amendments to the Agreement:

LIST OF AMENDMENTS TO TRI-PARTY AGREEMENT

Item Number	Location	Change
		Title Page
1.	Last line on title page	Add: As amended, August 1990
		Legal Agreement
2.	Article VIII, Dispute Resolution, paragraph 29.B.	DOE's designated member of the DRC is the Assistant Manager for Environmental Management of the Richland Operations Office.
3.	Article XIII, Work, paragraph 38	Reference should be Chapter 7.0 rather than Chapter 6.0
4.	Article XV, Resolution of Disputes, paragraph 50.D.	Revise DOE official: DOE's representative on the DRC is the Assistant Manager for Environmental Management of the Richland Operations Office.

Item Number	Location	Change
5.	Article XXX, Quality Assurance, paragraph 94	Replace with: 94. Throughout all sample collection, preservation, transportation, and analyses activities required to implement this Agreement, DOE shall use procedures for quality assurance, and for quality control, in accordance with approved EPA methods, including subsequent amendments to such procedures. The DOE shall comply with the "Data Quality Strategy for Hanford Site Characterization" (as listed in Appendix F of the Action Plan) and Sections 6.5 and 7.8 of the Action Plan. For special circumstances, other procedures approved by the lead regulatory agency may be used. The DOE shall use methods and analytical protocols for the parameters of concern in the media of interest within detection and quantification limits in accordance with both QA/QC procedures and data quality objectives approved in the work plan, RCRA closure plan or RCRA permit. The EPA or Ecology may require that DOE submit detailed information to demonstrate that any of its laboratories are qualified to conduct the work. The DOE shall assure that EPA and Ecology (including contractor personnel) have access to laboratory personnel, equipment and records related to sample collection, transportation, and analysis.

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Item Number	Location	Change
6.	Article XXXV, Sampling Data/Document Availability, paragraph 101	Replace with: 101. The DOE shall transmit the results of laboratory analytical data and non-laboratory data collected pursuant to this Agreement to EPA and Ecology in an expeditious manner, as specified in Section 9.6 of the Action Plan.
7.	Article XXXVII, paragraph 106, fourth sentence	Remove "the", so it reads: "...obtain access agreements that: provide that no conveyance..."
8.	Article XLVIII, paragraph 143	Correct paragraph reference on last line of page 75: Change "Paragraph 127" to Paragraph 143.

Action Plan Title Page

9.	Last line on title page	Add: Amended, August 1990

Item Number	Location	Change
		Action Plan Executive Summary
10.	Page 1, Section on Treatment, Storage, and Disposal Operations	After second sentence add: In 1984, Congress amended RCRA, imposing, among other things, additional restrictions on hazardous waste storage and disposal activities. These restrictions have been referred to as the Land Disposal Restrictions (LDR). Some of the mixed wastes which are stored at Hanford are subject to LDR and cannot be land disposed until the wastes are treated in accordance with LDR regulations, or a variance is granted under 40 CFR 268. These wastes are stored in underground tanks or in other mixed waste units. At present, DOE does not have the capability to treat all of the LDR mixed wastes at Hanford in accordance with LDR, and until such treatment occurs, disposal is prohibited. The mixed waste treatment systems which are currently available and treatment systems which are planned for the future must satisfy prescribed LDR treatment requirements. Until treatment systems capable of treating the mixed waste to meet the LDR treatment standards become available for Hanford wastes, storage of existing wastes and wastes which will be generated will continue. However, such storage will be in accordance with an approved plan for the management of LDR mixed waste.

Item Number	Location	Change
		In addition to restrictions on land disposal, these LDR requirements also include specific conditions for storage of LDR wastes. The Department of Energy will submit schedules to develop and construct waste treatment systems necessary to achieve compliance with LDR storage requirements, which shall become effective upon approval by EPA (or Ecology upon authorization for LDR pursuant to Section 3006 of RCRA).
11.	Page 2, Section on CERCLA, second paragraph	Insert following after third sentence: These four areas were officially listed on the NPL on November 3, 1989 (Federal Register 41015, October 4, 1989).
12.	Page 3, paragraph 1, line 2	Delete sentence: "These areas are expected to be listed on the NPL in the near future."
13.	Page 4, bullet 3	Revise bullet 3: ...including requirements covering permitting, interim status, land disposal restrictions, closure, and post-closure care;
14.	Page 10, Current Status	Last bullet, delete opening phrase: "In anticipation of being listed on the NPL,"

Item Number	Location	Change
		Action Plan
15.	Page 2-14, Table 2-3	Add major milestone M-26-00 to Table 2-3 as follows: M-26-00: Submit "Hanford Land Disposal Restrictions Plan for Mixed Wastes" (LDR Plan) in accordance with "Requirements for the Hanford LDR Plan" issued by EPA and Ecology, dated April 10, 1990. Land disposal restriction (LDR) requirements include limitations on storage of specified hazardous wastes (including mixed wastes). In accordance with approved plans and schedules, DOE shall develop and implement treatment technologies necessary to achieve full compliance with LDR requirements for mixed wastes at the Hanford Site. LDR plans and schedules shall be developed with consideration of other Action Plan milestones and will not become effective until approved by EPA (or Ecology upon authorization to administer LDR pursuant to Section 3006 of RCRA). Disposal of LDR wastes at any time is prohibited except in accordance with applicable LDR requirements. DOE shall comply with all applicable LDR requirements for nonradioactive wastes at all times. The LDR Plan will include, but not be limited to the following: a. Waste Characterization Plan; b. Storage Report; c. Treatment Report; d. Treatment Plan; e. Waste Minimization Plan; f. A schedule, depicting the events necessary to achieve full compliance with LDR requirements; g. A process for establishing interim milestones

LIST OF AMENDMENTS TO TRI-PARTY AGREEMENT

Item Number	Location	Change
16.	Page 2-15, Section 2.0, Figure 2-3, Permitting and Closure of Treatment, Storage, and Disposal Units	At the bottom right corner change M-24-00 to read M-25-00. At the bottom center of the drawing, add M-26-00 schedule depicting Land Disposal Restrictions activities.
17.	Section 3.1, fourth paragraph, next to last line	Correct typo: "u nits" to units
18.	Section 3.4.2, second bullet	After "Priority Waste Management Policy", add: (Ecology 86-07)
19.	Section 4.2	Revise first sentence: "The EPA, DOE, and Ecology shall each designate an individual as a unit manager for each operable unit, each TSD group/unit, or other specific Agreement activity on which they participate."
20.	Section 5.4, second paragraph, first sentence	Revise: "Since the Hanford Site was proposed for inclusion on the National Priorities List (NPL) (Federal Register, June 24, 1988) and was placed on the NPL on November 3, 1989 (Federal Register, October 4, 1989), the parties agree..."

Item Number	Location	Change
21.	Page 6-1, Section 6.1, Introduction	Insert at end of section: The RCRA land disposal restrictions (LDR) require that established treatment requirements be met prior to land disposal of hazardous wastes. While treatment capacity generally exists for the nonradioactive hazardous wastes which are subject to LDR, treatment is currently not available for the mixed wastes subject to LDR which require storage at the Hanford Site. In accordance with Milestone M-26-00, DOE will submit the "Hanford Land Disposal Restrictions Plan for Mixed Wastes," (LDR Plan) to EPA and Ecology. This plan will describe a process for managing mixed wastes subject to LDR at the Hanford Site and will identify actions which will be taken by DOE to achieve full compliance with LDR requirements. These actions will be taken in accordance with approved schedules specified in the LDR Plan and in the Work Schedule (Appendix D). The DOE will submit annual reports which shall update the LDR Plan and the prior annual report, including plans and schedules. The annual report will also describe activities taken to achieve compliance and describe the activities to be taken in the next year toward achieving full compliance. The LDR Plan and annual reports are primary documents, subject to review and approval by EPA, in consultation with Ecology. EPA also has approval authority for schedules in the LDR Plan and annual reports. Changes to approved final schedules must be made in accordance with the Change Control System described in Section 12.0. When Ecology receives authorization from EPA to implement the LDR provisions of RCRA pursuant to Section 3006 of RCRA, Ecology will review and approve the annual reports, plans, and schedules, in consultation with EPA, and will otherwise administer the LDR requirements.

Item Number	Location	Change
22.	Section 6.5 (New Section), Quality Assurance	Add new section: 6.5 Quality Assurance The level of quality assurance and quality control (QA/QC) for the collection, preservation, transportation, and analysis of each sample which is required for implementation of this Agreement shall be dependent upon the data quality objectives for the sample. Such data quality objectives shall be specified in RCRA closure plans, the RCRA permit, and any other relevant plans that may be used to describe sampling and analyses at RCRA TSD units. The QA/QC requirements shall range from those necessary for non-laboratory field screening activities to those necessary to support a comprehensive laboratory analysis that will be used in final decision-making. This range of QA/QC options is included in the "Data Quality Strategy for Hanford Site Characterization" (as listed in Appendix F). This document is subject to approval by EPA and Ecology. Based upon the data quality objectives, the DOE shall comply with EPA guidance documents for QA/QC and sampling and analysis activities which are taken to implement the Agreement. Such guidance includes: o "Guidelines and Specifications for Preparing Quality Assurance Program Plans" (QAMS-004/80); o "Interim Guidance and Specifications for Preparing Quality Assurance Project Plans" (QAMS-005/80);

Item Number	Location	Change
		o "Data Quality Objectives for Remedial Response Activities" (EPA/540/G-87/003 and 004); and o "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (EPA/SW-846). In some instances, RCRA TSD units are included in operable units and are scheduled for investigation and closure as part of the operable unit remedial action. DOE shall follow the provisions of Section 7.8 for QA/QC for sampling and analysis activities at these land disposal units. In regard to quality assurance requirements for construction of RCRA land disposal facilities, DOE shall comply with "Technical Guidance Document: Construction Quality Assurance for Land Disposal Facilities" (EPA/530-SW-86-031). For analytical chemistry and radiological laboratories, the QA/QC plans must include the elements listed in "Guidance on Preparation of Laboratory Quality Assurance Plans" (as listed in Appendix F). DOE shall submit laboratory QA/QC plans to EPA and Ecology for review as secondary documents prior to use of that laboratory. In the event that DOE fails to demonstrate to the lead regulatory agency that data generated pursuant to this agreement was obtained in accordance with the QA/QC requirements of this section, including laboratory QA/QC plans, DOE shall repeat sampling or analysis as required by the lead regulatory agency. Such action by the lead regulatory agency shall not preclude any other action which may be taken pursuant to this Agreement. For other data, Ecology or EPA may request DOE to provide QA/QC documentation. Any such data that does not meet the QA/QC standards required by this section shall be clearly flagged and noted to indicate this fact.

Item Number	Location	Change
23.	Section 7.1, third paragraph, first sentence	Revise: "The 100, 200, 300, and 1100 Areas were identified as aggregate areas for inclusion of the Hanford Site on the CERCLA NPL."
24.	Section 7.1, third paragraph, fourth sentence	Revise: "The four aggregate areas were proposed for inclusion on the NPL on June 24, 1988, and were placed on the NPL on November 3, 1989 (Federal Register, October 4, 1989)."
25.	Section 7.3.1	Insert after fourth sentence: The four aggregate areas of the Hanford Site were officially placed on the NPL effective November 3, 1989 (Federal Register Vol. 54, No. 191, p. 41015).
26.	Section 7.3.6, paragraph 1	Add after first sentence: A supplemental work plan to the RI/FS work plan will be prepared to cover the RI Phase II activities. This work plan will be placed in the Public Information Repositories.
27.	Section 7.5, page 7-21, fifth bullet	After "Chapter 70.98" Add: RCW
28.	Section 7.5, page 7-21, seventh bullet	Change "70.105C RCW" to "70.105D RCW" and add: and implementing regulations; Model Toxics Control Act Cleanup Regulation--173-340 WAC

Item Number	Location	Change
29.	Section 7.7, Health Assessments	Replace as follows: The Agency for Toxic Substances and Disease Registry (ATSDR) is a part of the U.S. Public Health Service, which is under the U.S. Department of Health and Human Services. The ATSDR was created by Congress to help implement the health-related sections of laws that protect the public from hazardous waste and environmental spills of hazardous substances. The CERCLA requires ATSDR to conduct a health assessment within one year following proposal to the NPL for any site proposed after October 17, 1986. The ATSDR health assessment is the result of the evaluation of data and information on the release of hazardous substances into the environment. Its purpose is to assess any current or future impacts on public health, to develop health advisories or other health recommendations, and to identify studies or actions needed to evaluate and mitigate or prevent adverse human health effects. The ATSDR will prepare a preliminary health assessment for each of the four Hanford NPL areas (the 100, 200, 300, and 1100 Areas). Since the RI Phase I reports for these areas will not be available within one year following the proposal of Hanford to the NPL, these preliminary health assessments will be based upon the best available information. As additional information becomes available, and as appropriate, ATSDR may, at its discretion, expand these preliminary health assessments into full health assessments adding to the overall characterization of the site, or prepare addenda to the health assessments addressing the public health impact of either individual or a combination of operable units at the site.

Item Number	Location	Change
		The health assessments, including any addenda, will become part of the administrative record.
30.	Section 7.8 (New Section), Quality Assurance	Add new section: 7.8 Quality Assurance The level of quality assurance and quality control (QA/QC) for the collection, preservation, transportation, and analysis of each sample which is required for implementation of this Agreement shall be dependent upon the data quality objectives for the sample. Such data quality objectives shall be specified in RI/FS or RFI/CMS work plans or in other work plans that may be used to describe sampling and analyses at CERCLA or RCRA past-practice units. The QA/QC requirements shall range from those necessary for non-laboratory field screening activities to those necessary to support a comprehensive laboratory analysis that will be used in final decision-making. This range of QA/QC options is included in the "Data Quality Strategy for Hanford Site Characterization" (as listed in Appendix F). This document is subject to approval by EPA and Ecology. Based upon the data quality objectives, the DOE shall comply with EPA guidance documents for QA/QC and sampling and analysis activities which are taken to implement the Agreement. Such guidance includes: o "Guidelines and Specifications for Preparing Quality Assurance Program Plans" (QAMS-004/80); o "Interim Guidance and Specifications for Preparing Quality Assurance Project Plans" (QAMS-005/80); and

Item Number	Location	Change
		o "Data Quality Objectives for Remedial Response Activities" (EPA/540/G-87/003 and 004). In regard to quality assurance requirements for construction of land disposal facilities, DOE shall comply with "Technical Guidance Document: Construction Quality Assurance for Land Disposal Facilities" (EPA/530-SW-86-031). For analytical chemistry and radiological laboratories, the QA/QC plans must include the elements listed in "Guidance on Preparation of Laboratory Quality Assurance Plans" (as listed in Appendix F). DOE shall submit laboratory QA/QC plans to EPA and Ecology for review as secondary documents prior to use of that laboratory. In the event that DOE fails to demonstrate to the lead regulatory agency that data generated pursuant to this agreement was obtained in accordance with the QA/QC requirements of this section, including laboratory QA/QC plans, DOE shall repeat sampling or analysis as required by the lead regulatory agency. Such action by the lead regulatory agency shall not preclude any other action which may be taken pursuant to this Agreement. For other data, Ecology or EPA may request DOE to provide QA/QC documentation. Any such data that does not meet the QA/QC standards required by this section shall be clearly flagged and noted to indicate this fact.
31.	Section 8.2, first sentence	Delete "monthly"
32.	Section 8.2	Insert before second sentence: For TSD groups and operable units, meetings shall be held monthly once work plans, closure plans, or Part B permit applications have been submitted to EPA and Ecology for review.
33.	Section 8.3, first paragraph	Change March 30 to March 31

Item Number	Location	Change
34.	Section 9.2.1	Correct third paragraph to include previously omitted phrase, so that it reads as follows: Upon receiving written comments from the lead regulatory agency, the DOE will update the document and/or respond to the comments (for closure plans, comments will be provided in the form of an NOD). The response will address all written comments and will include a schedule for obtaining additional information if required. The DOE may request an extension for a specified period for responding to the comments by providing a written request to the lead regulatory agency.
35.	Section 9.2.1, paragraph 4, next to last sentence	Revise: "Within 21 days of completion of the dispute resolution, or within 30 days of receipt of the lead regulatory agency evaluation of the responses if there is no dispute..."
36.	Section 9.2.1, paragraph 4, last sentence	Delete "30-day"
37.	Section 9.2.1, paragraph 5, last sentence	Change "requested" to "notified DOE of the need for"
38.	Section 9.3	Add to end of the section: Minor changes to approved plans which do not qualify as minor field changes under Section 12.4 can be made through use of a change notice. Such plans include RI/FS work plans, remedial action work plans, RFI/CMS work plans, CMI work plans, and other work plans as described in Section 11.5. (Modifications to permits and closure plans will be done in accordance with applicable procedures specified in 173-303 WAC and 40 CFR 270.41.) The change notice will not be used to

Item Number	Location	Change
		modify schedules contained within these supporting plans. Such schedule changes will be made in accordance with Section 12.0, Changes to Action Plan/Supporting Schedules. Minor changes to approved plans include specific additions, deletions, or modifications to its scope and/or requirements which do not affect the overall intent of the plan or its schedule. The lead regulatory agency will evaluate the need to revise the plan. If the revision is determined to be necessary, the lead regulatory agency will decide whether it can be accomplished through use of the change notice, or if a full revision to the plan in accordance with this section is required. 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, the change notice will thereby become part of the Administrative Record. The change notice form shall, as a minimum, include the following: o Number and title of document affected

Item Number	Location	Change
		o Date document last issued o Date of this change notice o Change notice number o Description of change o Justification and impact of change (to include affect on completed or ongoing activities) o Signature blocks for the DOE and lead regulatory agency unit managers
39.	Section 9.4	Revise location address for administrative record: o U.S. Department of Energy - Richland Operations Office Administrative Record Center 345 Hills Street (off George Washington Way) Richland, Washington 99352
40.	Section 9.4, page 9-10	Correct next to last bullet: change "form" to "from"
41.	Section 9.4, Table 9-3, Administrative Record Documents	Add to list of "Factual Information/Data (CERCLA): Supplemental work plan Health assessment Work plan change notice Sample data results
42.	Section 9.4, Table 9-3 Administrative Record Documents	Add to list of "Factual Information/Data (RCRA): Work plan change notice Sample data results

Item Number	Location	Change
43.	Section 9.6 (new section), Data Reporting Requirements	Add new section: 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 9.7) 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

Item Number	Location	Change
		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

Item Number	Location	Change
		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 non-laboratory data collected pursuant to this Agreement (e.g., surface geophysical data) within thirty days after sampling has been completed. 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.

Item Number	Location	Change
		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. 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

Item Number	Location	Change
		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. Those 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 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

Item Number	Location	Change
		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. HEIS will also include atmospheric, biotic, geophysics, geologic, and soil gas data.
44.	Section 10.2	Change telephone number for DOE to: (509) 376-8583
45.	Section 10.2	Revise Spokane information repository location: o Crosby Library Gonzaga University E. 502 Boone Spokane, Washington 99258 (509) 328-4220
46.	Section 10.3, paragraph 2, last sentence	Revise as follows: In some instances, this newsletter may be used in conjunction with a public notice and/or advertisement (newspaper or radio)...
47.	Section 10.5.3	First paragraph, replace last two sentences with: The quarterly public information meetings will be scheduled, to the extent practicable, to coincide with public comment periods or other significant events.
48.	Page 10-4, Section 10.6, Public Comment Opportunities; first bullet	Change 30 days to 45 days in next to last sentence

LIST OF AMENDMENTS TO TRI-PARTY AGREEMENT

Item Number	Location	Change
49.	Section 10.6, second bullet, RI/FS Work Plan (CERCLA) or RFI/CMS Work Plan (RCRA)	Add after last sentence: The public notice published in the newspaper announcing the availability of work plans shall also indicate the location and availability of the Administrative Record file.
50.	Section 10.9, first paragraph	Revise first sentence: The Model Toxics Control Act, Chapter 70.105D RCW and Chapter 173-321 WAC, provide for public participation grants to persons...
51.	Section 10.9, first paragraph	Delete third sentence: Ecology anticipates adopting emergency rules to implement this program in July of 1989.
52.	Page 11-1, Section 11.1	Add bullet: o Land disposal restriction requirements

Item Number	Location	Change
53.	Section 11.6 (new section), Supporting Technical Plans and Procedures	Add new section: 11.6 Supporting Technical Plans and Procedures In addition to the requirements as specified in this Agreement, supporting technical plans and procedures may be developed by DOE. They will be reviewed for approval by EPA and Ecology as primary documents or reviewed as secondary documents as determined by EPA and Ecology. The DOE may submit such plans or procedures at any time, without request of the regulatory agencies. The EPA or Ecology may also request that specific plans or procedures be developed or modified by DOE, consistent with Article XXIX of the Agreement. These technical plans and procedures shall pertain to specific compliance and cleanup activities conducted pursuant to this Agreement and shall provide a detailed description of how certain requirements will be implemented at the Hanford Site. DOE shall comply with the most recent approved versions of these technical plans and procedures and those secondary documents which are in effect. Appendix F contains a listing of current supporting technical plans and procedures and their respective status. Appendix F will be updated annually in conjunction with the annual update to the Work Schedule.
54.	Section 12.2	Add to third bullet: It is not the intent of the parties to revise target dates because work is slightly behind or ahead of schedule. Such schedule deviations will be reflected through the reporting of work schedule status. The use of the change process for revising target dates is for use by the parties to delete, add, or significantly accelerate or defer a target date.

Item Number	Location	Change
55.	Section 12.5, second paragraph	Insert before first sentence: Appendices B, C, E, and F will be reissued annually in conjunction with the annual update of Appendix D.

Action Plan Appendix A
Definition of Terms and Acronyms

56.	Appendix A, Acronyms	Insert "LDR Land Disposal Restriction"
57.	Appendix A, Definition of Terms used in the Action Plan	Revise Administrative Record wording: "Administrative record - the administrative record is the body of documents and information that is considered or relied upon in arriving at a final decision for a remedial action, removal action, corrective measure, interim measure, RCRA permit, or approved RCRA closure plan.
58.	Appendix A, Definition of Terms used in the Action Plan	Add definition for land disposal restriction waste: Land Disposal Restriction Waste (LDR Waste): RCRA hazardous wastes, subject to Section 3004(d) through (m) of RCRA and 40 CFR Part 268.

Item Number	Location	Change
59.	Appendix A	Add following definitions: Validated Data: Data that DOE has determined meets criteria contained in the "Data Validation Guidelines for Contract Laboratory Program Organic Analyses" and "Data Validation Guidelines for Contract Laboratory Program Inorganic Analyses" that are contained in the Sample Management Administrative Manual. Verified Data: Data that has been checked for accuracy and consistency by DOE following a transfer action (e.g., from manual log to computer or from distributed data base to centralized data repository).

LIST OF AMENDMENTS TO TRI-PARTY AGREEMENT

Item Number	Location	Change
60.	Action Plan, Appendix D, Volume 2 (will be added to Volume 2 at next annual update)	Text of milestones to be added as follows:

REVISIONS TO APPENDIX D TO ADDRESS LDR

Add:

M-20-47	Submit Part B permit application for 200 East Area LERF to EPA and Ecology	June 1991
M-26-00	Submit "Hanford Land Disposal Restrictions Plan for Mixed Wastes" (LDR Plan) in accordance with "Requirements for the Hanford LDR Plan" issued by EPA and Ecology, dated April 10, 1990	October 1990

Land disposal restriction (LDR) requirements include limitations on storage of specified hazardous wastes (including mixed wastes). In accordance with approved plans and schedules, DOE shall develop and implement treatment technologies necessary to achieve full compliance with LDR requirements for mixed wastes at the Hanford Site. LDR plans and schedules shall be developed with consideration of other Action Plan milestones and will not become effective until approved by EPA (or Ecology upon authorization to administer LDR pursuant to Section 3006 of RCRA). Disposal of LDR wastes at any time is prohibited except in accordance with applicable LDR requirements. DOE shall comply with all applicable LDR requirements for nonradioactive wastes at all times. The LDR Plan will include, but not be limited to the following:

a. Waste Characterization Plan
b. Storage Report
c. Treatment Report
d. Treatment Plan
e. Waste Minimization Plan
f. A schedule, depicting the events necessary to achieve full compliance with LDR requirements
g. A process for establishing interim milestones

Item Number	Location	Change	
M-26-01	Submit an Annual Hanford Land Disposal Restrictions Report in accordance with the LDR Plan to cover the period from October 1 through September 30.		Annually Beginning October 1991
	The reports shall include a description of activities taken in accordance with the LDR Plan and prior annual reports to achieve full compliance with LDR requirements. The reports shall update all information contained in the LDR Plan and the prior annual report, including plans and schedules.		
M-26-02	Establish interim milestones for LDR compliance		Annually beginning October 1990
	Schedules for achieving compliance with LDR requirements at TSD mixed waste units (or as otherwise approved) shall be developed in accordance with the LDR Plan and the annual reports. Such schedules will be subject to review and approval by EPA (or Ecology upon authorization to administer LDR pursuant to Section 3006 of RCRA).		
M-26-03	Cease discharge of 242-A Evaporator process condensate effluent to LERF units		December 1994
	DOE may discharge process condensate effluent from the 242-A Evaporator to Liquid Effluent Retention Facility (LERF) units from December 1990 through December 1994 if (1) the placement of such effluent into LERF is necessary for completion of milestones required by the Agreement; (2) interim status authorization includes these units or a RCRA permit covering these units has been issued; (3) the units satisfy the requirements of 40 CFR Part 264, Subpart K, or 40 CFR Part 265, Subpart K; (4) the units maintain a floating cover which minimizes evaporation; (5) the units comply with all applicable hazardous waste requirements; and (6) prior certification of compliance with 40 CFR 268.4(a)(3) is submitted in accordance with 40 CFR 268.4(a)(4). Discharges of effluent containing hazardous waste subject to the land disposal restrictions other than process condensate from the evaporator to LERF is prohibited.		
M-26-04	Remove all hazardous waste residues from the 242-A Evaporator LERF units		June 1995
	Remove all hazardous waste residues (including any liquid waste) that do not meet LDR treatment standards and applicable prohibition levels imposed by regulation or statute and residues from wastes prohibited from land disposal where no treatment standards have been established and no prohibition levels apply, or which are not delisted pursuant to 40 CFR 260.22 and WAC 173-303-072.		

Item Number	Location	Change
		Appendix F
61.	Appendix F (new appendix), Supporting Technical Plans and Procedures:	Add new Appendix F as follows:

APPENDIX F

Supporting Technical Plans and Procedures

Document	Status
Strategy for Handling and Disposing of Purgewater at the Hanford Site, Washington	In review
Data Quality Strategy for Hanford Site Characterization	In review
Environmental Investigation and Site Characterization Manual (contains specific procedures governing Site investigation activities)	In review
Data Reporting Requirements for the Hanford Site	To be developed
Guidance on Preparation of Laboratory Quality Assurance Plans	To be developed
Data Validation Guidelines for Contract Laboratory Program Organic Analyses	In review
Data Validation Guidelines for Contract Laboratory Program Inorganic Analyses	In review

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. The 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:

Thomas P. Dunne
Acting Regional Administrator, Region 10
U.S. Environmental Protection Agency

8-22-90
Date

FOR THE UNITED STATES DEPARTMENT OF ENERGY:

John D. Wagoner
Manager, Richland Operations Office
U.S. Department of Energy

8-3-90
Date

FOR THE WASHINGTON STATE DEPARTMENT OF ECOLOGY

Christine O. Gregoire
Director
Department of Ecology

9/24/90
Date

Hanford Federal Facility Agreement and Consent Order

by

Washington State
Department of Ecology

United States
Environmental Protection Agency

United States
Department of Energy

May 1989
As Amended, August 1990

89-10 REV. 1

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

IN THE MATTER 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

Based on the information available to the Parties on the effective date of this HANFORD FEDERAL FACILITY AGREEMENT AND CONSENT ORDER ("Agreement"), and without trial or adjudication of any issues of fact or law, the Parties agree as follows:

This Agreement is divided into five parts: Part One contains introductory provisions which apply to Parts Two, Three, Four, and Five: Part Two contains provisions governing hazardous waste treatment, storage and disposal (TSD), hazardous waste facility permitting, closure and post-closure activities; Part Three contains provisions governing remedial and corrective action activities; Part Four contains provisions which delineate in part the respective roles and interrelationships between EPA and Ecology, and between CERCLA and RCRA on the Hanford Site; and Part Five contains common provisions which apply to Parts Two, Three, and Four. CERCLA response actions and corrective actions under HSWA, before and after State authorization, shall be governed by Part Three of this Agreement. RCRA compliance, and TSD permitting, closure, and post closure care (except HSWA corrective action) shall be governed by Part Two of this Agreement.

This Agreement also consists of Attachment 1, a letter dated February 26, 1989 from the Department of Justice to the Department of Ecology, Attachment 2, the Action Plan, and Attachment 3, the Mutual Cooperation Funding Agreement between the Department of Ecology and the Department of Energy. In the event of any inconsistency between this Agreement and the attachments to this Agreement, this Agreement shall govern unless and until duly modified pursuant to Article XXXIX (Amendment) of this Agreement.

The Action Plan contains plans, procedures and implementing schedules. The Action Plan is an integral and enforceable part of this Agreement.

Parts One, Two, Four, and Five of this Agreement are entered into by Ecology pursuant to Ecology's authority to issue regulatory orders pursuant to Chapter 70.105.095, Revised Code of Washington.

PART ONE

INTRODUCTION

ARTICLE I. JURISDICTION

1. The U.S. Environmental Protection Agency (EPA), Region 10, enters into this Agreement pursuant to Section 120(e) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. Section 9620(e), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), Pub. L. 99-499 (hereinafter jointly referred to as CERCLA), and Sections 6001, 3008(h), and 3004(u) and (v) of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. Sections 6961, 6928(h), 6924(u) and (v), as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA), Pub. L. 98-616 (hereinafter jointly referred to as RCRA) and Executive Order 12580.

2. Pursuant to Section 3006 of the Resource Conservation and Recovery Act, 42 U.S.C. Section 6926, EPA may authorize states to administer and enforce a state hazardous waste management program, in lieu of the federal hazardous waste management program. The State of Washington has received authorization from EPA to administer and enforce such a program within the State of Washington. The requirements of the federally authorized state program are equivalent to the requirements of the federal program set forth in Subtitle C of RCRA and its implementing regulations (excluding those portions of the federal program imposed pursuant to HSWA). The Department of Ecology (Ecology) is the state agency designated by RCW 70.105.130 to

implement and enforce the provisions of the Resource Conservation and Recovery Act as amended.

3. The State of Washington, Department of Ecology (Ecology) enters into this Agreement pursuant to CERCLA, RCRA, and Washington Hazardous Waste Management Act, Chapter 70.105 RCW.

4. The Parties agree that the generation, treatment, storage, and disposal of hazardous waste is regulated by the State of Washington, Department of Ecology pursuant to Ch. 70.105 RCW, the State Hazardous Waste Management Act (HWMA), and regulations governing the management of hazardous wastes are contained at Ch. 173-303 WAC, and finally that pursuant to Section 6001 of RCRA, 42 U.S.C. Sec. 6961, the United States Department of Energy (DOE), as a federal agency, must comply with the procedural and substantive requirements of such state law. DOE is a "person" as defined at RCW 70.105.010(7).

5. The U.S. Department of Energy (DOE) enters into this Agreement pursuant to Section 120(e) of CERCLA, Sections 6001, 3008(h), and 3004(u) and (v) of RCRA, Executive Orders 12580 (January 1987) and 12088 (Oct. 1978), and the Atomic Energy Act of 1954, as amended, 42 U.S.C. Section 2011 et seq. DOE agrees that it is bound by this Agreement and that its terms may be enforced against DOE pursuant to the terms of this Agreement or as otherwise provided by law. As stated in Section 1006 of RCRA, nothing in this Agreement shall be construed to require DOE to take any action pursuant to RCRA which is inconsistent with the requirements of the Atomic Energy Act of 1954, as amended. In the event DOE asserts that it cannot comply with any provision of this Agreement based on an alleged inconsistency between the requirements of this Agreement and the Atomic

Energy Act of 1954, as amended, it shall provide the basis for the inconsistency assertion in writing. In the event Ecology disagrees with the assertions by DOE, Ecology reserves the right to seek judicial review, or take any other action provided by law in case of any such alleged inconsistency.

6. The Parties are entering into this Agreement in anticipation that the Hanford Site will be placed on the National Priorities List (NPL), 40 CFR Part 300. The Hanford Site has been listed by EPA on the federal agency hazardous waste compliance docket under CERCLA Section 120, 52 Federal Register 4280 (Feb. 12, 1988). Four subareas of the Hanford Site have been proposed by EPA for addition to the NPL, 53 Fed. Reg. 23988 (June 24, 1988). When the Hanford Site, or subareas of the Site, is placed on the NPL, Parts One, Three, Four, and Five of this Agreement shall also serve as the Interagency Agreement required by CERCLA Section 120(e). Parts One, Two, Four, and Five of this Agreement shall serve as the RCRA provisions governing compliance, permitting, closure and post-closure care of TSD Units. The Action Plan, at Appendix B, lists those treatment, storage or disposal (TSD) Groups or Units regulated by Ch. 70.105 RCW. As the categorization effort continues, TSD Units may be added to this list. DOE agrees that those TSD Units listed in Appendix B of the Action Plan, and any additional TSD Units which are identified as TSD Units in the future are subject to the regulatory framework of Ch. 70.105 RCW pursuant to RCRA Section 6001. Ecology's authority over these TSD Units shall not be abrogated or affected by the nomination or ultimate inclusion of the Hanford Site on the National Priorities List and such Units shall be regulated in accordance with this Agreement; provided, however, that with respect to conflicts between EPA and

Ecology regarding corrective action and remedial action, Article XXVII (RCRA/CERCLA Reservation of Rights) shall be controlling.

ARTICLE II. PARTIES

7. The Parties to this Agreement are EPA, Ecology, and DOE.

8. DOE shall provide a copy of this Agreement and relevant attachments to each of its prime contractors. A copy of this Agreement shall be made available to all other contractors and subcontractors retained to perform work under this Agreement. DOE shall provide notice of this Agreement to any successor in interest prior to any transfer of ownership or operation.

9. DOE shall notify EPA and Ecology of the identity and the scope of work of each of its prime contractors and their subcontractors to be used in carrying out the terms of this Agreement in advance of their involvement in such work. Upon request, DOE shall also provide the identity and work scope of any other contractors and subcontractors performing work under this Agreement. DOE shall take all necessary measures to assure that its contractors, subcontractors and consultants performing work under this Agreement act in a manner consistent with the terms of this Agreement.

10. DOE agrees to undertake all actions required by the terms and conditions of this Agreement and not to contest state or EPA jurisdiction to execute this Agreement and enforce its requirements as provided herein.

11. This Article II shall not be construed as a promise to indemnify any person.

12. DOE remains obligated by this Agreement regardless of whether it carries out the terms through agents, contractors, and/or consultants.

Such agents, contractors, and/or consultants shall be required to comply with the terms of this Agreement, but the Agreement shall be binding and enforceable only against the Parties to this Agreement.

ARTICLE III. PURPOSE

13. The general purposes of this Agreement are to:

A. Ensure that the environmental impacts associated with past and present activities at the Hanford Site are thoroughly investigated and appropriate response action taken as necessary to protect the public health, welfare and the environment;

B. Provide a framework for permitting TSD Units, promote an orderly, effective investigation and cleanup of contamination at the Hanford Site, and avoid litigation between the Parties;

C. Ensure compliance with RCRA and the Washington Hazardous Waste Management Act (HWMA), Ch. 70.105 RCW, for TSD Units including requirements covering permitting, compliance, closure, and post-closure care.

D. Establish a procedural framework and schedule for developing, prioritizing, implementing and monitoring appropriate response actions at the Hanford Site in accordance with CERCLA, the National Contingency Plan (NCP), 40 CFR Part 300, Superfund guidance and policy, RCRA, and RCRA guidance and policy;

E. Facilitate cooperation, exchange of information and the coordinated participation of the Parties in such actions; and

F. Minimize the duplication of analysis and documentation.

14. Specifically, the purposes of this Agreement are to:

A. Identify TSD Units which require permits; establish schedules to achieve compliance with interim and final status requirements and to complete DOE's Part B permit application for such Units in accordance with the Action Plan; identify TSD Units which will undergo closure; close such Units in accordance with applicable laws and regulations; require post-closure care where necessary; and coordinate closure with any inter-connected remedial action at the Hanford Site.

B. Identify Interim Action (IA) alternatives which are appropriate at the Hanford Site prior to the implementation of final corrective and remedial actions under RCRA and CERCLA. IA alternatives shall be identified and proposed to the Parties as early as possible and prior to formal proposal, in accordance with the Action Plan. This process is designed to promote cooperation among the Parties in promptly identifying IA alternatives.

C. Establish requirements for the performance of investigations to determine the nature and extent of any threat to the public health or welfare or the environment caused by any release and threatened release of hazardous substances, pollutants or contaminants at Hanford and to establish requirements for the performance of studies for the Hanford Site to identify, evaluate, and select alternatives for the appropriate action(s) to prevent, mitigate, or abate the release or threatened release of hazardous substances, pollutants or contaminants at the Hanford Site in accordance with CERCLA and HSWA.

D. Identify the nature, objective and schedule of response actions to be taken at the Hanford Site. Response actions at Hanford shall attain that degree of cleanup of hazardous substances, pollutants or contaminants

mandated by CERCLA (including applicable or relevant and appropriate state and federal requirements for remedial actions in accordance with Section 121 of CERCLA, 42 U.S.C. Sec. 9621), and HSWA.

E. Implement the selected interim and final remedial actions in accordance with CERCLA, and selected corrective actions in accordance with RCRA.

ARTICLE IV. STATUTORY COMPLIANCE AND RCRA/CERCLA INTEGRATION AND COORDINATION

15. Waste Management Units on the Hanford Site have been classified as either TSD units subject to Chapter 70.105 RCW or past practice units subject to either CERCLA or the corrective action provisions of RCRA. Operable units have been formed which group multiple units for action in accordance with the Action Plan. Some units may be subject to and addressed by both Chapter 70.105 RCW and CERCLA and/or the corrective action requirements of RCRA. Part Two of this Agreement sets forth DOE's obligation to obtain TSD permits, to close TSD Units, and otherwise comply with applicable RCRA requirements. Part Three of this Agreement sets forth DOE's obligations to satisfy CERCLA and HSWA corrective action.

16. In this comprehensive Agreement, the Parties intend to integrate DOE's CERCLA response obligations and RCRA corrective action obligations which relate to the release(s) of hazardous substances, hazardous wastes, pollutants and contaminants covered by this Agreement. Therefore, the Parties intend that activities covered by Part Three of this Agreement will achieve compliance with CERCLA, 42 U.S.C. Section 9601 et seq.; will satisfy the corrective action requirements of Sections 3004(u) and (v) of RCRA, 42 U.S.C. Section 6924(u) and (v), for a RCRA permit, and

Section 3008(h), 42 U.S.C. Section 6928(h); and will meet or exceed all applicable or relevant and appropriate federal and state requirements to the extent required by Section 121 of CERCLA, 42 U.S.C. Section 9621. The Parties agree that with respect to releases covered by this Agreement, RCRA, and RCW Chapters 70.105 and the Model Toxics Control Act (Initiative 97) as codified beginning March 1, 1989, shall be incorporated where appropriate as "applicable or relevant and appropriate requirements" pursuant to Section 121 of CERCLA.

17. The Parties agree that past practice authority may provide the most efficient means for addressing groundwater contamination plumes originating from both TSD and past practice units. However, in order to ensure that TSD units at Hanford are brought into compliance with RCRA and state hazardous waste regulations, Ecology intends, subject to Part Four of this Agreement, that remedial actions that address TSD groundwater contamination, excluding situations where there is an imminent threat to the public health or environment, will meet or exceed the substantive requirements of RCRA.

18. Based on the foregoing, the Parties intend that any remedial or corrective action selected, implemented and completed under Part Three of this Agreement shall be protective of human health and the environment such that remediation of releases covered by this Agreement shall obviate the need for further remedial or corrective action. The Parties intend that such actions will address all aspects of contamination at units covered by the Action Plan so that no further action will be required under federal and state law. However, the Parties recognize and agree that remediation of groundwater contamination from TSD units at the Hanford Site may be managed

either under Part Three of this Agreement, or under Part Two of this Agreement, in accordance with the Action Plan. Ecology reserves the right to enforce timely cleanup of TSD associated groundwater contamination as provided in Article XLVI (Reservation of Rights).

19. Until Ecology is authorized pursuant to Section 3006 of RCRA, EPA will administer those provisions of Subtitle C of RCRA for which Ecology is not authorized. When Ecology receives authorization from EPA to implement the corrective action provisions of RCRA pursuant to Section 3006 of RCRA, Ecology shall administer and enforce such provisions in accordance with this Agreement. At such time, Ecology may enforce the RCRA corrective action requirements of the Agreement pursuant to Article IX (Enforceability), and any disputes with DOE involving such corrective action requirements shall be resolved in accordance with Article VIII (Resolution of Disputes). Disputes arising under Part Two of this Agreement involving provisions of Subtitle C of RCRA for which the State is not authorized shall be resolved in accordance with Article XV (Resolution of Disputes). EPA and Ecology agree that when permits are issued to DOE for hazardous waste management activities pursuant to Part Two of this Agreement, requirements relating to remedial action for hazardous waste management units under Part Three of this Agreement shall be the RCRA corrective action requirements for those units, whether that permit is administered by EPA or Ecology. EPA and Ecology shall reference and incorporate the appropriate provisions, including schedules (and the provision for extension of such schedules) of this Agreement into such permits.

20. Nothing in this Agreement shall alter the DOE's authority with respect to removal actions conducted pursuant to Section 104 of CERCLA, 42 U.S.C. Sec. 9604, as provided by Executive Order 12580.

ARTICLE V. DEFINITIONS

21. Except as noted below or otherwise explicitly stated, the appropriate definitions provided in CERCLA, RCRA, the NCP, Ch. 70.105 RCW and Ch. 173-303 WAC shall control the meaning of terms used in this Agreement. In addition:

A. "Action Plan" means the implementing document for this Agreement, which is set forth as Attachment 2 and by this reference incorporated into this Agreement. The term includes all amendments to that document, which the Parties anticipate will be made periodically.

B. "Additional Work" means any new or different work outside the originally agreed upon scope of work, which is determined pursuant to Article XXIX (Additional Work).

C. "Agreement" means this document and includes all attachments, addenda and modifications to this document, which are required to be written and to be incorporated into or appended to this document.

D. "Applicable or Relevant and Appropriate Requirements" (ARAR) means any standard, requirement, criteria or limitation as provided in Section 121(d)(2) of CERCLA.

E. "Article" means a subdivision of his Agreement which is identified by a Roman numeral.

F. "Authorized Representative" is any person, including a contractor, who is specifically designated by a Party to have a defined capacity, including an advisory capacity.

G. "Days" mean calendar days, unless otherwise specified. Any submittal, written notice of position or written statement of dispute that

would be due under the terms of this Agreement on a Saturday, Sunday or federal or state holiday shall be due on the following business day.

H. "Dispute Resolution" means the process for resolving disputes that arise under this Agreement.

I. "DOE" or "US DOE" means the United States Department of Energy, its employees and Authorized Representatives.

J. "Ecology" means the State of Washington Department of Ecology, its employees and Authorized Representatives.

K. "EPA" means the United States Environmental Protection Agency, its employees and Authorized Representatives.

L. "Hanford," "Hanford Site," or "Site" means the approximately 560 square miles in Southeastern Washington State (excluding leased land, State owned lands, and lands owned by the Bonneville Power Administration) which is owned by the United States and which is commonly known as the Hanford Reservation (see map at Figure 7-1 in the Action Plan). This definition is not intended to limit CERCLA or RCRA authority regarding hazardous wastes, substances, pollutants or contaminants which have migrated off the Hanford Site.

M. "Hazardous Substance" is defined in CERCLA Section 101(14).

N. "Hazardous Waste" are those wastes included in the definitions at RCRA Section 1004(5) and RCW 70.105.010(15).

O. "HWMA" shall mean the Hazardous Waste Management Act as codified at Ch. 70.105 RCW, and its implementing regulation at Ch. 173-303 Washington Administrative Code.

P. "HSWA" shall mean the Hazardous and Solid Waste Amendments of 1984, P.L. 98-616.

Q. "HSWA Corrective Action" means those corrective action requirements set forth in Sections 3004(u) and (v) and 3008(h) of RCRA; and, upon authorization pursuant to Section 3006 of RCRA, state equivalents.

R. "Lead Regulatory Agency" is that regulatory agency (EPA or Ecology) which is assigned primary administrative and technical responsibility with respect to actions under this Agreement at a particular Operable Unit pursuant to Section 4.6 of the Action Plan. The designation of a Lead Regulatory Agency shall not change the jurisdictional authorities of the Parties.

S. "Radioactive Mixed Waste" or "Mixed Waste" are wastes that contains both hazardous waste subject to RCRA, as amended, and radioactive waste subject to the Atomic Energy Act of 1954, as amended.

T. "Operable Unit" means a discrete portion of the Hanford Site, as identified in Section 3.0 of the Action Plan.

U. "Paragraph" means a numbered paragraph (including subparagraphs) of this Agreement.

V. "Part" means one of the five major divisions of this Agreement.

W. "RCRA" means the Resource Conservation and Recovery Act, 42 U.S.C. Section 6901 et seq., as amended. For purposes of this Agreement, "RCRA" also includes HWMA, Ch. 70.105 RCW.

X. "RCRA Permit" means a permit under RCRA and/or HWMA for treatment, storage or disposal of hazardous waste.

Y. "Timetables and deadlines" means major and interim milestones and all work and actions (not including target dates) as delineated in the Action Plan and supporting work plans (including performance of actions

established pursuant to the Dispute Resolution procedures set forth in this Agreement).

Z. "TSD Group" means a grouping of TSD (treatment, storage or disposal) Units for the purpose of preparing and submitting a permit application and/or closure plan pursuant to the requirements under RCRA, as determined in the Action Plan.

AA. "TSD Unit" means a treatment, storage or disposal Unit which is required to be permitted and/or closed pursuant to RCRA requirements as determined in the Action Plan.

BB. "Waste Management Unit" means an individual location on the Hanford Site where waste has or may have been placed, either planned or unplanned, as identified in the Action Plan.

PART TWO

PERMITTING/CLOSURE OF TSD UNITS/GROUPS

ARTICLE VI. FINDINGS AND DETERMINATIONS

22. The following paragraphs of this Article constitute a summary of the facts upon which EPA and Ecology are proceeding for purposes of Part Two of this Agreement. None of the facts related herein shall be considered admissions by any Party. This Article contains findings by EPA and Ecology, and shall not be used by any person related or unrelated to this Agreement for purposes other than determining the basis of this Agreement.

A. In and/or before 1943, the United States acquired approximately 560 square miles of land, now known as the Hanford Reservation. The DOE and its predecessors have operated Hanford continuously since 1943, mainly for the production of special nuclear materials for the national defense.

B. On or about August 14, 1980, DOE submitted a Notice of Hazardous Waste Activity to EPA pursuant to Section 3010 of RCRA, identifying DOE as a generator, transporter and owner and operator of a TSD Facility. On or about November 1980, DOE submitted Part A of its permit application to EPA qualifying for interim status pursuant to Section 3005 of RCRA. DOE's Part A was modified by DOE and submitted to EPA and/or Ecology on at least four occasions, including most recently on May 20, 1988. The revised Part A application submitted on May 20, 1988, related to activities involving Mixed Waste.

C. DOE operates and has operated since November 19, 1980, a hazardous waste management facility engaged in the treatment, storage, and disposal of Hazardous Wastes which are subject to regulation under RCRA and/or the Washington State Hazardous Waste Management Act, Ch. 70.105 RCW.

D. Since the establishment of the Hanford Site in 1943, materials subsequently defined as Hazardous Substances, pollutants and contaminants by CERCLA, materials defined as Hazardous Waste and constituents by RCRA and/or Ch. 70.105 RCW, have been produced, and disposed of or released, at various locations at the Hanford Site, including TSD Units.

23. Based upon the Finding of Fact set forth in Paragraph 22, and the information available, and without admission by DOE, EPA and Ecology have determined the following:

A. Pursuant to Sec. 6001 of RCRA, 42 U.S.C. Section 6961, DOE is subject to and must comply with RCRA and the Washington State Hazardous Waste Management Act, Ch. 70.105 RCW.

B. The Hanford Site includes certain hazardous waste treatment, storage, and disposal Units authorized to operate under Section 3005(e) of RCRA, 42 U.S.C. Sec. 6925(e), and is subject to the permit requirements of Section 3005 of RCRA.

C. Certain wastes and constituents at the Hanford Site are Hazardous Wastes or hazardous constituents as defined by Section 1004(5) of RCRA, 42 U.S.C. Sec. 6903(5), and 40 CFR Part 261. There are also Hazardous Wastes or hazardous constituents at the Hanford Site within the meaning of Ch. 70.105 RCW and WAC 173-303.

D. The Hanford Site constitutes a facility within the meaning of Sections 3004 and 3005 of RCRA, 42 U.S.C. Secs. 6924 and 6925, and RCW 70.105.

E. The DOE is the owner of the Hanford Site.

24. The submittals, actions, schedules, and other elements of work required or imposed by this Agreement are reasonable and necessary to protect the public health and welfare and the environment.

ARTICLE VII. WORK

25. 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 interim status requirements according to the schedule set forth 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 any RCRA 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. 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 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, Ecology's Project Manager shall make a written decision or determination.

A. Within thirty (30) days after the Project Manager's decision, DOE may submit to 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 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.

B. The Ecology designated member of the DRC is the Assistant Director for Waste Management. DOE's designated member of the DRC is the 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 thirty (30) days 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 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. 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.

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 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 in accordance with the procedures specified herein. 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.

F. When Dispute Resolution is in progress, work affected by the dispute will immediately be discontinued if Ecology request, 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. 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, the Lead Regulatory Agency shall respond, when appropriate, with a Notice of Deficiency (NOD) documenting revisions necessary for compliance. 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 may agree, however, to subject any NOD to dispute resolution.

ARTICLE IX. ENFORCEABILITY

30. In the event DOE or Ecology fails to comply with the RCRA provisions of this Agreement, the other Party may initiate judicial enforcement of the Agreement. In enforcing the RCRA provisions of this Agreement, a Party may seek injunctive relief, specific performance, sanctions or other relief available under applicable law. DOE and Ecology, prior to seeking enforcement, shall utilize the Dispute Resolution procedures of Article VIII, except as provided in Article XLVI (Reservation of Rights).

31. Part Two, enforceable major and interim milestones, and other RCRA provisions of this Agreement including those related to statutory requirements, regulations, permits, closure plans, or corrective action, including record keeping and reporting shall be enforceable by citizen suits under Section 7002(a)(1)(A) of RCRA, including actions by the State of Washington, Ecology or other state agencies. DOE agrees that the State or one of its agencies is a "person" within the meaning of Section 7002(a) of RCRA.

32. The Parties agree that the RCRA provisions set forth in this Agreement which address record keeping, reporting, enforceable milestones (excluding target dates), regulations, permits, closure plans, or corrective action are RCRA statutory requirements and are thus enforceable by the Parties.

ARTICLE X. SCHEDULE

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

ARTICLE XI. COMMON TERMS

34. The provisions of Parts Four, and Five, Articles XXII through LI below, apply to this Part Two and are incorporated herein by reference.

PART THREE

REMEDIAL AND CORRECTIVE ACTIONS

ARTICLE XII. FINDINGS AND DETERMINATIONS

35. The following paragraphs of this Article constitute a summary of the facts upon which EPA and Ecology are proceeding for purposes of Part Three of this Agreement. None of the facts related herein shall be considered admissions by any Party. This Article contains findings by EPA and Ecology, and shall not be used by any person related or unrelated to this Agreement for purposes other than determining the basis of this Agreement.

A. In and/or before 1943, the United States acquired approximately 560 square miles of land, now known as the Hanford Site. The DOE and its predecessors have operated Hanford continuously since 1943, mainly for the production of special nuclear materials for the national defense.

B. Since the establishment of the Hanford Site in 1943, materials subsequently defined as hazardous substances, pollutants and contaminants by CERCLA, materials defined as hazardous waste and constituents by RCRA and/or Ch. 70.105 RCW, have been produced, and disposed of, or released, at various locations at the Hanford Site, including TSD Units.

C. Certain hazardous substances, contaminants, pollutants, hazardous wastes and constituents remain on and under the Hanford Site, and have been detected in groundwater and surface water at the Hanford Site.

D. Groundwater, surface water and air pathways provide routes for the migration of Hazardous Substances, pollutants, contaminants, and Hazardous Wastes and constituents from the Hanford Site into the environment.

E. An estimated five billion cubic yards of solid and dilute liquid wastes, which include hazardous substances, mixed waste, and hazardous waste and constituents have been disposed of at the Hanford Site. Significant above-background concentrations of hazardous substances, including chromium, strontium-90, tritium, iodine-129, uranium, cyanide, carbon tetrachloride, nitrates, and technetium-99 have been detected in the groundwater (unconfined aquifer) at the Hanford Site. These materials have toxic, carcinogenic, mutagenic, or teratogenic effects on humans and other life forms.

F. The Hanford Site is adjacent to the Columbia River. Approximately 70,000 people use groundwater and surface water obtained within three miles of the Hanford Site for drinking. This same water is used to irrigate approximately 1,000 acres.

G. The migration of such materials presents a threat to the public health, welfare and the environment.

H. On or about September 14, 1987, DOE voluntarily undertook and provided to EPA information and data on the Hanford Site, which supported nomination of four aggregate areas on the Hanford Site for inclusion on the NPL, pursuant to CERCLA. EPA, by letter dated April 22, 1988, deemed this information and data to be the functional equivalent of a Site Preliminary Assessment and Site Investigation (PA/SI). EPA subsequently placed the Hanford Site on the Federal Agency Hazardous Waste Compliance Docket, 52 Fed. Reg. 4280 (February 12, 1988). On June 24, 1988, EPA proposed inclusion of four subareas of the Hanford Site on the NPL.

36. Based on the Findings of Fact set forth in paragraph 35, and the information available, and without admission by DOE, EPA and Ecology have determined the following:

A. DOE is a person as defined in Section 101(a) of CERCLA, 42 U.S.C. Sec. 9601(a).

B. The DOE Hanford Site located in Washington State constitutes a facility within the meaning of 42 U.S.C. Sec. 9601(9).

C. Hazardous Substances, and pollutants or contaminants within the meaning of 42 U.S.C. Secs. 9601(14) and (33) and 9604(a)(2) have been disposed of or released at the Hanford Site.

D. There have been releases and there continue to be releases and threatened releases of Hazardous Substances, and pollutants or contaminants into the environment within the meaning of 42 U.S.C. Secs. 9601(22), 9604, 9606 and 9607 at and from the Hanford Site.

E. With respect to those releases and threatened releases, DOE is a responsible person within the meaning of 42 U.S.C. Sec. 9607.

F. The Hanford Site includes certain hazardous waste treatment, storage, and disposal Units authorized to operate under Section 3005(e) of RCRA, 42 U.S.C. Sec. 6925(e), and Ch. 70.105 RCW and 173-303 WAC, which are subject to the permit requirements of RCRA.

G. Certain wastes and constituents at the Hanford Site are Hazardous Wastes or hazardous constituents thereof as defined by Section 1004(5) of RCRA, 42 U.S.C. Sec. 6903(5) and 40 CFR Part 261. There are also Hazardous Wastes or hazardous constituents at the Hanford Site within the meaning of Ch. 70.105 RCW and 173-303 WAC.

H. There is or has been a release of Hazardous Wastes and/or hazardous constituents into the environment from the Hanford Site.

I. The Hanford Site constitutes a facility within the meaning of Sections 3004 and 3005 of RCRA, 42 U.S.C. Secs. 6924 and 6925, and RCW 70.105.

J. The DOE is the owner of the Hanford Site.

K. The submittals, actions, schedules, and other elements of work required or imposed by this Agreement are reasonable and necessary to protect the public health and welfare and the environment.

ARTICLE XIII. WORK

37. DOE agrees to perform the work described in this Article XIII in accordance with the Action Plan. EPA and Ecology agree to provide DOE with guidance and timely response to requests for guidance to assist DOE in its performance of work under Part Three of this Agreement. Upon delegation of authority for RCRA Subtitle C corrective action provisions to Ecology pursuant to Section 3006 of RCRA, Ecology will administer such authority in accordance with this Agreement and issue the corrective action portion of the TSD permits. However, the selection of remedial or corrective action shall continue to be governed by Part Three of this Agreement both before and after such time as the State becomes authorized pursuant to Section 3006 of RCRA by EPA. Upon such authorization, however, disputes between DOE and Ecology arising under this Part which involve provisions of Subtitle C of RCRA for which the State is authorized shall be resolved in accordance with Article VIII (Resolution of Disputes).

38. Interim Response Actions. DOE agrees that it shall develop and implement Interim Response Actions (IRAs) at operable units being managed under CERCLA corrective action authority, as required by EPA, or Ecology if

it is the lead regulatory agency, and as set forth in Chapter 7.0 of the Action Plan. The IRAs shall be consistent with the purposes set forth in Article III (Purpose) of this Agreement. EPA, in consultation with DOE and Ecology, shall make the selection of the interim response action(s). In the event of dispute by DOE or Ecology, the final selection of the interim response action(s) shall be made by the EPA Administrator, and shall not be subject to dispute by the Parties. IRAs shall, to the greatest extent practicable, attain ARARs and be consistent with and contribute to the efficient performance of final response actions. A dispute arising under this Article on any matter other than EPA's final selection of an interim response action shall be resolved pursuant to Article XV (Resolution of Disputes).

39. Interim Measures. DOE agrees that it shall develop and implement Interim Measures (IMs) at operable units being managed under RCRA corrective action authority, as required by the lead regulatory agency, and as set forth in Chapter 7.0 of the Action Plan. The IMs shall be consistent with the purposes set forth in Article III (Purpose) of this Agreement. If Ecology is the lead regulatory agency it shall recommend interim measures, in consultation with DOE and EPA. EPA shall select interim measures until Ecology is authorized pursuant to Section 3006 of RCRA for HSWA corrective action, at which time Ecology shall select the interim measures. IMs shall to the greatest extent practicable be consistent with and contribute to efficient performance of corrective actions. A dispute arising under this paragraph shall be resolved pursuant to Article XV, except that if the dispute concerns requirements imposed by Ecology after HSWA authorization pursuant to Section 3006 of RCRA, such disputes shall be resolved pursuant to Article VIII.

40. RCRA Facility Assessments. DOE agrees it shall develop, implement and report upon RCRA Facility Assessments (RFAs) which comply with applicable requirements of RCRA, the RCRA regulations, and pertinent written guidance and established written EPA policy, and which are in accordance with the requirements and time schedules set forth in the Action Plan. Such assessment may be done for an entire Operable Unit, or individual Waste Management Units within an Operable Unit.

41. Remedial Investigations. DOE agrees it shall develop, implement and report upon remedial investigations (RIs) which comply with applicable requirements of CERCLA, the National Contingency Plan (NCP), and pertinent written guidance and established written EPA policy, and which is in accordance with the requirements and time schedules set forth in the Action Plan.

42. RCRA Facility Investigations. DOE agrees it shall develop, implement and report upon RCRA facility investigations (RFIs) which comply with applicable requirements of RCRA, the RCRA regulations, and pertinent written guidance and established written EPA policy, and which is in accordance with the requirements and time schedules set forth in the Action Plan.

43. Feasibility Studies. DOE agrees it shall design, propose, undertake and report upon feasibility studies (FSs) which comply with applicable requirements of CERCLA, the National Contingency Plan (NCP), and relevant guidance and established EPA policy, and which is in accordance with the requirements and time schedules set forth in the Action Plan.

44. Corrective Measures Studies. DOE agrees it shall design, propose, undertake and report upon corrective measure studies (CMSs) which

comply with applicable requirements of RCRA, the RCRA regulations, and relevant written guidance and established written EPA policy, and which is in accordance with the requirements and time schedules set forth in the Action Plan.

45. Remedial and Corrective Actions. DOE shall develop and submit its proposed remedial action (or corrective action) alternative following completion and approval of an RI and FS (or RCRA RFI and CMS), in accordance with the requirements and schedules set forth in the Action Plan. If Ecology is the lead regulatory agency, it may recommend the CERCLA remedial action(s) it deems appropriate to EPA. In addition, prior to authorization of Ecology for RCRA corrective action, Ecology may recommend RCRA corrective action it deems appropriate to EPA. The EPA Administrator, in consultation with the DOE and Ecology, shall make final selection of the CERCLA remedial action(s), and RCRA corrective action(s) prior to corrective action authorization. After authorization, and in accordance with the Action Plan, Ecology in consultation with DOE and EPA shall select the RCRA corrective action(s). The final selection of remedial action(s) and RCRA corrective action(s) by the Administrator shall be final and not subject to dispute. Notwithstanding this Article, or any other Article of this Agreement, the State may seek judicial review of an interim or final remedial action in accordance with Sections 113 and 121 of CERCLA, 42 U.S.C. Secs. 9613 and 9621.

46. Implementation of Remedial and Corrective Actions. Following final selection, DOE shall design, propose and submit to EPA and Ecology, a detailed plan for implementation of each selected remedial action(s) and RCRA corrective action(s), which shall include operations and maintenance plans, appropriate timetables and schedules. Following review and approval

by the lead regulatory agency, DOE shall implement the remedial action(s) and RCRA corrective action(s) in accordance with the requirements and time schedules set forth in the Action Plan to this Agreement. A dispute arising under this Article on any matter other than EPA's final selection of a remedial action shall be resolved pursuant to Article XV (Resolution of Disputes).

47. All work described above, whether labeled "remedial action" or "corrective action," and whether performed pursuant to CERCLA and an RI/FS or the RCRA/HSWA equivalent shall be governed by this Part Three. CERCLA remedial action and, as appropriate, HSWA corrective action shall meet ARARs in accordance with CERCLA Section 121.

48. Notwithstanding any part of this Agreement, Ecology may obtain judicial review of any final decision of EPA on selection of a final remedial action at any Operable Unit pursuant to Section 113 of CERCLA. Ecology also reserves the right to obtain judicial review of any ARAR determination pursuant to Section 121 of CERCLA.

ARTICLE XIV. REVIEW OF DOCUMENTS

49. The provisions of Section 9.0 of the Action Plan establish the procedures that shall be used by DOE, EPA, and Ecology to provide the Parties with appropriate notice, review, comment and response to comments regarding RI/FS, Remedial Design and Remedial Action (RD/RA) documents (or RCRA Corrective Action equivalent) specified as either Primary or Secondary Documents in the Action Plan. As of the effective date of this Agreement, all primary documents shall be subject to Dispute Resolution in accordance with Article XV (Resolution of Disputes). Secondary documents are not subject

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 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 written position on the dispute. 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 in preparing the written 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. 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 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 set forth in this Article XV shall not 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 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 in accordance with the procedures specified herein. 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.

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 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.

to Dispute Resolution. In accordance with Section 120 of CERCLA, DOE will be responsible for issuing primary and secondary documents to EPA and Ecology. The lead regulatory agency shall be responsible for consolidating comments and providing responses to DOE on all required submittals for the Operable Units for which it is the designated Lead Regulatory Agency. No guidance, suggestions, or comments by Ecology or EPA will be construed as relieving DOE of its obligation to obtain formal approval required by Part Three of this Agreement.

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. 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.

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.

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") 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 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 to the Senior Executive Committee ("SEC") for resolution.

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 XVI. SCHEDULE

51. DOE shall commence Remedial Investigations (RIs) and Feasibility Studies (FSs) for one Operable Unit of each subarea of the Hanford Site included on the NPL within six (6) months after such listing on the NPL. Schedules for such RIs and FSs, are set forth in the Action Plan. The Parties agree that this phased schedule satisfies Section 120(e)(1) of CERCLA. RI/FS schedules for each Operable Unit will be published by EPA and Ecology, as provided in Section 120(e)(1) of CERCLA.

52. DOE shall commence remedial action within fifteen (15) months after completion of the RI/FS (including EPA selection of the remedy) for the first priority Operable Unit, in accordance with Section 120(e)(2) of CERCLA and the schedule in the Action Plan. DOE shall complete the remedial action as expeditiously as possible, as required by CERCLA Section 120(e)(3). In accordance with the schedule(s) in the Action Plan, subsequent remedial action at other operable units shall follow and be completed as expeditiously as possible as subsequent RI/FSs are completed and approved. The Parties agree that this phased schedule satisfies Section 120(e)(2) and (3) of CERCLA.

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

ARTICLE XVII. PERMITS

54. The Parties recognize that under CERCLA Secs. 121(d) and 121(e)(1), and the NCP, portions of the response actions called for by this Agreement and conducted entirely on the Hanford Site are exempted from the procedural requirement to obtain federal, state, or local permits, but must satisfy all the applicable or relevant and appropriate federal and state standards, requirements, criteria or limitations which would have been included in any such permit.

55. When DOE proposes a response action to be conducted entirely on the Hanford Site, which in the absence of CERCLA Sec. 121(e)(1) and the NCP would require a federal or state permit, DOE shall include in the submittal:

A. Identification of each permit which would otherwise be required;

B. Identification of the standards, requirements, criteria, or limitations which would have had to have been met to obtain each such permit;

C. Explanation of how the response action proposed will meet the standards, requirements, criteria or limitations identified in Subparagraph B immediately above.

56. Upon the request of DOE, EPA, and Ecology will provide their positions with respect to Subparagraphs 55 B and C above in a timely manner.

57. This Article is not intended to relieve DOE from any applicable requirements, including Section 121(d)(3) of CERCLA, for the shipment or

movement of a hazardous waste or substance off the Hanford Site. DOE shall obtain all permits and comply with applicable federal, state or local laws for such shipments. DOE shall submit timely applications and requests for such permits and approvals. Disposal of hazardous substances off the Hanford Site shall comply with DOE's Policy on Off-Site Transportation, Storage and Disposal of Nonradioactive Hazardous Waste dated June 24, 1986, or as subsequently amended, and the EPA Off-Site Response Action Policy dated May 6, 1985, 50 Federal Register 45933 (November 5, 1985), as amended by EPA's November 13, 1987 "Revised Procedures for Planning and Implementing Off-Site Response Actions," and as subsequently amended, to the extent required by CERCLA.

58. DOE shall notify Ecology and EPA in writing of any permits required for off-Hanford activities related to this Agreement as soon as DOE-RL becomes aware of the requirement. Upon request, DOE shall provide Ecology and EPA with copies of all such permit applications and other documents related to the permit process.

59. If a permit which is necessary for implementation of off-Hanford activities of this Agreement is not issued, or is issued or renewed in a manner which is materially inconsistent with the requirements of this Agreement, DOE shall notify Ecology and EPA of its intention to propose modifications to this Agreement to comply with the permit (or lack thereof). Notification by DOE of its intention to propose modifications shall be submitted within seven (7) calendar days of receipt by DOE of notification that: (1) a permit will not be issued; (2) a permit has been issued or reissued; (3) a final determination with respect to any appeal related to the issuance of a permit has been entered. Within thirty (30)

days from the date it submits its notice of intention to propose modifications, DOE shall submit to Ecology and EPA its proposed modifications to this Agreement with an explanation of its reasons in support thereof.

60. Ecology and EPA shall review DOE's proposed modifications to this Agreement pursuant to this Article. If DOE submits proposed modifications prior to a final determination of any appeal taken on a permit needed to implement this Agreement, Ecology and EPA may elect to delay review of the proposed modifications until after such final determination is entered. If Ecology and EPA elect to delay review, DOE shall continue implementation of this Agreement as provided in the following paragraph.

61. During any appeal of any permit required to implement this Agreement or during review of any of DOE's proposed modifications as provided in the preceding paragraph, DOE shall continue to implement those portions of this Agreement which can be reasonably implemented pending final resolution of the permit issue(s).

ARTICLE XVIII. RECOVERY OF EPA CERCLA RESPONSE COSTS

62. EPA and DOE agree to amend this section at a later date in accordance with any subsequent resolution of the currently contested issue of EPA cost reimbursement.

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 action,

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 disputed under Paragraph 64, these penalties shall be assessed in accordance with this Article. 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 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 shall be payable to the Hazardous Substances Response Trust Fund from funds authorized and appropriated for that specific purpose.

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

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.

ARTICLE XX. ENFORCEABILITY

70. The Parties agree that compliance with the terms of this Agreement, including all timetables and deadlines associated with this Agreement shall be construed as compliance with CERCLA Section 120(e)(3).

71. The Parties agree that:

A. Upon the effective date of this Agreement, any standard, regulation, condition, requirement or order which has become effective under

CERCLA or is incorporated into Part Three of this Agreement (with the exception of any such obligations which are imposed solely pursuant to Subtitle C of RCRA and are not determined by EPA to be ARARs) is enforceable by any person pursuant to CERCLA Section 310, and any violation of such standard, regulation, condition, requirement or order will be subject to civil penalties under CERCLA Secs. 310(c) and 109;

B. All timetables or deadlines, associated with the development, implementation and completion of an RI or FS, shall be enforceable by any person pursuant to CERCLA Section 310 and any violation of such timetables or deadlines will be subject to civil penalties under CERCLA Secs. 310(c) and 109;

C. All terms and conditions of this Agreement which relate to interim or final remedial actions, including corresponding timetables, deadlines or schedules, and all work associated with the interim or final remedial actions, shall be enforceable by any person pursuant to CERCLA Section 310 and any violation of such terms or conditions will be subject to civil penalties under CERCLA Secs. 310(c) and 109; and

D. Any final resolution of a dispute pursuant to Article XV (Resolution of Disputes) which establishes a term, condition, timetable, deadline or schedule shall be enforceable by any person pursuant to CERCLA Section 310(c) and any violation of such term, condition, timetable, deadline or schedule will be subject to civil penalties under CERCLA Secs. 310(c) and 109.

72. Nothing in this Agreement shall be construed as authorizing any person to seek judicial review of any action or work where review is barred by any provision of RCRA or CERCLA, including CERCLA Section 113(h).

73. The Parties agree that all Parties shall have the right to enforce the terms of this Agreement in accordance with its provisions.

ARTICLE XXI. COMMON TERMS

74. The provisions of Parts Four and Five, Articles XXII through LI below, apply to this Part Three and are incorporated herein by reference.

PART FOUR

INTEGRATION OF EPA AND ECOLOGY RESPONSIBILITIES

ARTICLE XXII. RCRA/CERCLA INTERFACE

75. Part Two of this Agreement requires DOE to carry out RCRA TSD work under the direction and authority of Ecology. Part Three of this Agreement requires DOE to carry out investigations and clean-up of past practice units through the CERCLA process under the authority of EPA, or through the RCRA Corrective Action process under the authority of EPA for provisions of RCRA for which the State is not authorized and then under the authority of Ecology after such authorization. This Part Four establishes the framework for EPA and Ecology to resolve certain disputes that may arise concerning the respective responsibilities of the two regulatory agencies.

76. EPA and Ecology recognize that there is a potential for the two regulatory agencies to impose conflicting requirements upon DOE, due to the complexities of the Hanford Site (where RCRA TSDs, and past practice units may be in close proximity to each other) and due to the overlap between the respective authorities of the two regulatory agencies. EPA and Ecology intend to carry out their responsibilities so as to minimize the potential for any such conflicts. Either EPA or Ecology shall be lead regulatory agency for oversight of DOE's work for TSD units and past practice units that are a part of the same operable unit.

ARTICLE XXIII. LEAD REGULATORY AGENCY AND REGULATORY APPROACH DECISIONS

77. The designation of lead regulatory agency and regulatory process for each operable unit shall be made through the Action Plan update process. EPA and Ecology have joint authority to determine the choice of lead regulatory agency and regulatory process, in consultation with DOE, and DOE shall not dispute such joint determinations.

78. If the EPA and Ecology Project Managers cannot agree on the choice of lead agency and/or regulatory process for any operable units, then they shall resolve such disputes using the dispute resolution process in Article XXV. If, following such dispute resolution process, EPA and Ecology cannot agree, then the releases and units that are the subject of the dispute shall be considered a matter which Ecology, EPA, and DOE have chosen not to address under this Agreement, and all Parties reserve all rights and authorities with respect to such matters.

ARTICLE XXIV. PHYSICALLY INCONSISTENT ACTIONS

79. EPA and Ecology intend that neither regulatory agency shall direct actions to be taken at the Hanford Site that are physically inconsistent with other actions directed by either regulatory agency at the Site. This provision applies to any actions required to be taken at the site under RCRA or CERCLA. For the purposes of this Agreement, Physically Inconsistent Action shall mean any action which, if implemented, would reduce the overall effectiveness of other response actions. The setting of priorities for action based on budgetary considerations shall not be used as a factor in determining the presence of physical inconsistency. The

provisions of this Article are independent of and do not modify or otherwise affect the provisions of Article XXVII (RCRA/CERCLA Reservation of Rights).

80. In the event of a dispute between EPA and Ecology over an issue of physical inconsistency, either Party may refer such dispute to the dispute resolution process at Article XXV. In resolving a dispute concerning a possible physical inconsistency, the project managers, the Dispute Resolution Committee and the Senior Executive Committee shall attempt to resolve the dispute in such a way as to promote timely cleanup and benefit to the net overall environmental quality of the Hanford Site.

If at the conclusion of that dispute resolution process, the Parties have not agreed on a resolution of the dispute, then the releases and activities that are the subject of the dispute shall be considered a matter which the Parties have chosen not to address under this Agreement, and the Parties reserve all rights and authorities with respect to such matters.

ARTICLE XXV. DISPUTE RESOLUTION

81. Resolution of Dispute between Ecology and EPA under this Part Four shall be resolved in the following manner:

(1) On discovery of any dispute between Ecology and EPA under this Part Four, each regulatory agency's unit and/or project managers shall make reasonable efforts to informally resolve such disputes. If informal resolution cannot be achieved, the disputing Party shall submit 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 relied upon to support its position to the Dispute Resolution Committee (DRC) as described below. Receipt of such a statement by the DRC shall constitute formal elevation of the dispute in question to the DRC. At such time as the disputing Party submits a statement of dispute to the DRC, a copy shall be sent to DOE. The DRC will serve as a forum for resolution of disputes for which agreement has not been reached through informal dispute resolution. Ecology and EPA 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.

(2) The Ecology designated member of the DRC is the Assistant Director for Waste Management. EPA's designated member of the DRC is the Hazardous Waste Division Director of EPA's Region 10. Following elevation of a dispute to the DRC, the DRC shall have 21 days to unanimously resolve the dispute. Any successful resolution shall be documented within an additional 21 days by a jointly signed determination outlining the resolution reached. At such time, a copy of such documentation shall be sent to DOE. If the DRC is unable to unanimously agree on a resolution, the members shall forward pertinent information and their respective recommendations to the Senior Executive Committee (SEC) for resolution.

(3) The Ecology designated member of the SEC is its Director. EPA's designated member of the SEC is the Regional Administrator of EPA Region 10. The SEC will serve as the forum for resolution of disputes for which agreement has not been reached by the DRC. The SEC members shall, as appropriate, confer, meet and exert their best efforts to resolve the dispute. The DOE-RL Operations Manager shall meet with the SEC to assist in resolving the dispute. The SEC shall have 21 days to unanimously

resolve the dispute. Any successful resolution shall be documented, within an additional 21-days, by a jointly signed determination outlining the resolution reached. At such time, a copy of such documentation shall be sent to DOE.

(4) Throughout the above dispute resolution process, EPA and Ecology shall consult, as appropriate, with DOE in order to facilitate resolution of disputes.

82. If disputes are not resolved pursuant to this Article, such disputes shall be subject to Article XXVII.

83. 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 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 in accordance with the procedures specified herein. 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.

ARTICLE XXVI. OTHER DISPUTES AND EPA OVERSIGHT

84. If there are other disputes between Ecology and EPA concerning overlaps between Part Two and Part Three of this Agreement, Ecology and EPA shall use the dispute resolution process in Article XXV to resolve such disputes.

85. The provisions of this Agreement do not eliminate EPA's responsibility for oversight of Ecology's exercise of its authorized RCRA

authorities. In carrying out any such oversight, EPA shall follow the statutory and regulatory procedures for such oversight and the provisions of this Agreement, including, as appropriate, the Dispute Resolution process in Article XXV.

ARTICLE XXVII. RCRA/CERCLA RESERVATION OF RIGHTS

86. If EPA and Ecology are unable to resolve jointly any dispute arising under this Part, then each regulatory agency reserves its rights to impose its requirements directly on DOE, to defend the basis for those requirements, and to challenge the other regulatory agency's conflicting requirements. In such event, DOE reserves its right to raise any defenses available.

87. EPA and Ecology each reserve its right after utilizing the Dispute Resolution process in Part Four, to seek judicial review of a proposed decision or action taken with respect to corrective or remedial actions at any given operable unit on the grounds that either EPA or Ecology claims that such proposed decision or action conflicts with its respective laws governing protection of human health and/or the environment. It is the understanding of the Parties that this reservation is intended to provide for challenges where the adequacy of protection of human health and the environment or the means of achieving such protection is at issue.

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: DOE agrees to pay to the appropriate account of the Treasury of the State of Washington, all permit fees and other reasonable service charges which would be payable by any person permitting TSD Units under applicable Washington law. In the event DOE disputes any such service charges by Ecology, DOE may contest the disputed service charges in accordance with the Dispute Resolution procedures of Article VIII.

B. Reimbursement of Department of Ecology CERCLA Costs:

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

2. On an annual basis, Ecology shall submit to DOE a proposed workscope and estimates of costs to be incurred relating to CERCLA work to be performed under this Agreement by Ecology for the upcoming year. Subsequent to review by DOE, DOE shall issue grant funds to Ecology in an amount consistent with the cost estimated. 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 through 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.

C. Environmental Monitoring Costs: Any justifiable costs incurred by Ecology in the implementation of this Agreement which are not covered by payments made pursuant to Paragraphs 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.

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

ARTICLE XXIX. ADDITIONAL WORK OR MODIFICATION TO WORK

90. In the event that additional work, or modification to work, including remedial investigatory work and/or engineering evaluation, is necessary to accomplish the objectives of this Agreement, notification and description to such additional work or modification to work shall be provided to DOE. DOE will evaluate the request and notify the requesting

Party within thirty (30) days of receipt of such request of its intent and ability to perform such work, including the impact such additional work will have on budgets and schedules. If DOE does not agree that such additional work is required by this Agreement or if DOE asserts such additional work is otherwise inappropriate, the matter shall be resolved in accordance with the Dispute Resolution procedures of Part Two or Part Three of this Agreement, as appropriate. Field modifications, as set forth in the Action Plan, are not subject to this Article. Extensions of schedules may be provided pursuant to Article XL (Extensions).

91. Any additional work or modification to work determined to be necessary by DOE shall be proposed to the Lead Regulatory Agency by DOE and will be subject to review in accordance with the appropriate Dispute Resolution procedures of Part Two or Part Three of this Agreement, as appropriate, prior to initiation.

92. If any additional work or modification to work will adversely affect work schedules or will require significant revisions to an approved schedule, the EPA and Ecology Project Managers shall be immediately notified of the situation followed by a written explanation within seven (7) days of the initial notification. Requests for extensions of schedule(s) shall be evaluated in accordance with Article XL (Extensions).

ARTICLE XXX. QUALITY ASSURANCE

93. All response work performed pursuant to this Agreement shall be done under the direction and supervision or in consultation with, as

necessary, a qualified engineer, hydrogeologist, or other expert, with experience and expertise in hazardous waste management, hazardous waste site investigation, cleanup, and monitoring.

94. Throughout all sample collection, preservation, transportation, and analyses activities required to implement this Agreement, DOE shall use procedures for quality assurance, and for quality control, in accordance with approved EPA methods, including subsequent amendments to such procedures. The DOE shall comply with the "Data Quality Strategy for Hanford Site Characterization" (as listed in Appendix F of the Action Plan) and Sections 6.5 and 7.8 of the Action Plan. For special circumstances, other procedures approved by the lead regulatory agency may be used. The DOE shall use methods and analytical protocols for the parameters of concern in the media of interest within detection and quantification limits in accordance with both QA/QC procedures and data quality objectives approved in the work plan, RCRA closure plan or RCRA permit. The EPA or Ecology may require that DOE submit detailed information to demonstrate that any of its laboratories are qualified to conduct the work. The DOE shall assure that EPA and Ecology (including contractor personnel) have access to laboratory personnel, equipment and records related to sample collection, transportation, and analysis.

ARTICLE XXXI. CREATION OF DANGER

95. If any Party determines that activities conducted pursuant to this Agreement are creating a danger to the health or welfare of the people on the Hanford Site or in the surrounding area or to the

environment, that Party may require or order the work to stop. Any such work stoppage or stop work order shall be expeditiously reviewed by all Parties after its initiation. Any dispute or nonconcurrence shall be immediately referred to the DRC level of the appropriate Dispute Resolution process.

96. If the other Parties concur in the work stoppage, DOE's obligations shall be suspended and the time periods for performance of that work, as well as the time period for any other work dependent upon the work which was stopped, shall be extended, pursuant to Article XL (Extensions) of this Agreement, for such period of time equivalent to the time in which work was stopped, or as agreed to by the Parties.

ARTICLE XXXII. REPORTING

97. DOE agrees it shall submit to Ecology and EPA quarterly written progress reports which describe the actions which DOE has taken during the previous quarter to implement the requirements of this Agreement. Progress reports shall also describe the activities scheduled to be taken during the upcoming quarter. Progress reports shall be submitted by the forty-fifth (45th) day of each quarter following the effective date of this Agreement. The progress reports shall also include a detailed statement of how the requirements and time schedules set out in the attachments to this Agreement are being met, identify any anticipated delays in meeting time schedules, include the reason(s) for the delay and actions taken to prevent or mitigate the delay, and identify any potential problems that may result in a departure from the requirements and time schedules.

ARTICLE XXXIII. NOTIFICATION

98. Unless otherwise specified, any report or submittal provided by DOE pursuant to a schedule or deadline identified in or developed under this Agreement (including the Action Plan) shall be sent by certified or overnight express mail, return receipt requested, or hand delivered as required to the addresses of the Ecology and EPA Project Managers as identified in Appendix E of the Action Plan.

99. Documents sent to the DOE by EPA or Ecology which require a response or activity by DOE pursuant to this Agreement shall be sent by certified or overnight express mail, return receipt requested, or hand delivered to the DOE Project Manager as identified in Appendix E of the Action Plan.

ARTICLE XXXIV. PROJECT MANAGERS

100. In Appendix E of the Action Plan, EPA, Ecology and DOE have each designated a Project Manager for the purpose of overseeing the implementation of this Agreement. Any Party may change its designated Project Manager by notifying the other Parties, in writing ten (10) days before the change, to the extent possible. To the maximum extent possible, communications between the Parties concerning the terms and conditions of this Agreement shall be directed through the Project Managers. Each Project Manager shall be responsible for assuring that all communication from the other Parties and Project Managers are appropriately disseminated to that responsible Project Manager's organization.

ARTICLE XXXV. SAMPLING AND DATA/DOCUMENT AVAILABILITY

101. The DOE shall transmit the results of laboratory analytical data and non-laboratory data collected pursuant to this Agreement to EPA and Ecology in an expeditious manner, as specified in Section 9.6 of the Action Plan.

102. DOE shall notify the EPA and Ecology not less than five (5) days in advance of any well drilling, sample collection, or other monitoring activity conducted pursuant to this Agreement.

ARTICLE XXXVI. RETENTION OF RECORDS

103. Each Party to this Agreement shall preserve for a minimum of ten (10) years after termination of this Agreement all of the records in its or its contractors possession related to sampling, analysis, investigations, and monitoring conducted in accordance with this Agreement. After this ten year period, DOE shall notify the EPA and Ecology at least forty-five (45) days prior to destruction or disposal of any such records. Upon request, the Parties shall make such records or true copies available, to the other Parties subject to Article XLV (Classified and Confidential Information).

104. DOE agrees it shall establish and maintain an administrative record at or near Hanford in accordance with CERCLA Sec. 113(k). The administrative record shall be established and maintained in accordance with current and future EPA policy and guidelines. A copy of each document placed in the administrative record will be provided to EPA and Ecology.

ARTICLE XXXVII. ACCESS

105. Without limitation on any authority conferred on either agency by law, EPA, Ecology and/or their Authorized Representatives, shall have authority to enter the Hanford Site at all reasonable time for the purposes of, among other things: (1) inspecting records, operating logs, contracts and other documents relevant to implementation of this Agreement, subject to Article XLV (Classified and Confidential Information); (2) reviewing the progress of DOE or its response action contractors in implementing this Agreement; (3) conducting such tests as the Ecology and the EPA Project Managers deem necessary; and (4) verifying the data submitted to EPA and Ecology by DOE. DOE shall honor all requests for access by EPA and Ecology, conditioned only upon presentation of proper credentials, conformance with Hanford Site safety and security requirement, and shall be conducted in a manner minimizing interference with any operations at Hanford. Any denial of consent to access must be justified in writing within fourteen (14) days of such denial, and arrangements shall be made for access to the facility or area in question as soon as practicable. DOE reserves the right to require EPA and Ecology personnel or representatives to be accompanied by an escort while on the Hanford Site. Escorts shall be provided in a timely manner.

106. To the extent that this Agreement requires access to property not owned and controlled by DOE, DOE shall exercise its authorities to obtain access pursuant to Section 104(e) of CERCLA. DOE shall use its best efforts to obtain signed access agreements for itself, its contractors and agents, and EPA and Ecology and their contractors and agents, from the present owners or lessees in advance of the date such activities are scheduled to commence.

DOE shall provide EPA and Ecology with copies of such agreements. With respect to non-DOE property upon which monitoring wells, pumping wells, treatment facilities, or other response actions are to be located, DOE shall use its best efforts to obtain access agreements that: provide that no conveyance of title, easement, or other interest in the property shall be consummated without provisions for the continued operation of such wells, treatment facilities, or other response actions on the property; and provide that the owners of any property where monitoring wells, pumping wells, treatment facilities or other response actions are located shall notify DOE, Ecology, and EPA by certified mail, at least thirty (30) days prior to any conveyance, of the property owner's intent to convey any interest in the property and of the provisions made for the continued operation of the monitoring wells, treatment facilities, or other response actions installed pursuant to this Agreement.

ARTICLE XXXVIII. FIVE-YEAR REVIEW

107. Consistent with CERCLA Sec. 121(c), and in accordance with this Agreement, DOE agrees that EPA may review remedial action(s) for Operable Unit(s) that allow hazardous substances, pollutants or contaminants to remain on-site, no less often than every five (5) years after the initiation of the final remedial action for such Operable Unit to assure that human health and the environment are being protected by the remedial action being implemented. If upon such review it is the judgement of EPA, after consultation with Ecology, that additional action or modification of the remedial action is appropriate in accordance with CERCLA Sec. 104 or 106, EPA and Ecology may

require DOE to implement such additional or modified work pursuant to Article XXIX (Additional Work).

ARTICLE XXXIX. AMENDMENT OF AGREEMENT

108. This Agreement may be amended by unanimous agreement of DOE, Ecology and EPA. Any such amendment shall be in writing, shall have as the effective date that date on which it is signed by all the Parties, and shall be incorporated into this Agreement by reference. Procedures for modifying or amending the Action Plan are contained in Sections 11 and 12 of the Action Plan.

ARTICLE XL. EXTENSIONS

109. Either a timetable and deadline or a schedule shall be extended upon receipt of a timely request for extension and when good cause exists for the requested extension. Any DOE request for extension shall be submitted in writing and shall specify:

A. The timetable and deadline or schedule for which the extension is sought;

B. The length of the extension sought;

C. The good cause for the extension; and

D. Any related timetable and deadline or schedule that would be affected if the extension were granted.

110. Good cause exists for an extension when sought in regard to:

A. An event of force majeure as defined in Article XLVII (Force Majeure), subject to Ecology's reservation in Paragraph 137.

B. A delay caused by another Party's failure to meet any requirement of this Agreement;

C. A delay caused by the good faith invocation of Dispute Resolution or the initiation of judicial action;

D. A delay caused, or which is likely to be caused, by the grant of an extension in regard to another timetable and deadline or schedule; and

E. Any other event or series of events mutually agreed to by the Parties as constituting good cause.

111. Absent agreement of the Parties with respect to the existence of good cause, DOE may seek and obtain a determination through the Dispute Resolution process that good cause exists.

112. Within seven (7) days of receipt of a request for an extension of a timetable and deadline or a schedule, 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) day period 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.

113. If there is consensus among the Parties that the requested extension is warranted, DOE shall extend the affected timetable and deadline or schedule accordingly. If there is no consensus among the Parties as to whether all or part of the requested extension is warranted, the timetable and deadline or schedule shall not be extended except in accordance with the determination resulting from the Dispute Resolution process.

114. Within seven (7) days of receipt of one or more statements

of nonconcurrence with the requested extension, DOE may invoke the Dispute Resolution process.

115. A timely and good faith request for an extension shall toll any assessment of stipulated penalties pursuant to Article XIX (Stipulated CERCLA Penalties) or any application for judicial enforcement of the affected timetable and deadline or schedule until a decision is reached on whether the requested extension will be approved. If Dispute Resolution is invoked and the requested extension is denied, stipulated penalties pursuant to Article XIX (Stipulated CERCLA Penalties) may be assessed and may accrue from the date of the original timetable, deadline or schedule. Following the grant of an extension, an assessment of stipulated penalties pursuant to Article XIX (Stipulated CERCLA Penalties) or an application for judicial enforcement may be sought only to compel compliance with the timetable and deadline or schedule as most recently extended.

ARTICLE XLI. CONVEYANCE OF TITLE

116. No conveyance of title, easement or other interest in the Hanford Site on which any containment system, treatment system, monitoring system or other response action(s) is installed or implemented pursuant to this Agreement shall be consummated by DOE without provision for continued maintenance of any such system or other response action(s). At least thirty (30) days prior to any conveyance, DOE shall notify EPA and Ecology of the provisions made for the continued operation and maintenance of any response action(s) or system installed or implemented pursuant to this Agreement.

ARTICLE XLII. PUBLIC PARTICIPATION

117. The Parties agree that this Agreement and any subsequent proposed remedial action alternative(s) and subsequent plan(s) for remedial or corrective action or permitting/closure action at the Hanford Site arising out of this Agreement shall comply with the administrative record and, public participation requirements of CERCLA, including CERCLA Secs. 117 and 113(k), the NCP, and EPA guidance on public participation and administrative records, or the public participation requirements of RCRA and Ch. 70.105 RCW.

118. DOE shall develop and implement a Community Relations Plan ("CRP") which responds to the need for an interactive relationship with all interested community elements, both on and off Hanford, regarding activities and elements of work undertaken by DOE under this Agreement. DOE agrees to develop and implement the CRP in a manner consistent with CERCLA Sec. 117, the NCP, EPA guidelines set forth in EPA's Community Relations Handbook, and any modifications thereto, and the public participation requirements of RCRA and Ch. 70.105 RCW. The CRP is subject to the review and approval by EPA and Ecology under Article XIV (Review of Documents).

119. The public participation requirements of this Agreement shall be implemented so as to meet the public participation requirements applicable to RCRA permits under 40 C.F.R. Part 124 and RCRA Sec. 7004.

ARTICLE XLIII. DURATION/TERMINATION

120. Upon satisfactory completion of the remedial or corrective action phase as described in Section 7 of the Action Plan for a given

Operable Unit, the Lead Regulatory Agency shall issue a Notice of Completion to DOE for that Operable Unit. At the discretion of the Lead Regulatory Agency, a Notice of Completion may be issued for completion of a portion of the remedial or corrective action for an Operable Unit.

121. This Agreement shall terminate when DOE has satisfactorily completed all work pursuant to this Agreement and the Action Plan or when the Parties unanimously agree to termination.

122. The Parties agree that due to the long-term commitments contained in this Agreement, this Agreement will be reviewed by the Parties five (5) years from the date of execution of this Agreement, and at the conclusion of every five (5) year period thereafter. The purpose of this review will be to determine (1) whether there has been substantial compliance with the terms of the Agreement and, (2) the need to modify the Agreement. This review will be made by a committee composed of representatives from each Party. Amendments to the Agreement will be made in accordance with Article XXXIX (Amendment of Agreement). If the Parties do not unanimously agree that there has been substantial compliance with the terms of the Agreement, EPA and Ecology reserve the right to withdraw from the Agreement; provided, however, that all Parties shall comply with all provisions of this Agreement from the effective date of the Agreement to the date of the withdrawal. Further provided, however, that no Party may base its withdrawal from this Agreement on its own substantial noncompliance with this Agreement. Regardless of any Party's withdrawal under this paragraph, all parties shall comply with all provisions of this Agreement as they relate to operable units where a remedial investigation or RCRA facility investigation workplan has already been approved, unless

the parties agree otherwise. Any Party withdrawing from this Agreement shall notify the other Parties in writing.

ARTICLE XLIV. SEVERABILITY

123. If any provision of this Agreement is ruled invalid, illegal or unconstitutional, the remainder of the Agreement shall not be affected by such ruling.

ARTICLE XLV. CLASSIFIED AND CONFIDENTIAL INFORMATION

124. Notwithstanding any provision of this Agreement, all requirements of the Atomic Energy Act of 1954, as amended, and all Executive Orders concerning the handling of unclassified controlled nuclear information, restricted data and national security information, including "need to know" requirements, shall be applicable to any access to information or facilities covered under the provisions of this Agreement. EPA and Ecology reserve their right to seek to otherwise obtain access to such information or facilities when it is denied, in accordance with applicable law.

125. Any Party may assert on its own behalf or on behalf of a contractor, subcontractor or consultant, a business confidentiality claim or privilege covering all or any part of the information requested by this Agreement, pursuant to 42 U.S.C. Sec. 9604 and state law. Analytical data shall not be claimed as business confidential. Parties are not required to provide legally privileged information. At the time any information is furnished which is claimed to be business confidential, all Parties shall

afford it the maximum protection allowed by law. If no claim of business confidentiality accompanies the information, it may be made available to the public without further notice.

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 shall preclude EPA or Ecology from 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, any provision of RCRA or Ch. 70.105 RCW, including any discharge or release of hazardous waste which the Parties choose not to address under this Agreement.

B. 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.

C. 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.

127. In the event of any action by EPA or Ecology under Paragraph 126 DOE reserves all rights and defenses available under law.

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.

129. If EPA and Ecology are in dispute concerning any matter addressed in Part Four, and are unable to resolve such dispute after pursuing dispute resolution pursuant to the dispute resolution procedures set forth in Part Four, the releases or actions which are the subject of the dispute shall be deemed matters which are not addressed under this Agreement. Thereafter, EPA, Ecology, and DOE may take any action with regard to such matters which would be appropriate in the absence of this Agreement, and each party reserves its rights to assert and defend its respective legal position in connection with any such actions.

130. EPA and Ecology shall not be held as a Party to any contract entered into by DOE to implement the requirements of this Agreement.

131. For matters within the scope of this Agreement, Ecology,

and EPA reserve the right to bring any enforcement action against DOE's contractors, subcontractors and/or operators, if DOE fails to comply with this Agreement. For matters outside the scope of this Agreement, Ecology and EPA reserve the right to bring any enforcement action against DOE's contractors, subcontractors and/or operators, regardless of DOE's compliance with this Agreement.

132. This Agreement shall not be construed to limit in any way the right provided by law to the public or any citizen to obtain information about the work to be performed under this Agreement or to sue or intervene in any action to enforce state or federal law.

133. Except as provided herein, DOE is not released from any liability which it may have pursuant to any provisions of state and federal law, including any claim for damages for liability to destruction of, or loss of natural resources.

134. This Agreement shall not restrict EPA and/or Ecology from taking any legal or response action for any matter not specifically part of the work covered by this Agreement.

ARTICLE XLVII. FORCE MAJEURE

135. A Force Majeure shall mean any event arising from causes beyond the control of a Party that causes a delay in or prevents the performance of any obligation under this Agreement, including, but not limited to:

A. acts of God, fire, war, insurrection, civil disturbance, or explosion;

B. unanticipated breakage or accident to machinery, equipment or lines of pipe despite reasonably diligent maintenance;

C. adverse weather conditions that could not be reasonably anticipated, or unusual delay in transportation;

D. restraint by court order or order of public authority;

E. inability to obtain, at reasonable cost and after exercise of reasonable diligence, any necessary authorizations, approvals, permits or licenses due to action or inaction of any governmental agency or authority other than DOE;

F. delays caused by compliance with applicable statutes or regulations governing contracting, procurement or acquisition procedures, despite the exercise of reasonable diligence; and

G. insufficient availability of appropriated funds, if DOE shall have made timely request for such funds as part of the budgetary process as set forth in Article XLVIII (Funding) of this Agreement.

136. A Force Majeure shall also include any strike or other labor dispute, whether or not within the control of the Parties affected thereby. Force Majeure shall not include increased cost or expenses of response actions, whether or not anticipated at the time such response actions were initiated.

137. DOE and Ecology agree that Subparagraph B (entirely), Subparagraph C ("delay in transportation"), Subparagraph D ("order of public authority"), Subparagraph E ("at reasonable cost"), and Subparagraph G (entirely), of Paragraph 135 do not create any presumptions that such events arise from causes beyond the control of a Party. Ecology specifically reserves the right to withhold its concurrence to any extensions which are

based on such events pursuant to the terms of Article XL (Extensions), or to contend that such events do not constitute Force Majeure in any action to enforce this Agreement.

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. Ecology and EPA shall assist DOE-RL in determining the funding levels required to support the corresponding negotiated work schedule for each fiscal year. These funding levels shall be included in the budget submittal sent from DOE-RL to DOE-HQ for the relevant fiscal year. This participation by the State and EPA in this funding determination is limited solely to the aforementioned, and in no way is 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 herein shall affect DOE's authority over its budgets and funding level submissions.

140. In accordance with Section 120(e)(5)(B) of CERCLA, 42 U.S.C. Sec. 9620(e)(5)(B), DOE shall include in its annual report to Congress the specific cost estimates and budgetary proposals associated with the implementation of this Agreement.

141. If appropriated funds are not available to fulfill DOE's obligations under this Agreement, EPA and Ecology reserve the right to initiate any other action which would be appropriate absent this Agreement.

142. EPA and DOE agree that any requirement for the payment or obligation of funds, including stipulated penalties under Article XIX (Stipulated CERCLA 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.

143. 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 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 this 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.

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 L. EFFECTIVE DATE

146. This Agreement is effective upon signature by all Parties.

ARTICLE LI. ATTACHMENT 1

Attachment 1 to this Agreement is a letter dated February 26, 1989 from Donald Carr, Acting Assistant Attorney General, Land and Natural Resources Division, U.S. Department of Justice, to Christine Gregoire, Director, Department of Ecology. This letter sets forth the Department of Justice's position on the enforceability of this Agreement.

IT IS SO AGREED:

Each undersigned representative of a Party certifies that he or she is fully authorized to enter into this Agreement and to legally bind such Party to this Agreement.[1/]

THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY:

THE UNITED STATES DEPARTMENT OF ENERGY:

THE WASHINGTON STATE DEPARTMENT OF ECOLOGY

[1/] The Hanford Federal Facility Agreement and Consent Order signed May 15, 1989, was originally executed by: Robie G. Russell, Regional Administrator, Region 10, for the U.S. Environmental Protection Agency; Michael J. Lawrence, Manager, Richland Operations Office, for the U.S. Department of Energy; and, Christine O. Gregoire, Director, for the Washington State Department of Ecology.

The first amendment to the Agreement was signed in August 1990, by: Thomas P. Dunne, Acting Regional Administrator, Region 10, for the U.S. Environmental Protection Agency; Edward S. Goldberg, Acting for John D. Wagoner, Manager, Richland Operations Office, for the U.S. Department of Energy; and, Christine O. Gregoire, Director, for the Washington State Department of Ecology.

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U.S. Department of Justice

Land and Natural Resources Division

ATTACHMENT 1

Office of the Assistant Attorney General

Washington, D.C. 20530

February 26, 1989

Ms. Christine Gregoire
Director, Washington State
Department of Ecology
MSPV-11
Olympia, Washington 98504

Dear Ms. Gregoire:

You have asked the Department of Justice to review certain provisions of the proposed agreement between the U.S. Department of Energy, U.S. Environmental Protection Agency, and the Washington State Department of Ecology with regard to the Hanford facility. We agree that DOE and EPA have the authority to enter into this agreement, and that the agreement is binding and enforceable, in accordance with Article I, paragraph 10 of Article II, Article IV, Article IX, Article XX, and Article XXVII of the agreement, by the State of Washington and any affected citizens. The CERCLA provisions of this agreement are enforceable pursuant to section 310 of CERCLA. The RCRA provisions of this agreement are enforceable pursuant to section 7002 of RCRA.

As with consent decrees, which establish a process for remedy selection but do not resolve all cleanup issues, the Hanford agreement establishes a process to address future cleanup issues. Also just like consent decrees, the Hanford agreement contains a dispute resolution mechanism as well as procedures for seeking judicial review of conflicts which may arise concerning future decisions.

Accordingly, we believe that resolution of remediation and compliance problems at Hanford through such an agreement should be encouraged. In fact, we believe that the agreement is a superior vehicle for resolving DOE's cleanup and compliance obligations and therefore should be favored over more time-consuming litigation. The agreement has the advantage of being enforceable by any "person", whereas a consent decree is generally enforceable only by the parties to the litigation. Furthermore, the agreement allows for a more comprehensive resolution than a consent decree, since the latter must be very

narrowly tailored to meet concerns over jurisdiction and precedent. Therefore, we support your efforts to resolve environmental concerns at Hanford through the use of such this agreement.

Recognizing the concerns that the state has raised with respect to the enforceability of this proposed agreement, I understand that this letter will be attached to the Hanford agreement.

Sincerely yours,

Donald Carr

Donald A. Carr
Acting Assistant Attorney General
Land and Natural Resources Division

c: R. Russell
M. Lawrence

ACTION PLAN

FOR IMPLEMENTATION OF THE

HANFORD CONSENT ORDER AND COMPLIANCE AGREEMENT

BETWEEN

THE U.S. ENVRIONMENTAL PROTECTION AGENCY,

THE U.S. DEPARTMENT OF ENERGY,

AND

THE STATE OF WASHINGTON DEPARTMENT OF ECOLOGY

DATED

AUGUST 1990

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EXECUTIVE SUMMARY

FOR
HANFORD FEDERAL FACILITY AGREEMENT AND CONSENT ORDER
ACTION PLAN

This Action Plan is an attachment to the Hanford Federal Facility Agreement and Consent Order (hereafter referred to as the "Agreement") between the U.S. Department of Energy (DOE), U. S. Environmental Protection Agency (EPA), and the State of Washington Department of Ecology (Ecology). The Agreement is the legal document that binds DOE to actions to 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 HANFORD SITE

The Hanford Site was acquired by the Federal Government in 1943 for the construction and operation of facilities to produce plutonium for World War II. The site encompasses approximately 560 square miles within the Columbia River Basin. For over 20 years, Hanford facilities were primarily dedicated to the continuation of plutonium production for national defense and managing the wastes generated. In later years, programs at Hanford have become increasingly diverse, involving research and development for advanced reactors and renewable energy technologies. Currently DOE plans to phase out the defense production missions of Hanford, with the new emphasis of the Site being research and development, cleanup of waste units resulting from past operations, and achieving compliance with Federal and State laws.

Treatment, Storage and Disposal Operations

The Hanford Site has and will continue to provide for the Treatment, Storage and Disposal of hazardous and mixed wastes. Mixed wastes are those which contain both hazardous waste (i.e. chemical) and radioactive waste. In 1984, Congress amended RCRA, imposing, among other things, additional restrictions on hazardous waste storage and disposal activities. These restrictions have been referred to as the Land Disposal Restrictions (LDR). Some of the mixed wastes which are stored at Hanford are subject to LDR and cannot be land disposed until the wastes are treated in accordance with LDR regulations, or a variance is granted under 40 CFR 268. These wastes are stored in underground tanks or in other mixed waste units.

At present, DOE does not have the capability to treat all of the LDR mixed wastes at Hanford in accordance with LDR, and until such treatment occurs, disposal is prohibited. The mixed waste treatment systems which are currently available and treatment systems which are planned for the future must satisfy prescribed LDR treatment requirements. Until treatment systems capable of treating the mixed waste to meet the LDR treatment standards become available for Hanford wastes, storage of existing wastes and wastes which will be generated will continue. However, such storage will be in accordance with an approved plan for the management of LDR mixed waste.

In addition to restrictions on land disposal, these LDR requirements also include specific conditions for storage of LDR wastes. The Department of Energy will submit schedules to develop and construct waste treatment systems necessary to achieve compliance with LDR storage requirements, which shall become effective upon approval by EPA (or Ecology upon authorization for LDR pursuant to Section 3006 of RCRA).

There are over 50 Treatment, Storage or Disposal (TSD) Groups on the Hanford Site which must be permitted and/or closed in accordance with RCRA and the State of Washington Hazardous Waste Management Act. A group represents one or more TSD units and reflects the level at which a Part B application and/or closure plan will be developed. These units range significantly in complexity from the closure of the single-shell tanks to the permitting of an individual treatment tank within a production facility. Ecology has the primary authority for issuing a final operating permit to the DOE. Until such time, the DOE continues to operate its TSD units under interim status regulations.

Past-Practices

As previously noted, the Hanford Site has been in operation since the mid-1940's. These operations have resulted in approximately 1000 past-practice units that must be investigated and, if necessary, cleaned up. A past-practice unit is a waste management unit where wastes have been disposed (intentionally or unintentionally), and that is not subject to regulation as a TSD Unit.

The majority of the past-practice units on the Hanford Site contain mixed wastes (i.e., wastes containing both radioactive wastes and hazardous wastes). The remaining units contain only radioactive wastes or hazardous wastes, or are considered non-radioactive and non-hazardous. A large percentage of these waste units are either solid waste burial grounds or liquid disposal units, such as cribs, ponds, and ditches.

The groundwater beneath the Hanford Site has been contaminated as a result of these past-practices. Current data show tritium and nitrate to be the most widespread contaminates in the groundwater. Chromium, cyanide, and carbon tetrachloride are some of the hazardous chemicals which have been detected in the groundwater near operating areas.

REGULATORY AUTHORITIES

Resource Conservation and Recovery Act

RCRA was enacted by Congress in 1976. It requires "cradle to grave" management of hazardous waste by all generators, transporters, and owners/operators of treatment, storage, and disposal facilities handling hazardous wastes. A major goal of RCRA is to reduce the generation of hazardous waste.

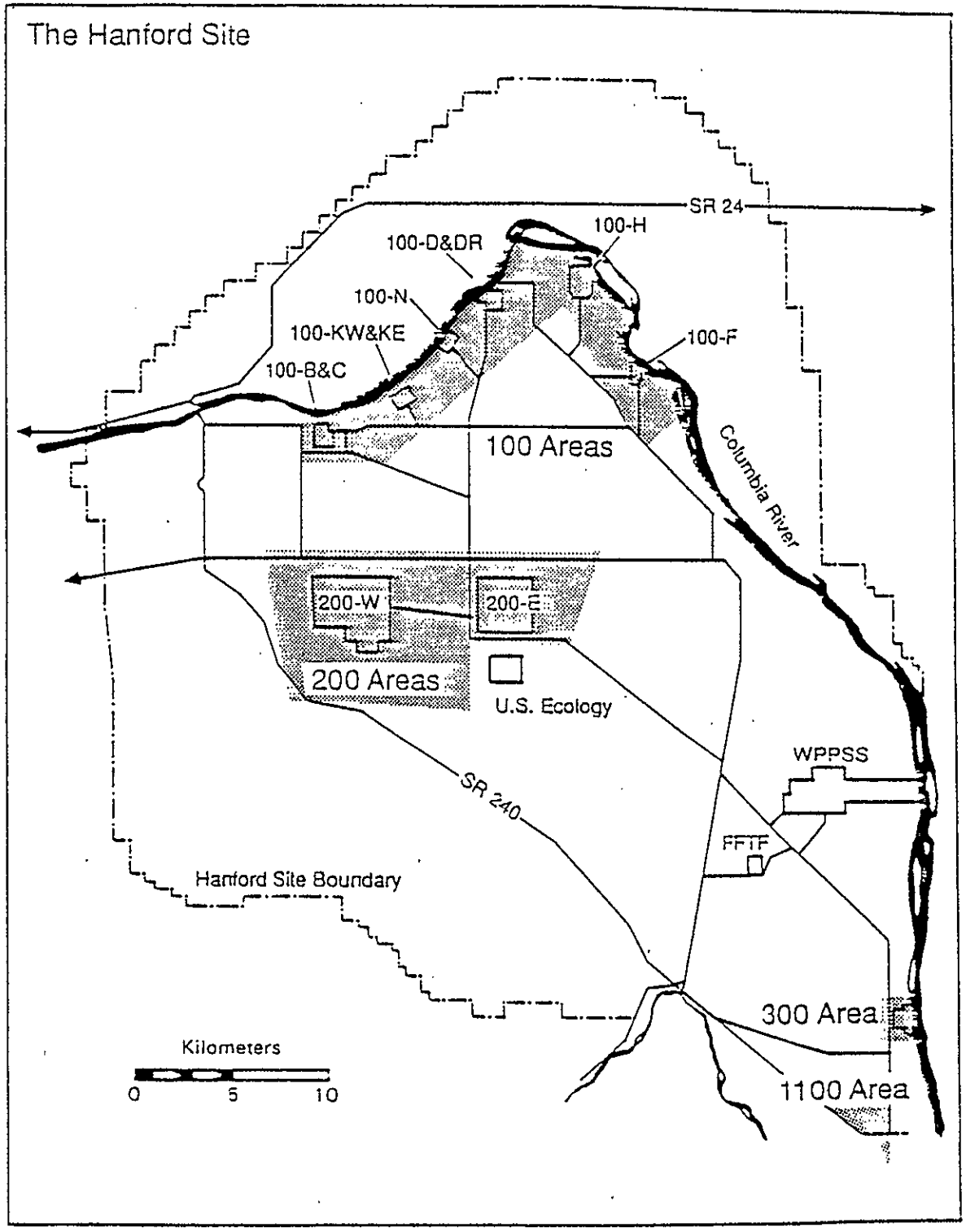
The Department of Ecology has the authority to carry out the RCRA Program in Washington through its own dangerous waste management program. Washington State regulations for dangerous waste management are substantially similar to, but more restrictive in some cases than, the RCRA regulations.

Ecology has not yet received authority from EPA to carry out the 1984 Hazardous and Solid Waste Amendments (HSWA) to RCRA. Until such authorization, EPA is responsible for implementing the provisions of the HSWA. HSWA provides for corrective action at all waste management units, irrespective of the date wastes were placed in the units.

Comprehensive Environmental Response, Compensation and Liability Act

CERCLA, also referred to as "Superfund", was enacted by Congress in 1980. Its purpose is to provide both funding and enforcement authority for cleaning up contaminated waste sites that have been created over the past decades. The funding portion of CERCLA does not apply to Federal facilities such as Hanford. EPA has been given authority for carrying out the provisions of CERCLA.

A key element for application of the cleanup provisions of CERCLA is the listing of a site on the National Priorities Listing (NPL). A Preliminary Assessment/Site Inspection (PA/SI) was completed in 1987 for the Hanford Site. On June 24, 1988 the EPA nominated four areas of the Hanford Site for inclusion on the NPL based on the results of the PA/SI. These four areas were officially listed on the NPL on November 3, 1989 (Federal Register 41015, October 4, 1989). These are the 100 Areas, 200 Areas, 300 Area, and 1100 Area as shown on the following map of the Hanford Site.


The Hanford Site
SR 24
100-H
100-D&DR
100-N
100-KW&KE
100-B&C
100-F
100 Areas
Columbia River
200-W
200-E
200 Areas
U.S. Ecology
WPPSS
SR 240
FFTF
Hanford Site Boundary
300 Area
1100 Area
Kilometers
0
5
10

FEDERAL FACILITY AGREEMENT AND CONSENT ORDER

The agreement is the legal document covering Hanford Site environmental compliance and cleanup. The general purposes of the agreement are:

- To ensure that the environmental impacts associated with past and present activities at the Hanford Site are thoroughly investigated and that appropriate response actions are taken as necessary to protect the public health, welfare, and the environment;

- To provide a framework for permitting TSD units and to promote an orderly, effective investigation and cleanup of contamination at the Hanford Site;

- To ensure compliance with RCRA and the Washington Hazardous Waste Management Act for TSD units including requirements covering permitting, interim status, land disposal restrictions, closure, and post-closure care;

- To establish a procedural framework for developing, prioritizing, implementing, and monitoring appropriate response actions at the Hanford Site in accordance with CERCLA, the National Contingency Plan (NCP), Superfund guidance and policy, and RCRA guidance and policy;

- To facilitate cooperation, exchange of information, and the coordinated participation of the parties in such actions; and

- To minimize the duplication of analysis and documentation.

The Agreement contains five parts: Part One contains introductory provisions; Part Two contains provisions governing hazardous waste treatment, storage, and disposal, facility compliance, permitting, closure, and post-closure activities; Part Three contains provisions governing remedial and corrective action activities; Part Four addresses the regulatory interfaces between EPA and the Ecology; and Part Five provides common provisions which apply to both Parts Two and Three. In addition, the Agreement delineates authorities, identifies enforcement provisions and provides for dispute resolution among the parties. This Action Plan is an attachment to the Federal Facility Agreement and Consent Order.

ACTION PLAN

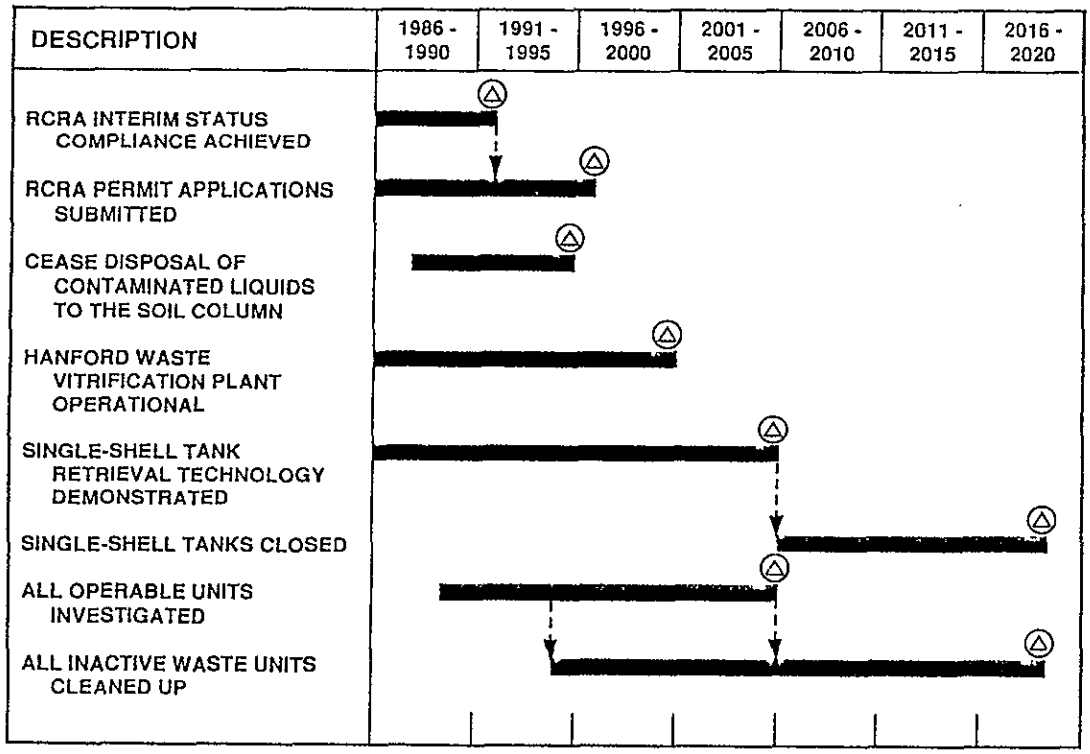
This Action Plan, as an enforceable part of the Agreement, provides the methods and procedures, and establishes the plans for (1) compliance, permitting, and closure under RCRA and the Washington State Hazardous Waste Management Act, and (2) cleanup of the Hanford Site under CERCLA and RCRA corrective action provisions.

Major Milestones

The master plan and schedules for Action Plan work are found in Section 2.0, Major Milestones. These major milestones contain enforceable commitments for the most significant actions in the Action Plan, including:

- Closure of the Hanford single-shell tanks and final disposal of all tank wastes;
- Investigation and cleanup of all contamination at operable units;
- Permitting and closure of treatment, storage, and disposal units;
- Ceasing disposal of all contaminated liquids to soils; and
- operation of the High-Level Waste Vitrification Plant.

The following schedule highlights some of the major milestones.



Unit Identification, Categorization, and Prioritization

The 55 TSD groups on the Hanford Site are identified in Appendix B as those which will continue to operate, and those which are to be closed. Actions associated with these TSD groups have been prioritized on the work schedules based on (1) the risk to public health and environment, (2) benefits received in minimizing wastes in terms of volume and toxicity, and (3) operational considerations.

Approximately 1000 past-practice units are identified in Appendix C. They have been grouped into 74 operable units for the purposes of investigation and cleanup. An operable unit is a grouping of individual waste units based primarily on geographic area and common waste sources. The operable units are prioritized for investigation based on an initial assessment of environmental risk potential. The assessment considers waste volume, hazardous substances and their toxicity or health effects, and the potential for migration of these substances.

The twenty highest priority operable units have been schedule for action through 1992. The remaining operable units have been prioritized into groups and will be individually prioritized during the annual updates of the work schedule.

Project and Unit Managers

EPA, DOE, and Ecology have designated individuals who will serve as Project Manager and who will be the primary points of contact for all activities to be carried out under the Action Plan. The primary responsibilities of the project managers are to implement the scope, terms, and conditions of the Action Plan, direct and provide guidance to their unit managers, maintain effective communication among each other, and report status to their respective management. In addition, the three parties shall each designate an individual as a unit manager for each operable unit on which they participate. The unit manager shall represent their respective party for all activity on the applicable operable unit and keep their respective project managers informed on status and problems which arise.

Project and unit managers will conduct periodic meetings concerning their respective areas of responsibility. These meetings will address status and problem areas. The goal is to maximize communication among the three parties.

Integration of RCRA and CERCLA

RCRA and CERCLA overlap in many areas. RCRA also provides for corrective action for releases at RCRA facilities regardless of time of release. RCRA regulated wastes are also regulated under CERCLA. Many of the RCRA disposal units on the Hanford Site which are scheduled for closure are located in close proximity to past-practice units. These TSD units have been incorporated into the appropriate operable unit with the past-practice units so that integrated investigation and cleanup actions result. These TSD units will be closed under the authority of RCRA, generally in

coordination with the past-practice activities. In order to streamline the interface between RCRA and CERCLA authorities within an operable unit, the past-practice units contained within an operable unit will all be designated as either RCRA corrective action units or CERCLA units.

Lead Regulatory Agency Concept

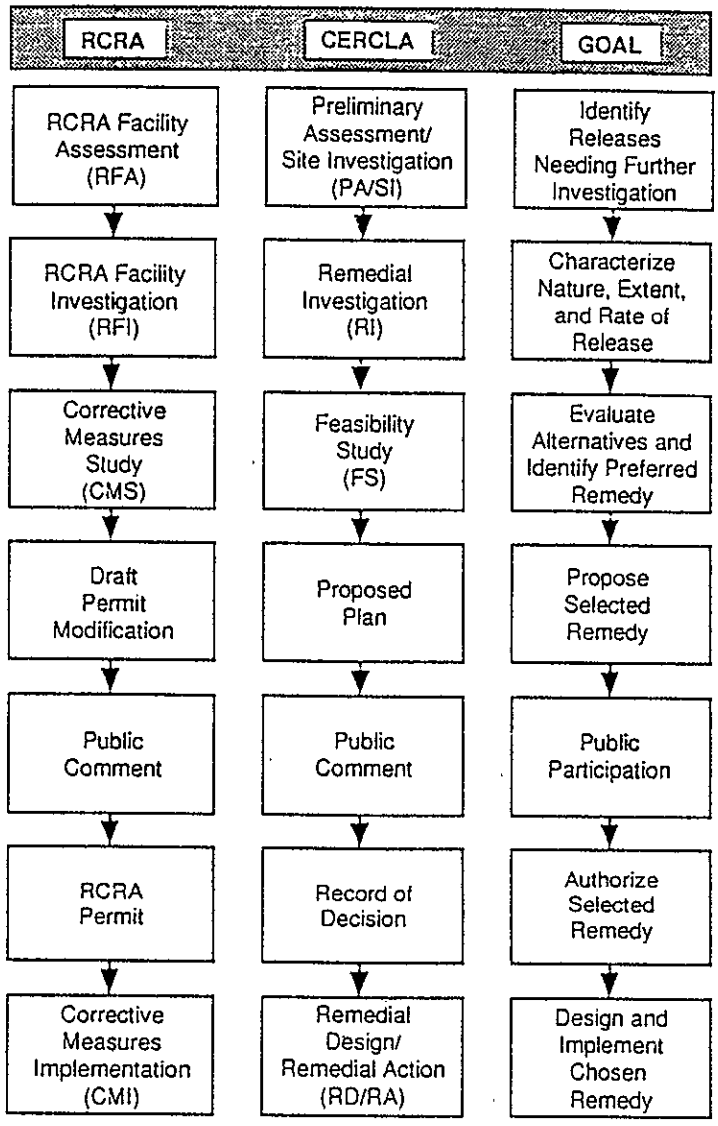
EPA and Ecology will use a "lead regulatory agency" approach to minimize duplication of effort and maximize productivity. Either EPA or Ecology will be the lead regulatory agency for an operable unit. The lead regulatory agency for a specific operable unit will be responsible for overseeing DOE actions at that operable unit. The regulatory agency which is not the lead regulatory agency will be designated as the support agency, and will assist the lead regulatory agency as needed. The decision of which agency is lead for each operable unit will be jointly made by EPA and Ecology.

RCRA Permitting

Since the Hanford Site is designated as a single RCRA facility one hazardous waste permit will be issued and maintained, and will address the treatment, storage and disposal of hazardous wastes. The initial permit will be issued for less than the entire facility, recognizing that not all of the TSD groups will be ready for a permit at the same time. Then the permit will be modified over time to incorporate additional TSD groups. The permit will also incorporate the cleanup actions selected for those past-practice units addressed under RCRA corrective action provisions. The permit will also address post-closure care requirements for those TSD units which have been closed, including those closed in conjunction with a past-practice operable unit.

Remedial and Corrective Action

Either the CERCLA remedial action or the RCRA corrective action process will be used for the past-practice operable units. Under either process, DOE will investigate the contamination at the operable unit and study alternatives for cleaning up the problem. Following a public comment period, the appropriate regulatory agency will select the remedy. The following figure summarizes these processes, and shows that they are functionally equivalent.



A work plan will be developed for each operable unit that will address all activities from the start of field investigation through the proposed selection of a remedy for cleanup. Both the work plan and the documentation of the selected remedy will be made available for public comment.

Appendix D provides the definitive work schedule which reflects specific dates for activities in support of the major milestones.

Documentation and Administrative Record

All documents will be categorized as either primary or secondary documents. Primary documents represent the interpretation of key data and reflect decisions on how to proceed. Secondary documents represent an

interim step in a decision making process, or are issued for information only and do not reflect key interpretations. Only primary documents are approved by the regulatory agencies and can be subjected to the dispute resolution process detailed in the Agreement. All documents (including secondary documents) will be reviewed by the regulatory agencies. The specific processes for document review, comment, and revision are contained in the Action Plan.

An Administrative Record will be established for each operable unit and TSD group, and will contain all of the documentation considered in arriving at CERCLA decision or RCRA permit. The Administrative Record file, including an index, will be available to the public for review in Richland, Seattle, and Olympia.

Updates to the Action Plan

The Action Plan will be updated annually to expand the work schedule for the next year. The work schedule covers seven years, with the near-term shown in detail. In addition to work schedule updates, the Action Plan may be updated to reflect other modifications, such as changes to TSD groups and operable units, or changes in their priority.

COMMUNITY RELATIONS

Section 10.0 of this Action Plan summarizes the community relations activities in support of the Agreement. A separate Community Relations Plan has been developed that meets the requirements for having such a plan at NPL sites, and also covers all the community relations needs of the Agreement, including RCRA public involvement requirements. The following summarizes the key elements of the Community Relations Plan:

- Public information repositories will be maintained in Seattle, Richland, and Spokane, Washington, as well as Portland, Oregon. Key documents and other information will be kept in these repositories for ready access by the public.

- Quarterly public information meetings will be held. Two meetings will be held each quarter; one in Richland, and the other rotated between other locations.

- Key decision documents will be made available for public comment prior to being finalized. Public meetings concerning these documents will be held as appropriate. Public hearings will be held upon request for draft permits or permit modifications.

- Annual updates to the work schedule will be subject to public comment.

- An active system of keeping the public informed will be implemented. A mailing list will be maintained for distribution of fact sheets and newsletters.

- A federal technical assistance grant program will be administered by EPA and a public participation grant program will be administered by Ecology.

- Interested Indian Tribes will be afforded special meetings and direct distribution of key documents upon request.

The intent is to involve the public extensively concerning environmental compliance and cleanup of the Hanford Site.

CURRENT STATUS OF ACTIVITIES AT HANFORD

All of the activities addressed by the Agreement are currently ongoing at Hanford. The following summarizes the status of some of these activities as of early 1989.

- Part B permit applications and/or closure plans have been submitted for 29 of the 55 TSD groups identified at Hanford. These applications and/or plans are currently undergoing review or update. Work is also ongoing in the development of other permit application and/or closure plans.

- A plan and schedule for ceasing the disposal of contaminated liquids to the soil column was submitted to Congress in March 1987. Treatment facilities required to achieve the commitments in this plan are currently in varying stages of development.

- Treatment, storage and disposal facilities on the Hanford Site are currently being assessed for compliance with interim status requirements, and resulting actions are being implemented. RCRA groundwater monitoring systems have been and continue to be installed.

- A major DOE program, referred to as the Environmental Restoration Program, has been implemented for cleanup of the approximately 1000 inactive waste units on the Hanford Site. Work plans are being developed for the first four operable units (one per NPL area) that will cover conduct of investigations and studies. The first of these work plans has been submitted to the regulatory agencies for review and is expected to be distributed for public comment in June 1989.

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ACTION PLAN

1.0 INTRODUCTION

1.1 PURPOSE

The purpose of this action plan is to establish the overall plan for hazardous waste permitting, meeting closure and postclosure requirements, and remedial action under the Federal Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and the Washington State Hazardous Waste Management Act. 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.

This plan describes the U.S. Environmental Protection Agency (EPA) and State of Washington regulatory integration, and the methods and processes to be used to implement the Hanford Federal Facility Agreement and Consent Order, hereinafter referred to as "the Agreement," among the State of Washington Department of Ecology (Ecology), the EPA, and the U.S. Department of Energy (DOE). The parties recognize that hazardous waste compliance, permitting, closure and postclosure action, and remedial and corrective action at the Hanford Site will require a fully integrated effort involving the Federal RCRA, CERCLA, and the Washington State Hazardous Waste Management Act. For purpose of this action plan, the term RCRA means the RCRA as amended and the Washington Hazardous Waste Management Act (HWMA).

This action plan contains a work schedule (Appendix D), that is based on a rationale for setting priorities for work to be accomplished. This rationale is identified in Section 3.0. The work schedule identifies the schedules and milestones to be met in implementing this plan. Requirements and standards under Washington's Dangerous Waste Regulations and RCRA for hazardous waste generation and transportation, as specified in Chapter 173-303 of the Washington Administrative Code (WAC) and Title 40, Code of Federal Regulations (CFR), Parts 262 and 263, are not addressed by this action plan. However, this does not relieve the DOE from meeting these requirements.

Appendix A provides a definition of terms and acronyms as used in this action plan.

1.2 REGULATORY AUTHORITIES

This action plan and its appendices are binding and enforceable on all parties unless otherwise noted. The regulatory authorities of the EPA and Ecology currently include, but are not limited to, the following:

- The EPA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended, and the Resource Conservation and Recovery Act of 1976 (RCRA), as amended

- Ecology: Hazardous Waste Management Act (HWMA), Chapter 70.105 Revised Code of Washington (RCW), as amended.

Specific regulatory authorities/clarifications include the following.

- On January 31, 1986, Ecology received final authority to implement the State Dangerous Waste Program in lieu of the Federal base RCRA program in the State of Washington. This does not authorize the State to implement the Hazardous and Solid Waste Amendment (HSWA) provisions. The HSWA will be implemented under the authority of the EPA until such time as Ecology receives authorization for HSWA. Section 6.2 provides for shared responsibilities for HSWA provisions between the State and the EPA. Before the State receives HSWA authorization, it must promulgate regulations as necessary to implement the program.

- Amendments to the base RCRA regulations (i.e., those not promulgated pursuant to HSWA) do not become effective until the State has promulgated regulations to implement them. In contrast, amendments to HSWA regulations become effective immediately under the direction of the EPA whether or not the State has received HSWA authorization.

- On August 19, 1987 CH. 70.105 RCW was amended to allow Ecology to regulate mixed waste. On November 23, 1987, Ecology received authorization from the EPA to regulate mixed waste in the State of Washington.

- The CERCLA remedy decision-making authority cannot be delegated to the State of Washington under the existing statute and will, therefore, continue to be exercised by the EPA.

- Ecology shall issue the RCRA permit under the State Dangerous Waste Program. Where the permit involves HSWA provisions, the EPA shall issue the HSWA portion of the permit. This will be a joint EPA/Ecology permit. When HSWA is delegated to the State, Ecology shall issue the entire permit to include HSWA provisions. The EPA shall retain an oversight role of Ecology's program and activities under the delegation of authority.

- Ecology shall maintain its authority under Ch.70.105 RCW to require corrective action at treatment, storage, and disposal (TSD) units to remediate groundwater contamination originating from such units in accordance with Part Four of the Agreement.

This action plan is based on existing Federal and State regulations. If changes to those regulations create inconsistencies between the action plan and the regulations, the action plan will be modified accordingly. To

minimize any delay in implementation, it is the intent of the parties that an updated version of the action plan will be prepared prior to HSWA authorization (or partial authorization) to the State. Upon delegation, the updated action plan would then be implemented in an expeditious manner.

1.3 ORGANIZATION OF ACTION PLAN

Section 2.0 identifies the major milestones agreed to by all parties under this Agreement. Major interrelationships between milestones are shown.

All parties realize that the Hanford Site is complex, with numerous waste management units. Section 3.0 describes an inventory and unit classification approach for effective organization and continuity of effort. It also includes criteria to be used for prioritizing the activities to be performed. Section 4.0 identifies a tiered management structure to oversee actions conducted under this plan. Section 5.0 describes the rationale and process by which waste management units at the Hanford Site will interface and be managed in accordance with the above-mentioned authorities. Section 6.0 describes the RCRA treatment, storage, and disposal unit processes and Section 7.0 describes past-practice unit processes in accordance with part two and three of the Agreement respectively.

Section 8.0 describes meetings and reports to be used to ensure effective communications between all parties. Section 9.0 defines the documents to be generated under this action plan, the classification and listing of primary and secondary documents, and the records systems to be implemented to preserve and access the documentation. Section 10.0 describes the method and processes necessary for community relations and effective public involvement.

Section 11.0 describes the purpose and format of the work schedule (Appendix D). In addition, Section 11.0 identifies the supporting plans that implement this action plan and the work schedule. Section 12.0 establishes a process for parties to propose and implement changes to elements of this action plan or its supporting plans. Section 12.0 also addresses the process for minor field changes.

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2.0 MAJOR MILESTONES

2.1 INTRODUCTION

This section identifies 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. The work schedule included in Appendix D contains interim milestones and target dates to support these major milestones.

The major milestones have been grouped into the following categories:

- Disposal of tank wastes
- Cleanup of past-practice units
- Permitting and closure of TSD units.

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 milestones defined 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-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

This category addresses those actions necessary to satisfy interim status 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.

Table 2-1. Major Milestones--Disposal of Tank Waste.
(sheet 1 of 4)

Number	Milestone	Due Date
M-01-00	**Complete 14 grout campaigns of double-shell tank waste by September 1994 and maintain currency with waste feed thereafter** The 14 grout campaigns will support the acceleration of the single-shell tank stabilization activities by one year. Additional grout campaigns will allow double-shell tank space to be made available for single-shell tank waste. The number of grout campaigns each year after Sept. 1994 will be dependent upon the availability of grout feed material. Grout campaigns (up to 5 each year) will be conducted when sufficient waste feed is accumulated to fill a grout vault.	Sept. 1994
M-02-00	**Initiate B Plant operations for pretreatment of double-shell tank waste** Double-shell tank waste pretreatment is required prior to disposal of high-activity tank wastes. The B Plant pretreatment supports the removal, treatment, and final disposal of wastes subject to land disposal restrictions which are stored in double-shell tanks. Removal of the wastes from double-shell tanks and disposal in grout or glass will allow double-shell tank space to be made available for single-shell tank waste.	Oct. 1993
M-03-00	**Initiate Hanford Waste Vitrification Plant operations** Waste which is pretreated in B Plant will be designated for disposal in either glass or grout. Pending treatment and final disposal, the wastes must be stored in double-shell tanks. Completion of the vitrification plant will enable the pretreated waste to be removed from double-shell tanks, thus allowing double-shell tank space to be made available for	Dec. 1999[1]

[1]The Department of Energy, Richland Operations Office, commits to request sufficient money in FY 1991 to meet Milestone M-03-00.

Table 2-1. Major Milestones--Disposal of Tank Waste.
(sheet 2 of 4)

Number	Milestone	Due Date
M-03-00 Cont'd	**Initiate Hanford Waste Vitrification Plant operations** single-shell tank waste. The HWVP also supports the removal, treatment, and final disposal of wastes subject to land disposal restrictions which are stored in double-shell tanks. Initiation of operations is defined to be hot startup.	Dec. 1999
M-04-00	**Provide annual reports of tank waste treatability studies** Wastes stored in double-shell and single-shell tanks, as well as newly generated wastes destined to be stored in the double-shell tanks, will be studied to determine the most appropriate treatment/disposal method. Studies to determine the long-term feasibility of grout or glass for disposal of these wastes are included in the scope of this milestone.	Annually Beginning Sept. 1990
M-05-00	**Complete single-shell tank interim stabilization** Complete the single-shell tank interim stabilization activities (removal of pumpable liquid from those 51 single-shell tanks not yet stabilized) for all single-shell tanks except 241-C-105 and 241-C-106. All 149 tanks, including 241-C-105 and 241-C-106 will be interim stabilized and interim isolated by September 1996.	Sept. 1995
M-06-00	**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.	June 1994

Table 2-1. Major Milestones--Disposal of Tank Waste.
(sheet 3 of 4)

Number	Milestone	Due Date
M-07-00	**Initiate full-scale demonstration of waste retrieval technology** A full-scale waste retrieval demonstration at a pre-selected single-shell tank will follow scale model testing of waste retrieval technologies (Milestone M-06-00). This demonstration will be complete when it succeeds in removing no less than 95 percent of the radioactive and chemical waste inventory from the single-shell tank. If any waste remains in the tank or the surrounding soil, final tank closure will proceed under an approved closure plan in Milestone M-08 or M-09. Demonstration initiation is defined as startup of the waste retrieval equipment in the selected single-shell tank.	Oct. 1997
M-08-00	**Initiate full-scale tank farm closure demonstration project** The full-scale tank farm demonstration project will include waste retrieval and the installation of a final cover. Decisions as to the appropriate disposal of wastes, tanks, contaminated piping, and soils will follow detailed characterization and regulatory agency approval as part of the closure process. For purposes of this milestone, initiation is defined as full-scale waste retrieval. The full-scale demonstration will serve to verify the various technologies being developed for tank farm closures.	June 2004
M-09-00	**Complete closure of all 149 single-shell tanks** Closure and removal of required waste from the 149 single-shell tanks will be effected in accordance with the approved closure plan(s). As stated in the Hanford Defense Waste-Environmental Impact Statement Record of Decision, a supplemental EIS will be prepared prior to making any final decisions regarding disposal of single-shell tank waste. The	June 2018

Table 2-1. Major Milestones--Disposal of Tank Waste.
(sheet 4 of 4)

Number	Milestone	Due Date
	final closure plan(s) will address the recommendations of the supplemental EIS.	
M-10-00	**Complete analyses of at least two complete core samples from each single-shell tank** Obtain and analyze a minimum of two core samples from each single-shell tank. Samples will be collected and analyzed to determine the characteristics of significant waste strata to support timely development of tank waste retrieval technology and to assist in preparation of single-shell tank closure plans and the supplemental EIS. Additional sampling may be determined to be necessary to ensure representative samples are obtained from each tank. Samples will be collected and analyzed in accordance with a single-shell tank waste analysis plan approved by Ecology. Data from this initial characterization may be adequate to identify those tanks whose waste will be retrieved. Additional sampling and analysis will be necessary to justify any decision to leave tank waste in place.	Sept. 1998
M-11-00	**Complete construction and initiate operations of expanded laboratory hot cells for high-level radioactive mixed waste** The expanded laboratory hot cells will provide analytical capabilities for waste analyses from single-shell tanks, double-shell tanks, and B Plant pretreatment processing. The hot cells will provide at least double the sample throughput capacity from that which is currently available at the 222-S Laboratory.	June 1994

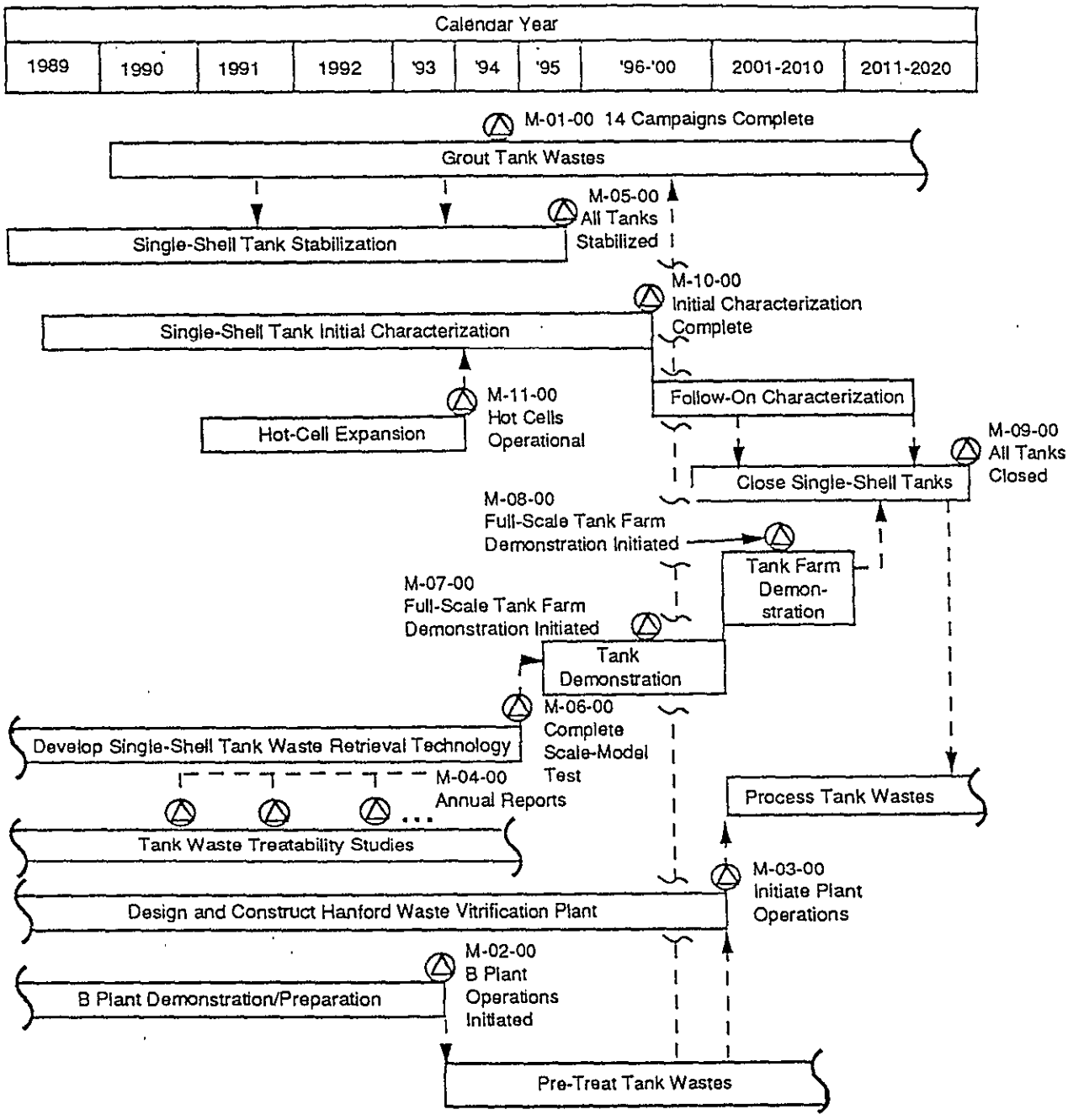

Figure 2-1. Disposal of Tank Wastes.

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Table 2-2. Major Milestones--Cleanup of Past-Practice Units. (sheet 1 of 2)

Number	Milestone	Due Date
M-12-00	**Submit RI/FS or RFI/CMS work plans for 20 operable units** Work plans for each of the first 20 operable units listed in Appendix C will be prepared and submitted to EPA and Ecology by April 1992. The work plans will meet the requirements of RCRA or CERCLA, depending upon whether the operable unit has been assigned to RCRA Past Practices or to CERCLA (see Appendix C). DOE will implement each RI/FS or RFI/CMS upon lead regulatory agency approval and in accordance with the schedule in Appendix D.	April 1992
M-13-00	**Submit six RI/FS or RFI/CMS work plans per year** Submit a minimum of six RI/FS or RFI/CMS work plans per calendar year until work plans have been submitted for all operable units. The work plans will meet the requirements of RCRA or CERCLA depending on whether the operable unit has been assigned to RCRA Past Practices or to CERCLA (see Appendix C). DOE will implement each RI/FS or RFI/CMS upon lead regulatory agency approval and in accordance with the schedule in Appendix D. Interim milestones will be developed during each annual update of the work schedules in Appendix D. Milestones M-12-19 and M-12-20 will apply towards the six work plans scheduled for CY 1992.	Annually Beginning CY 1992
M-14-00	**Complete construction and initiate operations of a low-level mixed waste laboratory** The low-level mixed waste laboratory will provide analytical capabilities to analyze hazardous waste samples, those containing low levels of radioactivity, as well as those that are strictly hazardous. The new laboratory will be sized in accordance with the design specifications of the project Conceptual Design Report.	Jan. 1992

Table 2-2. Major Milestones--Cleanup of Past-Practice Units. (sheet 2 of 2)

Number	Milestone	Due Date
M-15-00	**Complete the RI/FS (or RFI/CMS) process for all operable units** All operable units (including groundwater operable units) will have been investigated through the RI/FS (or RFI/CMS) process, and the public comment period will be completed. Specific remedial actions for each operable unit will be selected.	Sept. 2005
M-16-00	**Complete the remedial actions for all operable units** Remedial actions will be completed for each operable unit in accordance with the schedules developed as part of the remedial design (RD)/remedial action (RA) or corrective measure implementation (CMI) work plan.	Sept. 2018

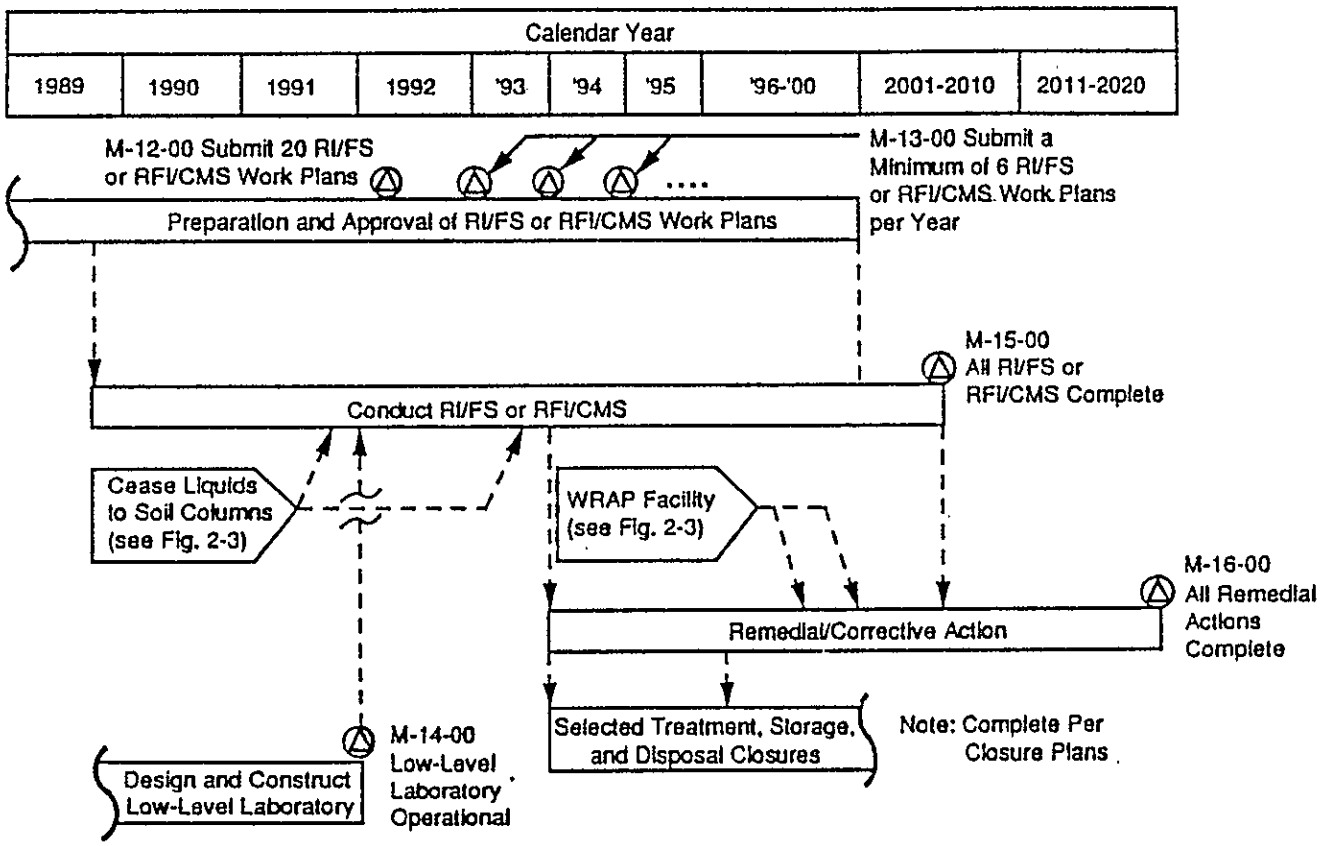


Figure 2-2. Cleanup of Past-Practice Units

Table 2-3. Major Milestones--Permitting and Closures of TSD Units. (sheet 1 of 5)

Number	Milestone	Due Date
M-17-00	**Complete liquid effluent treatment facilities/ upgrades for all Phase I streams** Hanford currently has 19 Phase I liquid effluent streams being discharged to cribs, ponds, or ditches. Phase I streams are defined in the "Annual Status Report of the Plan and Schedule to Discontinue Disposal of Contaminated Liquids into the Soil Column at the Hanford Site," September 1988. Some of the cribs, ponds, or ditches are RCRA waste disposal units. These, along with others, are located in areas requiring inactive site investigations/ remedial actions. Liquid effluent streams are classified as Phase I streams based upon radionuclide/chemical content, regulatory requirements relative to the waste disposal unit, chemical spill potential, and waste disposal unit life expectancy. Each of the 19 Phase I effluent streams will be either treated or eliminated. Specific completion dates for each waste stream are identified in the Appendix D work schedules. Completion dates for eight specific waste stream treatment or management systems are interim (enforceable) milestones. The remaining completion dates are target dates (not enforceable) which are included as such in order to allow management flexibility. Target date projects under M-17-00 shall be completed no later than June 1995.	June 1995
M-18-00	**Complete Waste Receiving and Processing (WRAP) Module I construction and initiate operations** The WRAP Module I is required to sort and repackage wastes that are planned to be retrieved from retrievable storage units.	Sept. 1996

Table 2-3. Major Milestones--Permitting and Closures of TSD Units. (sheet 2 of 5)

Number	Milestone	Due Date
	Much of the waste currently stored in the retrievable storage units is anticipated to be radioactive mixed waste. Some of the radioactive waste stored on the pads is known to contain extremely hazardous waste as well as federally land-banned waste.	
M-19-00	**Complete WRAP Module II construction and initiate operations**	Sept. 1999
	The WRAP Module II will include waste treatment capabilities to minimize land disposal of low-level radioactive waste and radioactive mixed waste. The September 1999 completion date of WRAP Module II is critical to achieving compliance for the management of wastes that are prohibited from land disposal and extended storage.	
M-20-00	**Submit Part B permit applications or closure plans for all RCRA TSD units**	May 1996
	All Part B permit applications, closure plans, and post-closure permit applications will be submitted to Ecology and the EPA by May 1996. Individual unit submittals will occur as shown in the Appendix D work schedules. Scheduled submittal dates shall be enforceable as interim milestones.	
M-21-00	**Submit RCRA interim status compliance assessments for all TSD units**	April 1989
	RCRA operational units and those undergoing closure will be assessed for compliance with RCRA and state Dangerous Waste interim status requirements. Part A applications which will be withdrawn or units not yet constructed are not included in these assessments. Copies of the assessment documentation will be provided to Ecology within 30 days of assessment completion. The last assessment will be completed by March 31, 1989.	
	Facilities to be assessed by March 31, 1989, include tank farms, low-level burial grounds, Plutonium Finishing Plant, PUREX, B Plant,	

Table 2-3. Major Milestones--Permitting and Closures of TSD Units. (sheet 3 of 5)

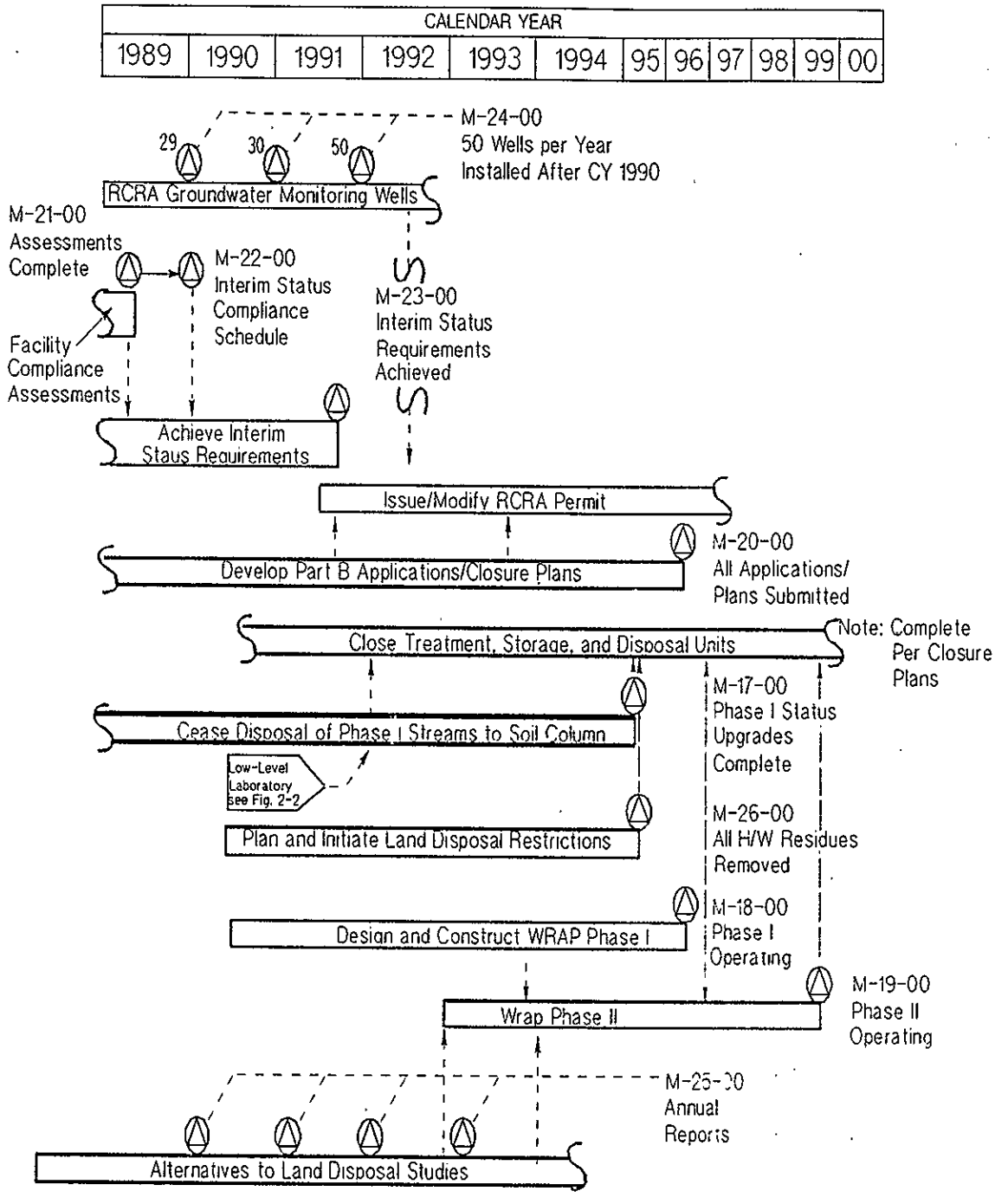
Number	Milestone	Due Date
	N Reactor, 100 K Area Fuel Storage, Fast Flux Text Facility, T Plant, 222-S, 616 Storage Facility, Central Waste Complex, Nonradioactive Dangerous Waste Landfill, 300 Area Fuel Fabrication Facilities, Patrol demolition site, 4843 Sodium Storage Facility, 3718-F Alkali Metal Treatment and Storage, single-shell tanks, hexone tanks, 183-H, 2727-S, 300 Area Solvent Evaporator, 105-DR Sodium Fire Facility, E-8 Borrow Pit, 200 West Ash Pit, 216-U-12 Crib, 2101-M Pond, 216-S-10 Ditch and Pond, and 100-D Ponds.	
M-22-00	**Establish enforceable compliance action schedules** Schedules will be developed for review and approval by Ecology and the EPA for any actions identified in the interim status compliance assessments that are necessary to ensure compliance with interim status requirements. Specific compliance actions will become enforceable interim milestones under M-23-00.	Dec. 1989
M-23-00	**Achieve compliance with interim status requirements (excluding groundwater monitoring and closure plans)** By September 1991, DOE will complete all actions required to ensure compliance with RCRA interim status standards (except for groundwater monitoring and closure requirements). If significant facility modifications are required to meet the interim status standards, DOE may request Ecology approval of extended schedules for compliance. Any such approvals will be incorporated as part of Milestone M-22-00. Compliance with interim status groundwater monitoring and closure requirements will occur in accordance with the schedules outlined in Milestones M-24-00 and M-20-00, respectively (closure plans for TSD units seeking operating permits will be submitted as part of the Part B permit application).	Sept. 1991

Table 2-3. Major Milestones--Permitting and Closures of TSD Units. (sheet 4 of 5)

Number	Milestone	Due Date
	No interim milestones to be established at this time. Interim milestones will be established following completion of M-22-00.	
M-24-00	**Install RCRA groundwater monitoring wells at the rate of 29 in CY 1989, 30 in CY 1990, and 50 per year thereafter until all land disposal units and single-shell tanks are determined to have RCRA compliant monitoring systems**	Annually Beginning CY 1989
	DOE will install groundwater monitoring wells around RCRA land disposal units and the single-shell tanks at the rate described above until Ecology determines that all such groundwater monitoring systems meet the requirements of WAC 173-303-645.	
	Installation of groundwater wells shall mean that wells have been drilled, adequately sealed, and screened over no more than 15 feet of the aquifer unless otherwise approved by Ecology, that all pumps and associated sampling equipment have been installed, and that such wells have been developed sufficiently to provide satisfactory samples for all parameters to be analyzed.	
	Specific units to receive groundwater wells and the number of wells to be installed at each unit will be identified in Appendix D in two-year intervals (i.e., CY 1989 and CY 1990 now, CY 1990 and CY 1991 at the next annual update, etc.). Such schedules will be enforceable as interim milestones.	
M-25-00	**Provide annual reports of studies/efforts that are in progress to identify alternatives to land disposal of radioactive mixed wastes**	Annually Beginning March 1990
	The annual reports will provide information regarding actions taken to minimize waste generation, recycle/reclaim wastes, or treat wastes.	
	No interim milestones to be identified; each annual report is tracked as a major milestone.	

Table 2-3. Major Milestones--Permitting and Closures of TSD Units. (sheet 5 of 5)

Number	Milestone	Due Date
M-26-00	Submit "Hanford Land Disposal Restrictions Plan for Mixed Wastes" (LDR Plan) in accordance with "Requirements for the Hanford LDR Plan" issued by EPA and Ecology, dated April 10, 1990. Land disposal restriction (LDR) requirements include limitations on storage of specified hazardous wastes (including mixed wastes). In accordance with approved plans and schedules, DOE shall develop and implement treatment technologies necessary to achieve full compliance with LDR requirements for mixed wastes at the Hanford Site. LDR plans and schedules shall be developed with consideration of other Action Plan milestones and will not become effective until approved by EPA (or Ecology upon authorization to administer LDR pursuant to Section 3006 of RCRA). Disposal of LDR wastes at any time is prohibited except in accordance with applicable LDR requirements. DOE shall comply with all applicable LDR requirements for nonradioactive wastes at all times. The LDR Plan will include, but not be limited to the following: a. Waste characterization plan b. Storage report c. Treatment report d. Treatment plan e. Waste minimization plan f. A schedule, depicting the events necessary to achieve full compliance with LDR requirements g. A process for establishing interim milestones	Oct. 1990



RCRA = Resource Conservation and Recovery Act

WRAP = Waste Receiving and Processing

CY = Calendar Year

Figure 2-3. Permitting and Closure of Treatment, Storage, and Disposal Units.

3.0 UNIT IDENTIFICATION, CLASSIFICATION, AND PRIORITIZATION

3.1 INTRODUCTION

This section describes what constitutes a waste management unit at the Hanford Site. In addition, it describes how waste management units are classified, grouped for common investigation and remedial/correction action, and prioritized.

A waste management unit represents any location within the boundary of the Hanford Site that may require action to mitigate a potential environmental impact. This would include all solid waste management units (SWMUs) as specified under Section 3004(u) of RCRA. These waste management units were previously defined in the Hanford Site Waste Management Units Report (see Section 3.5). Waste management units include the following:

- Waste disposal units (including RCRA disposal units)
- Unplanned release units (including those resulting from spills)
- Inactive contaminated structures
- RCRA treatment and storage units
- Other storage areas.

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.

In the event that a contaminated structure is found to be the source of a release (or presents a substantial threat of a release) of hazardous substances, hazardous wastes, or hazardous constituents to the environment, the investigation and remediation of such a release (to include remediation of structures, as necessary), where subject to CERCLA or RCRA, shall be subject to this Agreement. Specific requirements shall be incorporated into the Action Plan as appropriate. Releases which have already been identified have been included in the Action Plan as waste management units and assigned to operable units (see Appendix C).

As part of any action being taken under either RCRA or CERCLA for a contaminated structure, EPA and Ecology shall consider available information related to D&D activities, including environmental impact statements. All hazardous wastes generated by the D&D activities or stored at these storage areas shall be managed in accordance with applicable Federal and State hazardous waste regulations.

3.2 TREATMENT, STORAGE, AND DISPOSAL UNITS

Treatment, storage, and disposal units are those units which will be permitted (for operation and/or postclosure care) and/or closed, to include interim status postclosure care, under the Washington State Dangerous Waste Regulations (173-303 WAC) and the applicable provisions of HSWA. Appendix B provides a current listing of these units, or group of units (with individual units defined); identifies whether the TSD group/unit will be permitted for operation or closed; and identifies the assigned operable unit, if applicable. A TSD group represents a combination of units that are combined for purposes of preparing a permit application or closure plan. The schedule of permitting activities or closures will be established by Ecology in cooperation with the EPA and DOE. Some TSD groups/units are included within operable units (see 3.3 below) and will be addressed concurrently with past-practice activities as defined in Section 5.5. A further discussion of TSD groups/units is provided in Section 6.0.

3.3 PAST-PRACTICE UNITS

A past-practice unit is a waste management unit where wastes or substances (intentionally or unintentionally) have been disposed and that is not subject to regulation as a TSD unit as specified in Section 3.2.

Due to the relatively large number of past-practice units at the Hanford Site, a process has been established for organizing these units into groups called operable units. The concept of operable units is to group the numerous units (primarily by geographic area) into manageable components for investigation and remedial action and to prioritize the cleanup work to be done at the Site.

The Waste Information Data System (WIDS) (see Section 3.5) contains information on waste management units that was used to support the development of operable units. This information, combined with operable unit identification and prioritization criteria described in this section, resulted in the initial designation of approximately 75 operable units across the Hanford Site. The Hanford Operable Units Report (currently titled "Preliminary Operable Units Designation Project") documents the assignment of units to operable units and prioritizes the operable units. The Hanford Operable Units Report is discussed further in Section 7.0. Each of the operable units will be subject to an investigation in the form of either a CERCLA or a RCRA past-practice process as described in Sections 7.3 and 7.4, respectively. Appendix C includes a current list of all the past-practice units on the Hanford Site by operable unit.

Some TSD units, primarily land disposal units, will be investigated and managed in conjunction with past-practice units and have been assigned to appropriate operable units (see Appendix B for current assignment of TSD groups/units to operable units). The information resulting from the investigation will be used to supplement the preparation of the Part B applications and/or closure plans for such TSD groups/units. Those TSD units not assigned to an operable unit are typically treatment or storage units that are likely to be "clean closed" as described in Section 6.3.1.

Individual past-practice units (and selected TSD units) have been assigned to a specific operable unit based on the following criteria:

- General patterns of waste disposal from specific process sources
- Spatial relationship to other waste units
- Contribution to the same groundwater contaminant plume
- Physical characteristics of area (e.g., geologic/hydrogeologic)
- Access considerations (e.g., buildings, buried pipes)
- Anticipation of similar remedial action strategy (economy of scale)
- Reasonable number of total units to effectively manage.

In addition to the operable units discussed above, groundwater operable units can be established where multiple sources from different operable units have contributed to the same plume. Operable units that are associated with a groundwater operable unit are referred to as source operable units. The schedule for investigation of each groundwater operable unit will coincide with the schedule for investigation of the source operable unit that is the major contributor to the plume. Other associated source operable units that are lower priority will be investigated at a later time, in accordance with the established criteria for prioritization of operable units.

3.4 PRIORITIZATION

This section describes the bases for prioritizing operable units and those TSD groups/units that are not included within operable units.

3.4.1 Prioritization of Operable Units

Operable units are prioritized based on an initial assessment of risk potential to ensure that action is focused on the greater hazard. Criteria for evaluating and remediating potential hazards include the following information:

- Volume of wastes or hazardous substances
- Hazardous substances identification and concentration
- Toxicity or health effects of the hazardous substances
- Potential for migration to receptors via all environmental pathways.

In addition, the following factors are used to determine priority:

- Available technology to investigate or remediate the operable unit

- Operation consideration (e.g., timing of decommissioning activities)

- Consideration to those operable units that include TSD units.

Appendix C lists the current priority of operable units for investigation. This is based on currently available information and data. As new information and data become available, these priority assignments may be modified. The Hanford Operable Units Report provides the rationale and justification for the prioritization of the operable units. This priority is the basis for the work schedule (Appendix D). Procedures for modification of Appendix C are described in Section 12.0.

The highest priority operable units have been individually ranked and scheduled for investigation, whereas the remaining operable units have been prioritized into groups (see Appendix C). The single-shell tank operable units are unique and will be addressed separately as part of a supporting work plan.

3.4.2 Prioritization of Treatment, Storage, and Disposal Units

All TSD groups/units are subject to a permitting and/or closure process described in Section 6.0. Those TSD groups/units assigned to an operable unit will be prioritized in conjunction with past-practice priorities for purposes of investigation. The order in which permit applications or closure plans will be developed for the remaining TSD groups/units is based on consideration of the following criteria.

- Environmental Risk. The risk to public health and environment is the most important consideration. Any action that will significantly reduce the risk to public health and/or the environment will be considered the highest priority.

- Waste Minimization. Waste minimization is central to the goal of reducing environmental risks and bringing about environmental compliance for continuing operations and for new units at the Hanford Site. Therefore, the parties agree that Ecology's "Priority Waste Management Policy" (Ecology 86-07), established pursuant to CH. 70.105.150 RCW, shall be adhered to as guidance for purposes of establishing permitting priorities, in addition to evaluating proposed changes in operational procedures, and for the development and implementation of new waste management strategies. This policy defines the following prioritized actions: (1) waste reduction, (2) recycling, (3) treatment, (4) stabilization, and (5) land disposal.

- Permit Application Dates Required by Law. The Hazardous and Solid Waste Amendments of 1984 (HSWA) mandated dates for submittal of Part B permit applications. The dates for submitting dangerous

waste (excluding mixed waste units) Part B permit applications were as follows:

- Land disposal units: November 8, 1985 (all required Part B applications were submitted prior to this date)

- Incineration units: November 8, 1986 (not applicable for the Hanford Site)

- Treatment and storage units: November 8, 1988.

Part A permit applications for all mixed waste units that will be operating under interim status were due by May 23, 1988 (this date was met for all such known units). Part B permit applications for the disposal of mixed waste to land disposal units were due by November 23, 1988 (this date was met for all such known units), including the certification statement required by Section 3005(e)(2) of RCRA, that the unit is in compliance with the interim status groundwater monitoring requirements. There are no statutory Part B permit application dates for mixed waste treatment and storage units.

- Operational Requirements. Some operational considerations are important for maintaining or achieving environmental compliance, continuation of Hanford Site operations, or achieving cleanup in a cost-effective manner. Examples of such operational considerations include permitting a treatment unit for operation or accelerating closure actions to complement decontamination and decommissioning of related structures.

3.5 WASTE INFORMATION DATA SYSTEM AND HANFORD SITE WASTE MANAGEMENT UNITS REPORT

The Waste Information Data System (WIDS) is maintained by the DOE and identifies all waste management units on the Hanford Site. This data base will describe the current status of each unit (e.g., active/inactive, TSD, CERCLA past-practice or RCRA past-practice), and will include other descriptive information (e.g, location, waste types). A hard copy and/or an electronic data transfer (or equivalent) of the WIDS data base will be provided to the EPA and Ecology. Upon written request, the DOE will provide data from the WIDS data base within 14 days from receipt of request. If additional time is required, the DOE will notify the requestor within three days of receipt of the request. A change control system is provided as part of the WIDS data base to document and trace all changes dealing with current status on a unit.

The WIDS data base provides the basis for the Hanford Site Waste Management Units Report (HSWMUR). The HSWMUR was initially submitted to the EPA on May 15, 1987, in response to RCRA Section 3004(u) of the HSWA. This document lists all known waste management units (including unplanned release units) at the Hanford Site and summarizes the wastes handled, dates of use,

and other information about each unit. In January of each year the DOE will reissue the HSWMUR, if determined necessary by the project managers, incorporating all changes since the last report. A copy will be provided to each public information repository.

4.0 PROJECT AND UNIT MANAGERS

4.1 PROJECT MANAGERS

The EPA, DOE, and Ecology shall each designate one individual who will serve as project manager and who will be the primary point of contact for all activities to be carried out under this action plan. The current project managers are identified in Appendix E.

The primary responsibilities of the project managers are as follows:

- Implement the scope, terms, and conditions of this action plan
- Approve work schedule annual updates and other revisions discussed in Section 11.3
- Direct and provide guidance to their unit managers
- Maintain effective communication among the project managers, and report status to their respective management.

Subject to the limitations set forth in Article XXXVII (Access) of the Agreement and, in addition to other authorities and responsibilities, the Ecology and EPA project managers, or their designated representative(s), shall have the authority to: (1) take samples, request split samples of the DOE samples, and ensure that work is performed properly and pursuant to the EPA protocols as well as pursuant to the attachments and plans incorporated into this Agreement; (2) observe all activities performed pursuant to this Agreement, take photographs, and make sure other reports are prepared on the progress of the work as the project manager deems appropriate; and (3) review records, files, and documents relevant to this Agreement. In addition, the project manager for the EPA or Ecology has authority to require changes to any procedural, design, or specification document that is referenced in a supporting work plan. Such required changes will be subject to the appropriate dispute resolution process as specified in the Agreement.

The DOE project manager or his or her representative shall be physically present on the Hanford Site or reasonably available to supervise work performed at the Hanford Site during the performance of work pursuant to this Agreement and shall be available to the EPA and Ecology project manager for the pendency of this Agreement.

Other authorities and responsibilities are identified in the context of this action plan. The project managers may delegate their authority and responsibilities to the unit managers (see Section 4.2), as appropriate.

4.2 UNIT MANAGER ROLE

The EPA, DOE, and Ecology shall each designate an individual as a unit manager for each operable unit, each TSD group/unit, or other specific Agreement activity on which they participate. Unit managers will only be identified for those areas where effort is ongoing or planned in the near

future. A listing of currently assigned unit managers from all three parties shall be maintained and distributed to all parties by the DOE project manager. Each unit manager shall represent his/her respective party and keep his/her project manager informed on the status and any problems that arise.

In general, the EPA and Ecology will both assign a unit manager to each operable unit or separate TSD group/unit. The unit manager from the lead regulatory agency (see Section 5.6 for discussion of lead regulatory agency) shall be responsible for regulatory oversight of all activities required by this action plan for that operable unit or TSD group/unit.

The unit manager from the supporting regulatory agency shall serve as a liaison for his/her agency and shall stay informed of the general status of issues and problems encountered at the operable unit. The unit manager for the supporting regulatory agency shall be responsible for making decisions related to issues for which the supporting regulatory agency maintains authority. All such decisions shall be made in consideration of recommendations made by the unit manager for the lead regulatory agency.

5.0 INTERFACE OF REGULATORY AUTHORITIES

5.1 REGULATORY PROGRAMS

The RCRA, CERCLA, and State Dangerous Waste Program overlap in many areas. In general, CERCLA was created by Congress to respond to the release of hazardous substances and to investigate and respond to releases and potential releases from past-practice activities. The RCRA and State Dangerous Waste Program were created to prevent releases at active facilities that generate, store, treat, transport, or dispose of hazardous wastes or hazardous constituents. The RCRA, as amended by HSWA, also provides for corrective action for releases at RCRA facilities regardless of time of release. This section is intended to clarify how these various programs will interface to achieve an efficient regulatory program.

Regulatory decision making responsibility and associated signature authority shall remain with the regulatory agency having legal authority for those decisions, regardless of whether that agency is the lead regulatory agency for the work (see Section 5.6 for lead regulatory agency concept). For example, regulatory decisions with respect to regulated TSD units shall be made by Ecology (or EPA, for those HSWA provisions for which Ecology has not yet been authorized). Any regulatory decisions with respect to remedial action at past practice units shall be made by EPA for any units classified as a CERCLA past practice unit. For any unit classified as a RCRA past practice unit, EPA shall be the regulatory decision-maker for corrective action at that unit prior to HSWA corrective action authorization for the State, and Ecology shall be the regulatory decision-maker after such authorization.

5.2 CATEGORIES OF WASTE UNITS

There are three categories of units and related statutory or regulatory authorities that will be addressed under this action plan. These categories are TSD unit, RCRA past-practice (RPP) unit, and CERCLA past-practice (CPP) unit. The following definitions will be used consistently throughout the remainder of this document.

5.2.1 Treatment, Storage, and Disposal Unit

This is a unit that has received or is currently receiving RCRA hazardous waste and hazardous constituents after November 19, 1980, or State-only hazardous waste, as defined in 173-303 WAC, after March 12, 1982. It also includes units at which such wastes will be stored, treated, or disposed in the future, except as provided by 173-303-200 WAC (waste accumulation times that do not require permitting). The TSD units are those that must receive a RCRA permit for operation or postclosure care and/or that must be closed to meet State standards. Section 6.0 describes the processes to be used to permit and/or close TSD units.

5.2.2 RCRA Past-Practice Unit

The purpose of this category is to address releases of RCRA hazardous wastes or constituents from sources other than TSD units at the Hanford Site regardless of the date of waste receipt at the unit. This includes single-incident releases at any location on the Site and corrective action beyond the Site boundary. The HSWA corrective action authority is available for past-practice units, and consists of three separate components as follows:

- RCRA Section 3004(u). Section 3004(u) of RCRA provides authority for corrective action at waste management units at a facility seeking a RCRA permit. This includes units that received any solid waste, as defined in 40 CFR Part 261.2, including RCRA hazardous wastes or hazardous constituents, at any time. Hazardous constituents are those that are listed in 40 CFR Part 261 Appendix VIII. Those waste management units that will be addressed as RPP units under Section 3004(u) are so designated in Appendix C.

- RCRA Section 3004(v). RCRA Section 3004(v) specifies that corrective action to address releases from a RCRA facility will extend beyond the physical boundaries of the Site, to the extent necessary to protect human health and the environment. The EPA may implement RCRA Section 3004(v) in any situation where hazardous wastes or constituents are migrating off the Hanford Site. Section 3004(v) does not apply to releases within the boundary of the Hanford Site.

- RCRA Section 3008(h). RCRA Section 3008(h) is a broad corrective action authority that is applicable to the Hanford Site as long as RCRA interim status is maintained. It is more expansive than RCRA Section 3004(u), in that it can be used to address corrective action for any release of RCRA hazardous waste or constituents, including single-spill incidents, and can be used to address releases that migrate offsite.

5.2.3 CERCLA Past-Practice Unit

The CPP units include units that have received hazardous substances, as defined by CERCLA, irrespective of the date such hazardous substances were placed at the unit. Those waste management units that will be addressed as CPP units are so designated in Appendix C.

For the purposes of this action plan, it is necessary to distinguish between a CPP unit, an RPP unit, and a TSD unit. Any TSD unit, as defined in Section 5.2.1, will be classified as a TSD unit, rather than a CERCLA unit, even if it is investigated in conjunction with CPP units. The CPP and RPP units will be distinguished in accordance with Section 5.4.

5.3 MANAGEMENT OF TREATMENT, STORAGE, AND DISPOSAL UNITS

As previously stated, TSD units are identified in Appendix B. Any additional TSD units that are subsequently identified shall be added to Appendix B in accordance with the process described in Section 12.2.

Unless closed in accordance with Sections 6.3.1 or 6.3.3, TSD units shall be permitted for either operation or postclosure care pursuant to the authorized State Dangerous Waste Program (173-303 WAC) and HSWA. Prior to permitting or closure of TSD units, DOE shall achieve (in accordance with the work schedule contained in Appendix D) and maintain compliance with applicable interim status requirements. All TSD units that undergo closure, irrespective of permit status, shall be closed pursuant to the authorized State Dangerous Waste Program in accordance with 173-303-610 WAC.

5.4 MANAGEMENT OF PAST-PRACTICE UNITS

This section describes the rationale for placing units in either a RCRA or a CERCLA past-practice category for corrective action as defined below. In many cases, either authority could be used with comparable results. The categories are as follows:

- The CPP units, (see Section 7.3)
- The RPP units, under authority of RCRA Sections 3004(u), 3004(v), and 3008(h) (see Section 7.4).

Since the Hanford Site was proposed for inclusion on the National Priorities List (NPL) (Federal Register, June 24, 1988), and was placed on the NPL on November 3, 1989 (Federal Register, October 4, 1989), the parties agree that any units managed as RPP units shall address all CERCLA hazardous substances for the purposes of corrective action. The parties agree that all of the wastes regulated under the State Dangerous Waste Program (173-303 WAC) shall be addressed as part of any CERCLA remedial action or RCRA corrective action.

Section 121 of CERCLA, with provision for waivers in a limited number of circumstances, requires that remedial actions attain a degree of cleanup that meets "applicable or relevant and appropriate Federal and State environmental requirements" (ARAR). Accordingly, (1) all State-only hazardous wastes will be addressed under CERCLA, and (2) RCRA standards for cleanup or TSD requirements (as well as other applicable or relevant and appropriate Federal and State regulations) will be met under a CERCLA action (See Section 7.5 for further discussion of cleanup requirements). This eliminates many discrepancies between the two programs and lessens the significance of whether an operable unit is placed in one program or the other.

All past-practice units within an operable unit will be designated as either RPP units or CPP units. This designation will ensure that only one past-practice program will be applied at each operable unit. The corrective action process selected for each operable unit shall be sufficiently comprehensive to satisfy the technical requirements of both statutory authorities and the respective regulations.

If an operable unit consists primarily of past-practice units (i.e., no TSD units or relatively insignificant TSD units), CERCLA authority will generally be used for those past-practice units. The CERCLA authority will also be used for past-practice units in which remediation of CERCLA-only materials comprises the majority of work to be done in that operable unit.

The RPP authority will generally be used for operable units that contain significant TSD units and/or lower priority past-practice units.

Currently assigned RPP and CPP designations are shown in Appendix C. Further assignments will be made in accordance with Section 12.2 prior to initiation of any actions for those operable units.

The EPA and Ecology shall jointly determine whether an operable unit will be managed under the authority of RPP or CPP. Such designation may be changed due to the discovery of additional information concerning the operable unit. If a change in authority is proposed after the Remedial Investigation/ Feasibility Study (RI/FS) or RCRA Facility Investigation/ Corrective Measures Study (RFI/CMS) work plan, as described in Section 7.0, has been submitted to the lead regulatory agency (see Section 5.6 on discussion of lead regulatory agency), the change requires the agreement of all parties.

5.5 TREATMENT, STORAGE, AND DISPOSAL UNITS AND PAST-PRACTICE UNITS INTERFACE

In some cases, TSD units are closely associated with past-practice units at the Hanford Site, either geographically or through similar processes and waste streams. Although disposition of such units must be managed in accordance with Section 6.0, a procedure to coordinate the TSD unit closure or permitting activity with the past-practice investigation and remediation activity is necessary to prevent overlap and duplication of work, thereby economically and efficiently addressing the contamination. In Appendix B, selected TSD groups/units have been initially assigned to operable units based on the criteria defined in Section 3.3. If at a later date TSD groups/units need to be deleted from or added to an operable unit, the procedures defined in Section 12.2 will be used.

Ecology, the EPA, and DOE agree that past-practice authority may provide the most efficient means for addressing mixed-waste groundwater contamination plumes originating from a combination of TSD and past-practice units. However, in order to ensure that TSD units within the operable units are brought into compliance with RCRA and State hazardous waste regulations, Ecology intends, subject to part four of the Agreement, that all remedial or corrective actions, excluding situations where there is an imminent threat

to the public health or environment as described in Section 7.2.3, will be conducted in a manner which ensures compliance with the technical requirements of the HWMA (Chapter 70.105 RCW and its implementation regulations). In any case, the parties agree that CERCLA remedial actions and, as appropriate, HSWA corrective actions will comply with ARARs.

5.6 LEAD REGULATORY AGENCY CONCEPT

The EPA and Ecology have selected a lead regulatory agency approach to minimize duplication of effort and maximize productivity. Either the EPA or Ecology will be the lead regulatory agency for each operable unit. This concept combines TSD activity with past-practice unit activity in cases where TSD units are assigned to operable units.

The lead regulatory agency for a specific operable unit will be responsible for overseeing the activities covered by this action plan at that operable unit, ensuring that all applicable requirements are met. However, the EPA and Ecology retain their respective legal authorities and shall make the decisions on actions to be taken pursuant to those authorities. Regulatory oversight activity, including preparation of responses to documents submitted by the DOE, will be done by the lead regulatory agency for each operable unit. The regulatory agency that is not the lead regulatory agency will be designated as the supporting regulatory agency. The role of the supporting regulatory agency will be to assist the lead regulatory agency as needed, and to make decisions on those issues for which it has legal authority.

The assignment of the lead regulatory agency for an operable unit will be based on the following criteria.

- The EPA will generally be the lead regulatory agency in the following cases:
  - Operable units that contain no TSD units or that contain low-priority TSD units
  - Operable units that contain primarily CERCLA-only materials.
- Ecology will generally be the lead regulatory agency in the following cases:
  - Operable units that consist of major TSD units, with limited past-practice units
  - Operable units that contain higher priority TSD units and lower priority past-practice units.

In some cases, the above criteria may overlap, such that either the EPA or Ecology could be assigned as the lead regulatory agency. In this situation, other criteria would be used, such as available resources to undertake additional work in a timely manner, the designation and characteristics of an adjoining operable unit, or whether the characteristics

of a given operable unit are similar to the characteristics of another operable unit that has already been managed by either agency.

Currently assigned lead regulatory agency designations are shown in Appendix C. Additional assignments will be made in accordance with Section 12.2 prior to any action on the operable unit. The lead regulatory agency for each operable unit shall maintain its role through completion of all remedial or corrective actions at the operable unit.

The decision as to which agency will assume the lead role at an operable unit will be a joint determination by the EPA and Ecology. Such determinations are subject to change based on additional information subsequently discovered concerning an operable unit, or for any other reason, as agreed upon by the EPA and Ecology. The parties intend that once the lead regulatory agency has been assigned to an operable unit and the RI/FS (or RFI/CMS) work plan, as described in Section 7.0, has been approved, the lead regulatory agency designation will not change except for an extreme circumstance.

5.7 INTEGRATION WITH THE NATIONAL ENVIRONMENTAL POLICY ACT

The purpose of the NEPA requirements is to ensure that potential environmental impacts of investigation and cleanup activity are assessed. These assessments, when determined to be required, will be made primarily as part of the CERCLA remedial action and RCRA corrective action processes. These processes will be supplemented, as necessary, to ensure compliance with NEPA requirements.

6.0 TREATMENT, STORAGE, AND DISPOSAL UNIT PROCESS

6.1 INTRODUCTION

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

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

Some of the TSD groups/units (primarily land disposal units) have been included in operable units, as discussed in Section 3.3, and will in most cases be investigated on a separate priority schedule, as discussed in Section 3.4. When this situation exists, the Part B permit application and/or closure plan will be prepared concurrently with the operable unit investigation.

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

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

In accordance with Milestone M-26-00, DOE will submit the "Hanford Land Disposal Restrictions Plan for Mixed Wastes," (LDR Plan) to EPA and Ecology. This plan will describe a process for managing mixed wastes subject to LDR at the Hanford Site and will identify actions which will be taken by DOE to achieve full compliance with LDR requirements.

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

in Section 12.0. When Ecology receives authorization from EPA to implement the LDR provisions of RCRA pursuant to Section 3006 of RCRA, Ecology will review and approve the annual reports, plans, and schedules in consultation with EPA, and will otherwise administer the LDR requirements.

6.2 TREATMENT, STORAGE, AND DISPOSAL PERMITTING PROCESS

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

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

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

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

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

Ecology shall normally be responsible for drafting permit conditions related to HSWA requirements. In addition, Ecology will work with EPA on HSWA issues and related policy development associated with implementation regarding mixed waste sites. Until the HSWA provisions have been delegated from EPA to Ecology through the authorization process, EPA will maintain final approval rights for those permit conditions pursuant to HSWA authority that have not been delegated. Therefore, certain conditions of the joint permit will be enforceable by Ecology, others will be enforceable by EPA, and some conditions will be enforceable by both agencies. The permit will identify which conditions are enforceable by each agency.

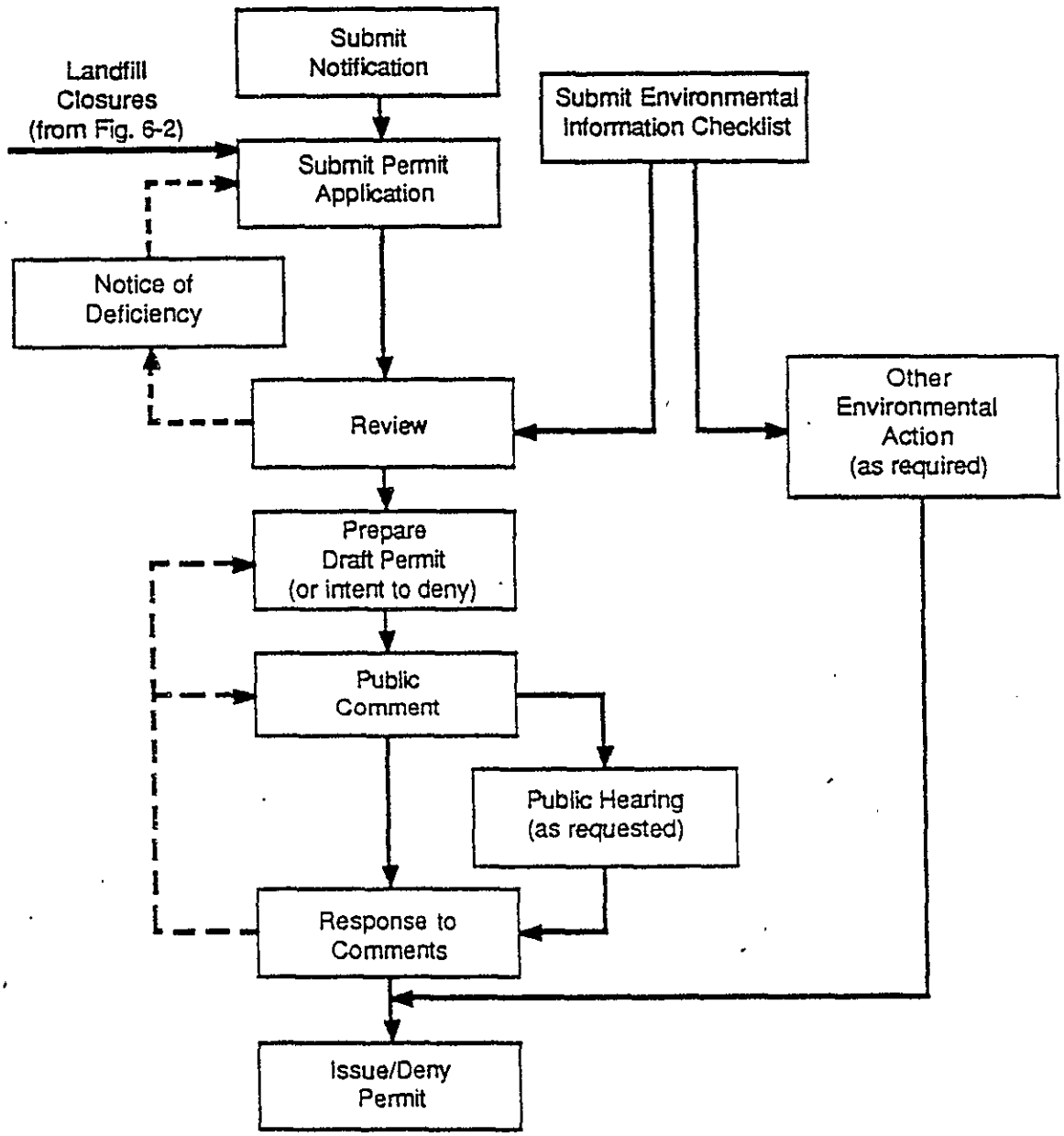


Figure 6-1. Permitting Process Flowchart.

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Disputes concerning RCRA requirements prior to partial or final delegation will be addressed in accordance with Article VIII of the Agreement for those relevant portions for which Ecology has authority, and in accordance with Article XV of the Agreement for those portions for which EPA retains authority.

Ecology will have the responsibility for drafting the permit or permit modifications for all TSD groups/units that are not assigned to operable units. When TSD groups/units are assigned to operable units, the lead regulatory agency, as described in Section 5.6, will be responsible for ensuring that the Part B permit application is complete, preparing the Notices of Deficiency (NOD) to the DOE, as necessary, and drafting the permit. The supporting regulatory agency will lend support to the process as needed.

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

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

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

6.3 TREATMENT, STORAGE, AND DISPOSAL CLOSURE PROCESS

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

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

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

- For treatment or storage units within a radioactive structure [e.g., the Plutonium/Uranium Extraction (PUREX) Plant] it may be possible to remove all hazardous wastes and "clean close" (see Section 6.3.1). The radioactive constituent would then remain for a future decontamination and decommissioning effort of the entire structure.

- For a land disposal unit being closed in conjunction with an operable unit, initial investigation may show that the unit no longer contains hazardous waste or constituents. Therefore, the unit may be "clean closed" with no physical closure action. Any remaining CERCLA-only materials would be addressed as part of the past-practice process as designated for that operable unit.

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

6.3.1 Clean Closure

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

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

6.3.2 Closure as a Land Disposal Unit

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

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

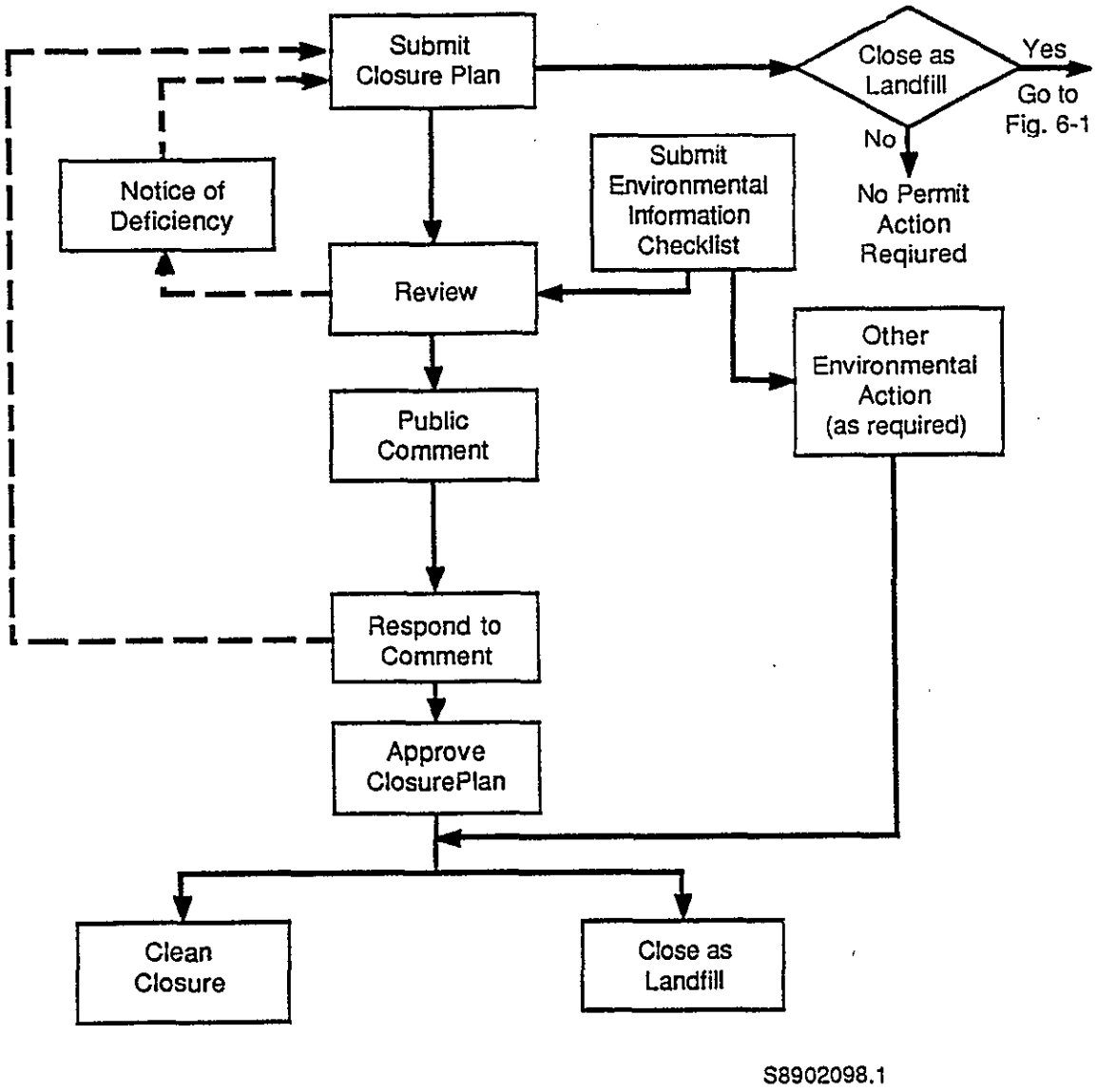


Figure 6-2. Closure Process Flowchart.

disposal unit prior to issuance of a permit for postclosure, an interim status postclosure plan will accompany the closure plan.

6.3.3 Procedural Closure

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

6.4 RESPONSE TO IMMINENT AND SUBSTANTIAL ENDANGERMENT CASES

The State of Washington Dangerous Waste Regulations, 173-303-960 WAC, addresses actions to abate an imminent and substantial endangerment to the health or the environment from the releases of dangerous or solid wastes. Ecology will require DOE to either take specific action to abate the danger or threat, or will require a specific submittal date for DOE to propose an abatement method. If the EPA (as lead regulatory agency) determines that such a situation exists at a TSD unit, a recommendation will be made to Ecology for appropriate action.

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

6.5 QUALITY ASSURANCE

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

The QA/QC requirements shall range from those necessary for non-laboratory field screening activities to those necessary to support a comprehensive laboratory analysis that will be used in final decision-making. This range of QA/QC options is included in the "Data Quality Strategy for Hanford Site Characterization" (as listed in Appendix F). This document is subject to approval by EPA and Ecology.

Based upon the data quality objectives, the DOE shall comply with EPA guidance documents for QA/QC and sampling and analysis activities which are taken to implement the Agreement. Such guidance includes:

- "Guidelines and Specifications for Preparing Quality Assurance Program Plans" (QAMS-004/80);
- "Interim Guidance and Specifications for Preparing Quality Assurance Project Plans" (QAMS-005/80);
- "Data Quality Objectives for Remedial Response Activities" (EPA/540/G-87/003 and 004); and
- "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (EPA/SW-846).

In some instances, RCRA TSD units are included in operable units and are scheduled for investigation and closure as part of the operable unit remedial action. DOE shall follow the provisions of Section 7.8 for QA/QC for sampling and analysis activities at these land disposal units.

In regard to QA requirements for construction of RCRA land disposal facilities, DOE shall comply with "Technical Guidance Document: Construction Quality Assurance for Land Disposal Facilities" (EPA/530-SW-86-031).

For analytical chemistry and radiological laboratories, the QA/QC plans must include the elements listed in "Guidance on Preparation of Laboratory Quality Assurance Plans" (as listed in Appendix F). DOE shall submit laboratory QA/QC plans to EPA and Ecology for review as secondary documents prior to use of that laboratory. In the event that DOE fails to demonstrate to the lead regulatory agency that data generated pursuant to this Agreement was obtained in accordance with the QA/QC requirements of this section, including laboratory QA/QC plans, DOE shall repeat sampling or analysis as required by the lead regulatory agency. Such action by the lead regulatory agency shall not preclude any other action which may be taken pursuant to this Agreement. For other data, Ecology or EPA may request DOE to provide QA/QC documentation. Any such data that does not meet the QA/QC standards required by this section shall be clearly flagged and noted to indicate this fact.

7.0 PAST PRACTICES PROCESSES

7.1 INTRODUCTION

This section has the following five purposes.

- Describe the processes that are common to both CPP units and RPP units (Section 7.2).
- Describe the steps to be followed if the past-practice units at a given operable unit are to be managed through the CERCLA process (Section 7.3).
- Describe the steps to be followed if the past-practice units at a given operable unit are to be managed through the RPP unit process (Section 7.4).
- Describe the process for setting cleanup standards for any CPP or RPP remedial action (Section 7.5).
- Describe the role of other Federal agencies in the investigation and remedial action processes (Sections 7.6 and 7.7).

Approximately 1,400 waste management units have been identified within the boundaries of the 560-square mile Hanford Site. This includes approximately 1,000 past-practice units. Most past-practice units are located in two general geographic areas as identified by the DOE (the 100 and 200 Areas). Other past-practice units are located in the 300, 1100 and other areas of the Hanford Site.

The 100, 200, 300, and 1100 Areas were identified as aggregate areas for inclusion of the Hanford Site on the CERCLA NPL. Figure 7-1 reflects these geographic areas at the Hanford Site. Each of these areas has a unique environmental setting and waste disposal history. The four aggregate areas were proposed for inclusion on the NPL on June 24, 1988, and were placed on the NPL on November 3, 1989 (Federal Register, October 4, 1989)." The remaining past-practice units from other areas have been assigned to operable units within one of the four aggregate areas for the purpose of investigation and subsequent action. Any future units that may be identified will also be assigned to operable units within an aggregate area.

Cleanup of past-practice units will be conducted pursuant to either the CERCLA process (Section 7.3) or RCRA process (Section 7.4). Figure 7-2 highlights the major steps involved in both the CPP and RPP programs and indicates how each of these steps is related to a comparable step in the other program. It shows that the steps of CERCLA are functionally equivalent to steps in the RPP program. Accordingly, the investigative process at any operable unit can proceed under either the CPP or the RPP program.

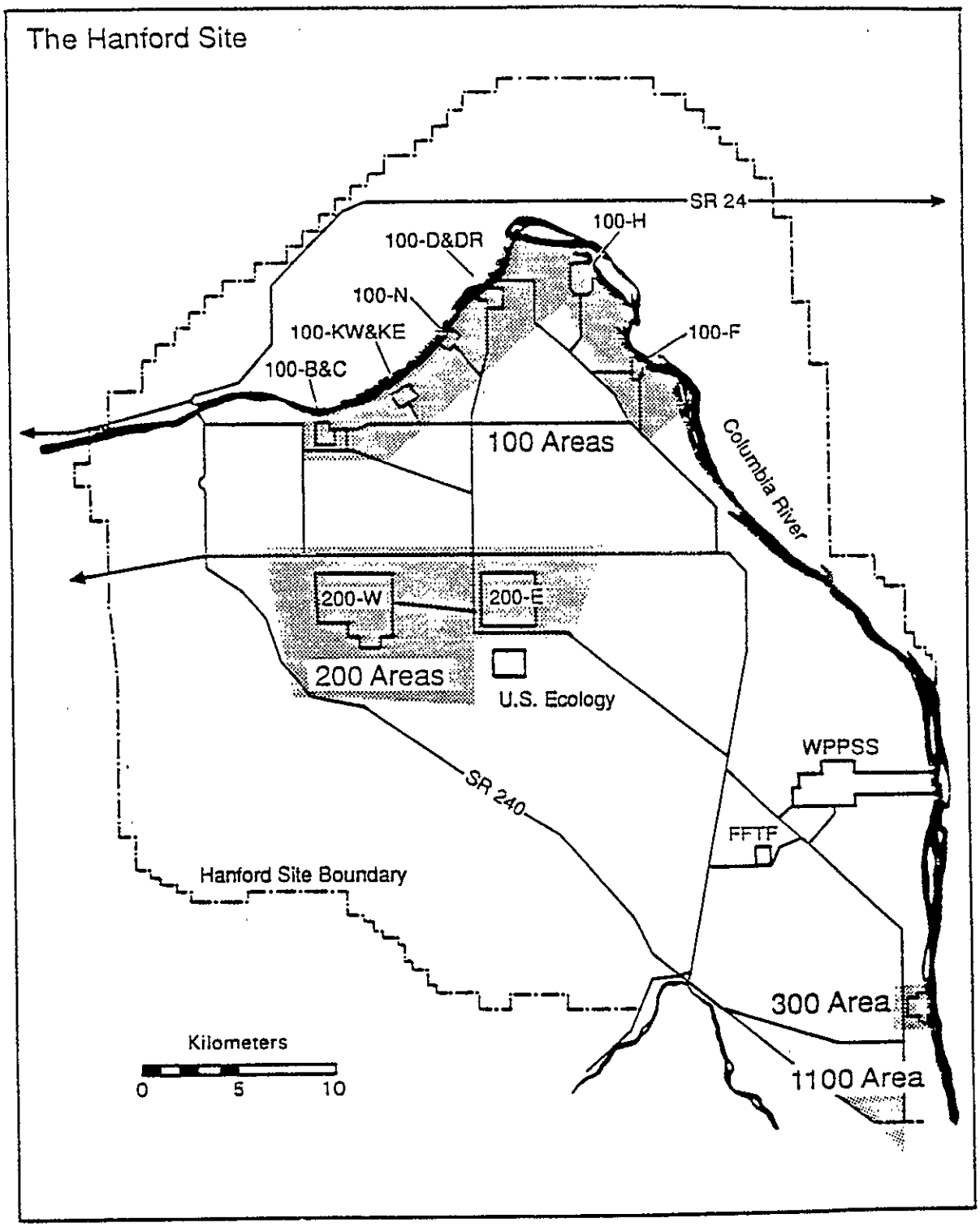
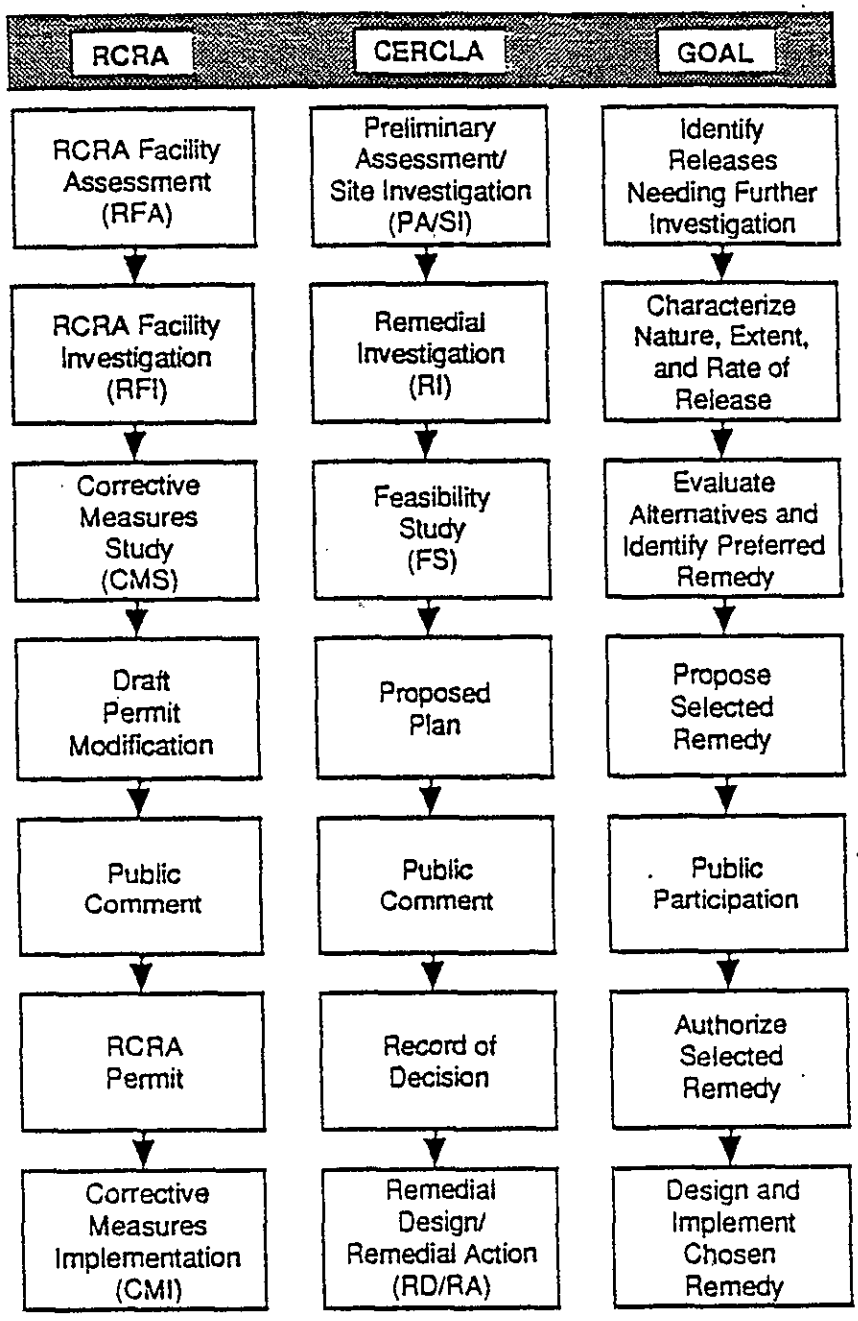


Figure 7-1. Aggregate Areas.



CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act

RCRA = Resource Conservation and Recovery Act

Note: Interim remedial actions or interim measures can be performed at any point in the remedial/corrective action process.

Figure 7-2. Comparison of Resource Conservation and Recovery Act Corrective Action and Comprehensive Environmental Response, Compensation, and Liability Act Remedial Processes.

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7.2 PRELIMINARY PROCESSES

Section 5.4 describes the rationale for managing operable units under either the CPP or the RPP category. The following processes apply to all past-practice units, regardless of whether they are classified as RPP or CPP units.

7.2.1 Site-wide Scoping Activity

An ongoing scoping activity will be conducted on a site-wide basis to maintain a current listing of operable unit boundaries and priorities. The primary vehicle for documentation of this activity will be the Hanford Operable Units Report. The Hanford Operable Units Report, as described in Section 3.3, will be updated as additional information becomes available.

Although initial operable unit boundaries have been identified (Appendix C), the site-wide scoping activity may reveal additional or new information that could impact either the designation of individual units within operable units or the priority in which operable units will be managed. Any such changes will require the written concurrence of the project managers for the EPA, Ecology, and the DOE, in accordance with the modification procedures described in Section 12.2.

The site-wide scoping activities will not impact the schedule of any other activities that are shown on the work schedule (Appendix D).

7.2.2 Operable Unit Scoping Activity

The operable unit scoping activity will be used to support the initial planning phase for each RI/FS (or RFI/CMS). Such activity and planning will result in an overall management strategy for each operable unit. The DOE shall assemble and evaluate existing data and information about the individual waste management units and release sites within each operable unit. The data and information obtained during each operable unit scoping activity will be used to support the logic for the RI/FS (or RFI/CMS) work plan and, therefore, will be submitted as part of each work plan.

This scoping activity is not intended to be a mechanism for generation of new information except for site survey and screening activities described in Section 7.3.2, but a thorough and complete evaluation of existing data. The schedule for submittal of the work plans, as specified in the work schedule (Appendix D), allows time for inclusion of the scoping activity.

The following is a list of specific scoping activities that will be addressed in each RI/FS (RFI/CMS) work plan:

- Assessment of whether interim response actions (IRA) or interim measures (IM) may be necessary. Such assessments will be documented as part of the work plan and may result in IRA or IM proposals

- Assessment of available data and identification of additional data needs
- Identification of potential ARARs (see Section 7.5)
- Identification of potential remedial responses.

7.2.3 Response to Imminent and Substantial Endangerment Cases

In the event that a situation is determined by the lead regulatory agency to represent an imminent and substantial endangerment to the public health or welfare or the environment because of an actual or threatened release of a hazardous substance or hazardous waste or solid waste at an operable unit, the lead regulatory agency may require the DOE to immediately initiate activities to abate the danger or threat. Both CERCLA and RCRA include provisions to quickly respond to such situations. Section 106 of CERCLA addresses imminent and substantial endangerments from releases of hazardous substances and Section 7003 of RCRA addresses imminent hazards from releases of solid or hazardous wastes. If the operable unit is being managed under the CPP procedures, abatement in accordance with Section 106 of CERCLA and the applicable sections of the National Contingency Plan (NCP) (40 CFR Part 300) is preferred. If the operable unit is being managed under the RPP procedures, abatement under the provisions of Section 7003 of RCRA will be preferred. If the operable unit has not yet been assigned to either the CPP or RPP process, the EPA and Ecology will jointly choose an authority to address the imminent and substantial endangerment.

The lead regulatory agency either shall specify the abatement method or shall specify a submittal date for DOE's proposed abatement method. In addition, the DOE may voluntarily submit a proposed method for abatement to the lead regulatory agency at any time. In cases involving a proposed method for abatement, the EPA must approve the DOE's proposal prior to initiation of field work. When Ecology is designated as the lead regulatory agency, Ecology shall recommend the selection of remedy to the EPA for approval. The final selection of remedy for an abatement action shall be consistent, to the extent practicable, with the final selection of remedial action (for CPP units) or corrective measures (for RPP units) anticipated for the unit(s).

To expedite the cleanup process, neither the specified abatement method nor the proposal for abatement will be subject to the public comment process, except as provided by Section 7003 of RCRA. However, the public will be kept informed of the status of the abatement process through other means as described in Section 10.0. After completion of all required abatement activity, the routine RI/FS or RFI/CMS process will be implemented, or continued, in accordance with the work schedule (Appendix D). The procedures specified in Section 7.3 or 7.4, respectively, will be followed.

7.2.4 Interim Response Action and Interim Measure Processes

If data or information acquired at any time indicate that an expedited response is needed or appropriate because of an actual or threatened release from a past-practice unit, the lead regulatory agency may require the DOE to submit a proposal for an expedited response at that unit. In addition, the DOE may submit such a proposal at any time, without request from the lead regulatory agency.

Both CERCLA and RCRA include provisions for expedited responses. These expedited responses will be reserved for situations in which an expedited response is determined to be warranted by the lead regulatory agency. An IRA refers to the CERCLA process and an IM refers to the RCRA process. The IRA or IM process will be used in cases where early remediation will prevent the potential for an imminent and substantial endangerment or an imminent hazard to develop. It may also be used in cases where a single unit within an operable unit is a high priority for action, but the overall priority for the operable unit is low. In this way, a specific unit or release at an operable unit can be addressed on an expedited schedule, when warranted.

In addition to the CERCLA and RCRA authorities, Section 2 of Executive Order 12580, dated January 29, 1987, allows the DOE to implement removal actions in circumstances other than emergencies. To the extent that a removal action taken by the DOE under Executive Order 12580 could be inconsistent with the CERCLA or RCRA processes, or if such action could alter the schedules as set forth in Appendix D, the concurrence of all project managers shall be required prior to initiation of field work.

If the operable unit is being managed under the CPP procedures, an IRA proposal shall be submitted by the DOE to the lead regulatory agency, and the IRA shall be conducted in accordance with 40 CFR Part 300 Subpart E. If the operable unit is being managed under the RPP procedures, the IM proposal shall be submitted to the lead regulatory agency, and the IM shall be conducted in accordance with applicable regulations. If the operable unit has not yet been assigned to either the CPP or RPP process, the EPA and Ecology will jointly choose an authority to address the expedited response.

Any proposal for an IRA or an IM must be approved by the EPA prior to initiation of field work. When Ecology is designated as the lead regulatory agency, Ecology shall recommend the selection of remedy to the EPA for approval. The selection of remedy for an IRA or an IM shall be consistent, to the extent practicable, with anticipated alternatives for final selection of remedial action (for CPP units) or corrective measures (for RPP units).

Public comment on the IRA proposal, as well as other public participation opportunities, will be provided as described in Section 10.0.

7.3 COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT PAST-PRACTICE UNIT PROCESS

The purpose of this subsection is to provide an overview of the CPP unit process to be used at the Hanford Site to initiate effective, timely, and environmentally sound cleanup of operable units handled under CERCLA. This includes a description of the RI/FS process, followed by a short discussion of the remedial design (RD), remedial action (RA), and operation and maintenance (O&M) phases.

7.3.1 Preliminary Assessment/Site Inspection

The Preliminary Assessment/Site Inspection (PA/SI) is used as an initial screening step to determine whether a site should be nominated for the CERCLA NPL. For the Hanford Site, the information necessary to make that determination was provided to the EPA in 1987 by the DOE. The EPA determined that this information was functionally equivalent to a PA/SI. Based on that information, the Hanford Site was ranked and then nominated for inclusion on NPL on June 24, 1988 (Federal Register Vol. 53, No. 122, p. 23988). The four aggregate areas of the Hanford Site were officially placed on the NPL effective November 3, 1989 (Federal Register Vol. 54, No. 191, p. 41015). Therefore, there is no need to continue a PA/SI activity for the Hanford Site. Efforts will proceed directly to the scoping activities previously discussed and the RI/FS process. Figure 7-3 shows the normal sequence of events that occur during the RI/FS process.

7.3.2 Remedial Investigation/Feasibility Study Work Plan for Each Operable Unit

The RI/FS work plan is a primary document, as described in Section 9.0. The lead regulatory agency will provide comments on each RI/FS work plan that is submitted by the DOE. The RI/FS work plan will be made available for public comment for a period of 30 days, in accordance with the procedures described in Section 10.0. On a case-by-case basis, the unit managers may agree to extend the comment period to 45 days. Following public comment, the lead regulatory agency will require the DOE to make appropriate changes to the RI/FS work plan, based on review of public comments received, and will approve the work plan. At that time, the work schedule (Appendix D) may need to be modified to accurately reflect the RI/FS work plan schedule. Such modification will be made by the project managers in accordance with the procedures described in Section 12.0. At that time, the EPA and Ecology will publish the RI/FS schedule, in accordance with CERCLA Section 120(e)(1) and as specified in Article XVI of the Agreement. As additional information becomes available during the RI/FS process, the RI/FS work plan may be revised.

The RI/FS work plan will include or reference seven interrelated components as they pertain specifically to RI/FS activities at any given operable unit. These components, prepared in accordance with current EPA guidance documents, include the following:

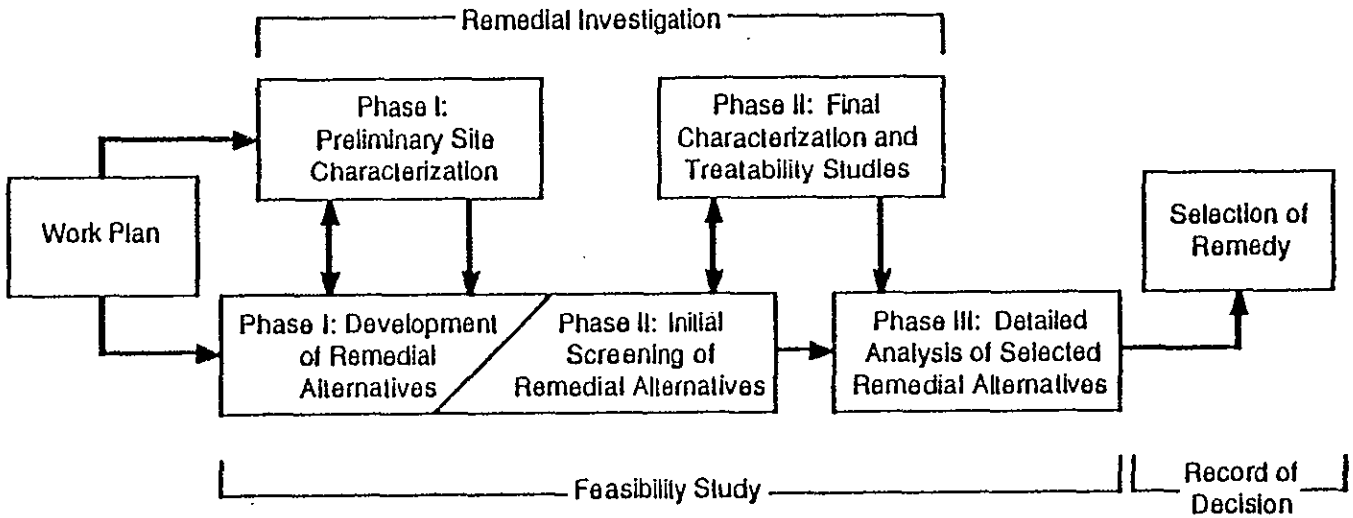

Figure 7-3. Overview of the Remedial Investigation/Feasibility Study Process.

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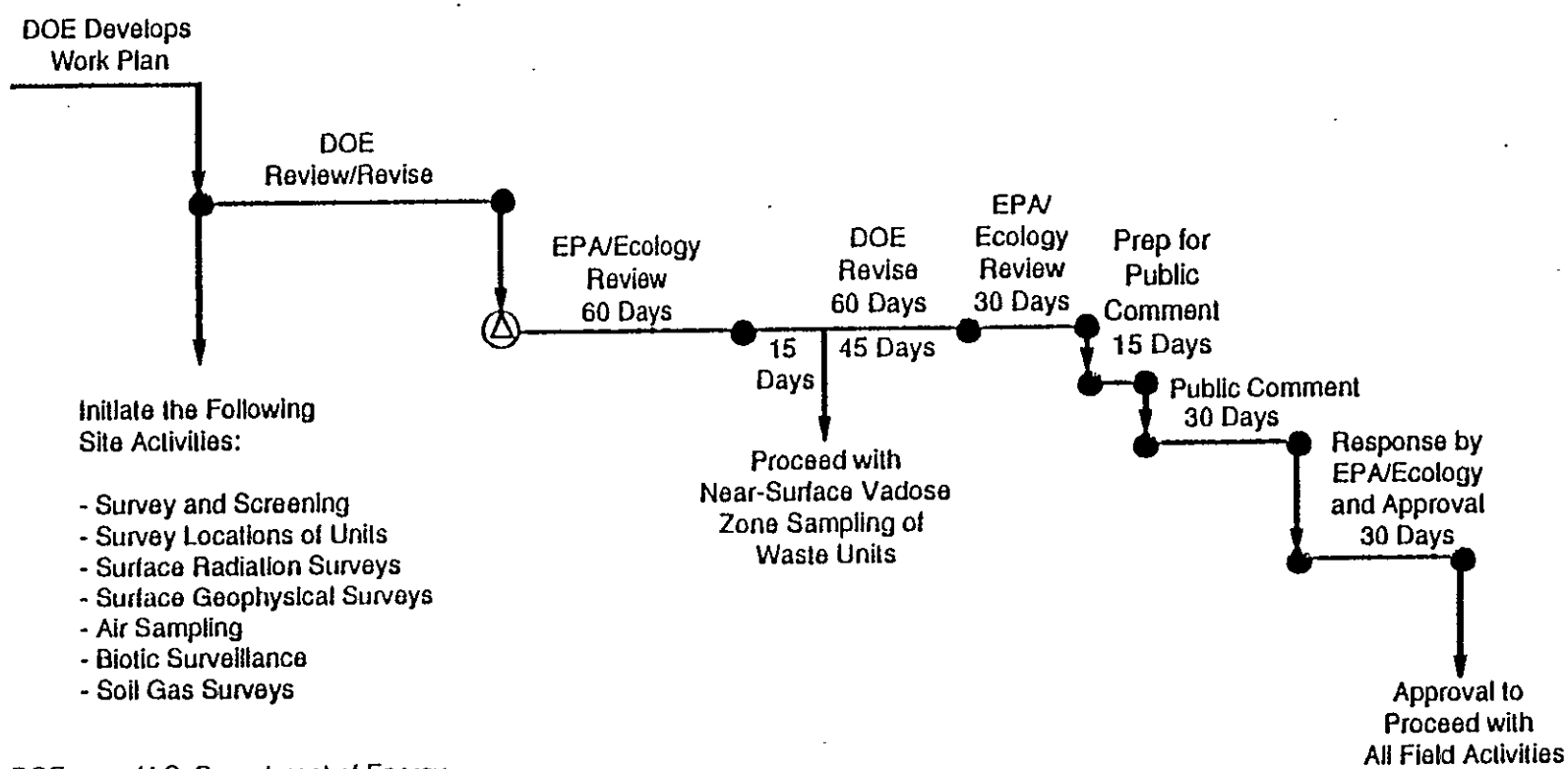
- Technology
- Quality assurance/quality control
- Project management
- Sampling and analysis
- Data management
- Health and safety
- Community relations.

Every effort will be made to standardize these across RI/FS work plans to minimize the time and resources required for preparation and review. The community relations component will be prepared and issued as a separate formal plan as described in Section 10.0 and will then be referenced in each RI/FS work plan.

The following site survey and screening activities may precede submittal of the RI/FS work plan, and are a continuation of the operable unit scoping activity described in Section 7.2.2:

- Survey location of sites
- Surface radiation
- Surface geophysical surveys
- Air sampling
- Soil gas surveys
- Biotic surveillance.

This will allow for a quicker start of characterization activities upon approval of the RI/FS work plan. The results of the site survey and screening activities will be factored into the work plan, as appropriate, during the review and approval process. In addition, to further expedite the process, near-surface vadose zone sampling activities may commence after 2 weeks following the receipt of comments from the lead regulatory agency on the initial draft of the RI/FS work plan if comments from the lead regulatory agency regarding vadose zone sampling have been resolved. Following the public comment period on the work plan, the lead regulatory agency may require the DOE to modify or add to these preliminary activities as necessary to resolve any issues raised by the public. Figure 7-4 depicts the normal review and approval cycle, including public comment, for primary documents (see Section 9.0) as applied to the RI/FS work plans. Figure 7-4 also applies to RFI/CMS work plans, which are discussed in Section 7.4.2.



DOE = U.S. Department of Energy
Ecology = State of Washington Department of Ecology
EPA = U.S. Environmental Protection Agency

Figure 7-4. Remedial Investigation/Feasibility Study (Resource Conservation and Recovery Act Facility Investigation/Corrective Measures Study) Work Plan Review and Approval.

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7.3.3 Remedial Investigation--Phase I

The first phase of the remedial investigation (RI) will focus on defining the nature and extent of contamination through field sampling and laboratory analysis. This will include characterization of waste types, migration routes, volume, and concentration ranges. This information will be used to further develop cleanup requirements.

The DOE will initiate those activities necessary to characterize and assess risks, routes of exposure, fate and transport of contaminants, and potential receptors. It is anticipated that because of the limited data available during this phase to adequately assess risks, including environmental pathways and expected exposure levels, this analysis will be further developed during the feasibility studies (FS).

In some cases, treatability investigations at an operable unit will involve minimal activity. In other cases, treatability investigations at a previously investigated operable unit may be used at other operable units whenever warranted by site-specific conditions. When these situations exist, it is possible to expedite the RI/FS process by combining the RI Phase I activity with the RI Phase II activity. Any decision to combine the RI Phases I and II must be agreed to in writing by the project manager of the lead regulatory agency, in accordance with the procedures described in Section 12.2, unless it was agreed to during the initial approval of the RI/FS work plan.

The actual schedule for conducting the RI Phase I will be specified for each operable unit in the work schedule (Appendix D). The RI Phase I report is a secondary document, as described in Section 9.0. In cases where the RI Phases I and II have been combined, a RI Phases I and II report shall be prepared by the DOE and submitted to the lead regulatory agency as a primary document, as described in Section 9.0.

7.3.4 Feasibility Study--Phase I

The FS Phase I will be conducted by the DOE for the purpose of developing an array of alternatives to be considered for each operable unit. The DOE will develop the alternatives for remediation by assembling combinations of technologies, and the media to which the technologies could be applied, into alternatives. The alternatives will address all contamination at each operable unit.

The FS Phase I process will begin during the RI Phase I process when sufficient data are available. Such data will consist of analytical data obtained during the RI, as well as historical information regarding waste management units at the operable unit.

Because of the direct relationship between FS Phase I (development of alternatives) and FS Phase II (screening of alternatives--Section 7.3.5), the two phases will be conducted concurrently. This approach should save several months in the RI/FS process, without sacrificing quality of work.

Since Phases I and II of the FS will be finished at the same time, the information from both phases will be submitted to the lead regulatory agency in a single FS Phases I and II report.

7.3.5 Feasibility Study--Phase II

The FS Phase II will be a screening step to reduce the number of treatment alternatives for further analysis while reserving a range of options. Screening will be accomplished by considering the alternatives based on effectiveness, implementability, and cost factors. Cost may be used as a factor when comparing alternatives that achieve acceptable standards of performance.

Innovative technologies will be carried through the screening process if they offer the potential for better treatment performance or implementability, fewer or less adverse impacts than other available technologies, or lower costs than demonstrated technologies with comparable environmental results.

As stated in Section 7.3.4, Phases I and II of the FS will be conducted concurrently. Therefore, the FS Phase II will begin as soon as sufficient data from the RI Phase I is obtained. The actual schedule for conducting the FS Phases I and II will be specified for each operable unit in the work schedule (Appendix D). The FS Phases I and II report, is a primary document as described in Section 9.0.

7.3.6 Remedial Investigation--Phase II

This second phase of the RI will focus on collecting data sufficient to substantiate a decision for remedy selection. A supplemental work plan to the RI/FS work plan will be prepared to cover the RI Phase II activities. This work plan will be placed in the Public Information Repositories. After a literature search is conducted to consider the applicability of various remediation alternatives, treatability investigations may be performed for particular technologies. Additional field data will be collected as needed to further assess alternatives. Treatability investigation work plans will be submitted by DOE to EPA and Ecology when the investigation is related to a specific operable unit per the RI/FS work plan. When a proposed treatability investigation is not specific to an operable unit, the work plan will be submitted to EPA and Ecology per the work schedule in Appendix D. The lead regulatory agency shall determine on a case-by-case basis whether a treatability investigation work plan is a primary document or a secondary document (see Section 9.1) during development of the applicable RI/FS (or RFI/CMS) work plan. For those treatability investigation work plans developed outside of a specific operable unit, both EPA and Ecology shall determine if it is a primary document or secondary document during development of the work schedule. These determinations will be based on the scope, complexity, and significance of the proposed investigation.

Upon completion of the treatability investigation, DOE shall submit a treatability investigation report to EPA and Ecology, documenting the findings

of the investigation and applicability to the remedial action project. The treatability investigation report is a secondary document (see Section 9.1).

The actual schedule for conducting the RI Phase II will be specified for each operable unit in the work schedule (Appendix D). The RI Phase II report is a primary document as described in Section 9.0. Where the RI Phase I and Phase II activities have been combined (see Section 7.3.3), the resulting RI Phases I and II report would also be a primary document.

7.3.7 Feasibility Study--Phase III and Proposed Plan

The treatment alternatives passing through the initial screening phases will be analyzed in further detail against a range of factors and compared to one another during the FS Phase III. This final screening process will begin once the FS Phases I and II report is approved by the lead regulatory agency.

The determination for the preferred alternative will be made based on the following general criteria:

- Does the alternative protect human health and the environment and attain ARARs
- Does the alternative significantly and permanently reduce the toxicity, mobility, and volume of hazardous constituents
- Is the alternative technically feasible and reliable.

In addition, the costs of construction and the long-term costs of operation and maintenance will be considered.

The actual schedule for conducting the FS Phase III will be specified for each operable unit in the work schedule (Appendix D). A FS Phase III report will be prepared by the DOE documenting the results of the RI/FS. The FS Phase III report is a primary document as described in Section 9.0.

With consideration of all information generated through the RI/FS process, the DOE shall prepare a proposed plan. This proposed plan is required by CERCLA Section 117(a). The proposed plan must describe an analysis of the feasible alternatives and clearly state why the proposed remedy is the most appropriate for the operable unit, based on written EPA guidance and criteria. Once the lead regulatory agency has concurred on the proposed plan, and the FS Phase III report, the documents will be made available for public review and comment in accordance with the procedures described in Section 10.0. Public review of the proposed plan will provide opportunity for consideration of two additional criteria in preparation of the record of decision. These criteria are State and community preference or concerns about the proposed alternatives.

7.3.8 Record of Decision

After the public comment period on the FS Phase III report and the proposed plan has closed, the record of decision (ROD) process will begin. The ROD will be prepared by the lead regulatory agency and will describe the decision making process for remedy selection, and summarize the alternatives developed, screened, and evaluated in accordance with CERCLA and the NCP. The lead regulatory agency is responsible for reviewing the comments received and will prepare a responsiveness summary that will accompany the ROD. Although all of the RI/FS and preliminary determinations through the process of drafting the ROD will be the responsibility of the lead regulatory agency for a given operable unit, the ROD must be signed and published in the Federal Register by the EPA. The ROD will become part of the administrative record for each operable unit. The lead regulatory agency shall continue its role after issuance of the ROD, including oversight of the remedial design and remedial action phases, as described below.

7.3.9 Remedial Design Phase

Following issuance of the ROD, the remedial design (RD) phase will be initiated in accordance with a schedule agreed to by the project managers. Since any necessary treatability investigations have been performed during the RI Phase II, no additional investigations will be necessary, unless required by the lead regulatory agency. A number of items will be completed during the RD phase, including but not limited to the following:

- Completion of design drawings
- Specification of materials of construction
- Specification of construction procedures
- Specification of all constraints and requirements (e.g., legal)
- Development of construction budget estimate
- Preparation of all necessary and supporting documents.

An RD report will be prepared that includes the designs and schedules for construction of any remediation facility and development of support facilities (lab services, etc.). The RD report is a primary document as described in Section 9.0. The schedule for conducting the RD phase will be specified for each operable unit in the work schedule (Appendix D).

7.3.10 Remedial Action Phase

The remedial action (RA) phase will be initiated in accordance with a schedule agreed to by the project managers. The RA phase is the implementation of the detailed actions developed under the RD. The RA will include construction of any support facility, as specified in the RD report, as well as operation of the facility to effect the selected RA at that operable unit.

An RA work plan will be developed for each operable unit detailing the plans for RA. The RA work plan is a primary document as described in Section 9.0. The schedule for conducting the RA phase will be specified for each operable unit in the work schedule (Appendix D).

Upon satisfactory completion of the RA phase for a given operable unit, the lead regulatory agency shall issue a certificate of completion to the DOE for that operable unit. At the discretion of the lead regulatory agency, a certificate of completion may be issued for completion of a portion of the RA phase for an operable unit.

7.3.11 Operation and Maintenance

The operation and maintenance (O&M) phase will be initiated at each operable unit when the RA phase has been completed. This phase will include inspections and monitoring as described in the O&M plan. In all cases where waste or contamination is left in place as part of the RA, the O&M phase is expected to be a long-term activity. Where waste or contamination is left in place, the operable unit will be evaluated by the lead regulatory agency at least every 5 years during the O&M phase to determine whether continued O&M activity is indicated or further RA is required. The lead regulatory agency may conduct more frequent evaluations should data indicate this is necessary to ensure effective implementation of the RA. All O&M data and records obtained to that date, along with any additional information provided by the DOE, will be used in that evaluation.

In cases where all waste or contamination is removed or destroyed, a short period for the O&M phase for specific units within an operable unit may be specified by the lead regulatory agency. The lead regulatory agency may, where appropriate, allow for the O&M phase to be terminated for certain units within an operable unit while requiring O&M to be continued at other units. In these cases, certain units may be considered for delisting in accordance with the NCP, after the O&M phase has been completed.

The O&M plan is a primary document as described in Section 9.0. The schedule for conducting significant steps described in the O&M plan are specified for each operable unit in the work schedule (Appendix D).

7.4 RESOURCE CONSERVATION AND RECOVERY ACT PAST-PRACTICE UNIT PROCESS

The RPP processes are the subject of this Section. These authorities were introduced and generally described in Section 5.2. The RCRA Sections 3004(u), 3004(v), and 3008(h) became effective when Congress reauthorized RCRA on November 8, 1984. This reauthorization is known as the Hazardous and Solid Waste Amendments of 1984 (HSWA).

7.4.1 Resource Conservation and Recovery Act Facility Assessment

For those units that are defined as RPP units, (see definition in Section 7.1), the lead regulatory agency for an operable unit may require the DOE to conduct a RCRA facility assessment (RFA) of all or some of the RPP units within that operable unit. The need for an RFA is based on whether sufficient knowledge exists to determine if an RFI is required. Based on the results of the RFA, the lead regulatory agency may require additional information from the DOE, or it may determine that no further investigation or corrective action is required for any of the RPP units within the operable unit. Where Ecology is the lead regulatory agency prior to HSWA delegation, the project manager for the EPA must agree, in writing, before any individual unit is dismissed from further investigation requirements through the RFA. The project manager for the lead regulatory agency for that operable unit may direct the DOE to conduct a RFI based on results of the RFA.

The RFA will be developed in accordance with current applicable regulations, guidance documents, and written policy available at the time the RFA is begun. An RFA report will be prepared documenting the results of the RFA. The RFA report is a primary document as described in Section 9.0. If the lead regulatory agency determines that further investigation is necessary, the project manager for the lead regulatory agency will direct the DOE to prepare an RFI report, as described below.

In some cases, sufficient information may already exist that indicates that further investigation will be required. In these cases the RFA process will be bypassed and effort will be focused on the RFI/CMS. Figure 7-5 shows the normal sequence of events that occur during the RFI/CMS process.

7.4.2 Resource Conservation and Recovery Act Facility Investigation

Each RCRA Facility Investigation (RFI) will address all units within a specific operable unit, as identified in the RFI/CMS work plan. The RFI/CMS work plan will be functionally equivalent to an RI/FS work plan (see Section 7.3.2). Timing for submittal of the work plan will be in accordance with the work schedule (Appendix D).

An RFI report will be prepared by the DOE, and it will document the results of the RFI. The RFI report is a primary document as described in Section 9.0. The schedule for conducting the RFI will be specified for each operable unit in the work schedule (Appendix D). The parties agree that the information obtained through the RFI must be functionally equivalent to information gathered in the CERCLA process through the RI Phases I and II, as described in Sections 7.3.3 and 7.3.6.

Based on the results of the RFI, the lead regulatory agency may determine that no further investigation or corrective action is required for each RPP unit in an operable unit. Where Ecology is the lead regulatory agency prior to the HSWA delegation, the project manager for the EPA must agree, in writing, before any individual unit is dismissed from further investigation

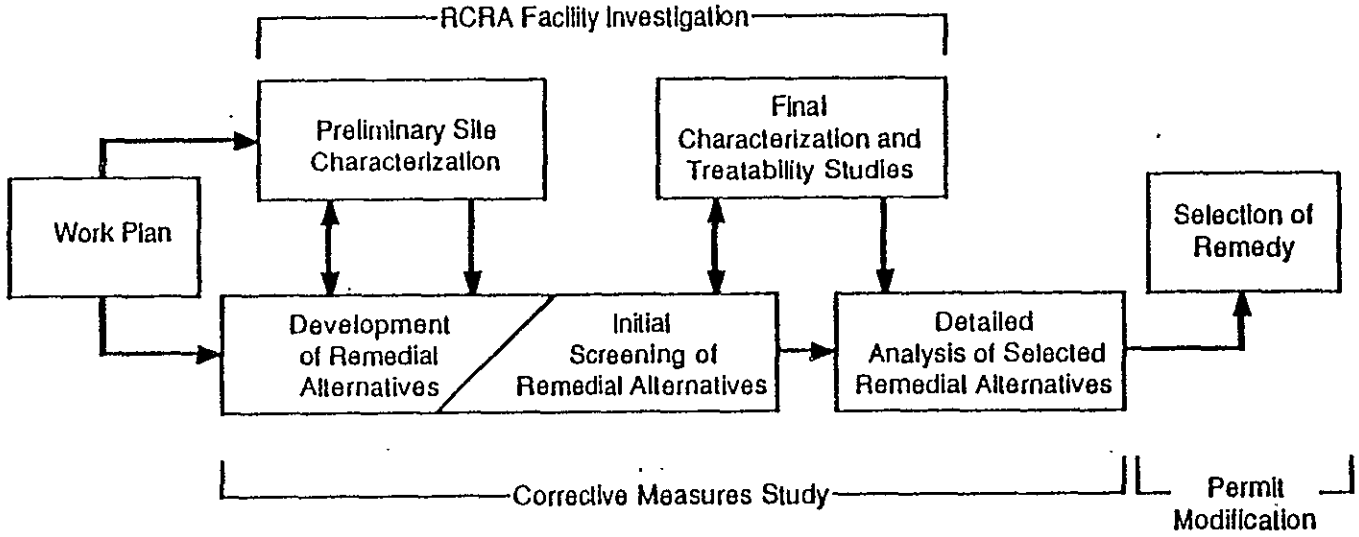

Figure 7-5. Overview of the RCRA Facility Investigation/Corrective Measures Study Process.

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requirements through the RFI. The project manager from the lead regulatory agency for that operable unit may direct the DOE to conduct a CMS based on results of the RFI.

7.4.3 Corrective Measures Study

A Corrective Measures Study (CMS) shall be prepared by the DOE and will include an identification and development of the corrective measure alternative(s), an evaluation of these alternatives, and a justification for the recommended alternative. The CMS will include development of a cost estimate for each alternative considered.

A CMS report documenting the results of the study will be prepared by the DOE. The CMS report is a primary document as described in Section 9.0. The schedule for conducting the CMS will be specified for each operable unit in the work schedule (Appendix D). The CMS report will become the basis for revision of the RCRA permit through the modification or revocation and reissuance processes described in Section 6.2. The parties agree that the information obtained through the CMS must be functionally equivalent to information gathered in the CERCLA process through the FS Phases I, II, and III as described in Sections 7.3.4, 7.3.5, and 7.3.7.

The lead regulatory agency for the operable unit shall continue its oversight role through the corrective measures implementation (CMI) phase and through any long-term monitoring or maintenance phase that is specified in the CMI work plan.

7.4.4 Corrective Measures Implementation

The DOE will initiate, maintain progress toward completion of, and complete any necessary corrective action for all RPP units within each operable unit in accordance with the CMI work plan. This will be done in accordance with current applicable regulations, guidance documents, and written policy available at any time during the corrective action process. It is agreed by the parties that the content of the CMI work plan will be considered to be functionally equivalent to that of the RA work plan described in Section 7.3.10.

The CMI work plan and the corrective measures design (CMD) report, which are produced as part of the CMI phase, are primary documents as described in Section 9.0. The schedule for developing the CMI work plan and conducting the CMI will be specified for each operable unit in the work schedule (Appendix D). The CMI phase will be conducted in accordance with the schedule of compliance specified in the RCRA permit and the work schedule (Appendix D).

Upon satisfactory completion of the CMI phase as described in the CMI work plan for a given operable unit, the lead regulatory agency shall issue a certificate of completion to the DOE for that operable unit. At the discretion of the lead regulatory agency, a certificate of completion may be issued for completion of a portion of the CMI phase for an operable unit.

7.4.5 Offsite Releases and Corrective Action

In the event that hazardous constituents or contamination from a landfill unit, surface impoundment, or waste pile is found to have migrated beyond the boundaries of the Hanford Site, the lead regulatory agency may require that corrective action for such contamination be addressed in accordance with RCRA Section 3004(v). The RCRA Section 3004(v) corrective action authority will be implemented through a schedule of compliance. The DOE shall make every reasonable effort to gain access to investigate and remediate offsite contamination. The DOE will document attempts to attain offsite access for investigative work and corrective action in such cases, in accordance with the access provisions as specified in Article XXXVII of the Agreement. Where necessary to accomplish offsite RA, such releases may be addressed by the lead regulatory agency under CERCLA authority.

The DOE will initiate, maintain progress toward completion of, and complete any offsite corrective action required by the EPA under the authority of RCRA Section 3004(v), in accordance with the time frames specified in the work schedule (Appendix D) and in accordance with current applicable regulations, guidance documents, and written policy available at any time during the corrective action process.

7.5 CLEANUP REQUIREMENTS

In accordance with Section 121(d) of CERCLA, the DOE will comply with all ARARs when hazardous substances, pollutants, or contaminants are to remain onsite as part of RAs. These requirements include cleanup standards, standards of control, and other substantive environmental protection requirements and criteria for hazardous substances as specified under Federal or State laws and regulations. The parties intend that ARARs, as appropriate, will apply at units being managed under the RPP program at the Hanford Site to ensure continuity between the RCRA and CERCLA authorities.

"Applicable requirements" are those cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under Federal or State law. These requirements specifically address a hazardous substance, pollutant, contaminant, hazardous waste, hazardous constituent, RA, location, or other circumstance at the Hanford Site.

"Relevant and appropriate requirements" are those which do not meet the definition of applicable requirements, yet pertain to problems or situations similar to those encountered in the cleanup effort at the Hanford Site. Such requirements must be suited to the unit under consideration and must be both relevant and appropriate to the situation.

The ARARs are classified into three general categories as follows:

- Ambient or chemical-specific requirements. These are established numeric criteria for various constituents. These criteria are usually set from risk-based or health-based values or methodologies

- Performance, design, or other action-specific requirements. These are usually technology or activity-based requirements or limitations on actions taken with respect to a given hazardous substance or hazardous constituent

- Location-specific requirements. These are restrictions placed on the concentration of hazardous substances or hazardous constituents or on the conduct of activities solely because they occur in special locations.

In addition to ARARs, certain non-promulgated Federal or State criteria, advisories, guidance, and proposed standards may be used to establish cleanup standards. These "to-be-considered" criteria can be imposed if necessary to assure protection of human health and the environment but are not necessarily legally binding. These criteria will be specified by the lead regulatory agency in cases where an ARAR does not exist, or in cases where the lead regulatory agency does not believe the ARAR is protective of human health and the environment given the site specific conditions.

For units which are selected for abatement actions or interim actions, as described in Sections 7.2.3 and 7.2.4, ARARs will be applied, where appropriate, recognizing that these units will later be subject to ARARs during the final remedial or corrective action process.

Compliance with an ARAR may be waived in certain circumstances, as specified in current EPA guidance on cleanup requirements. Waivers will be limited to the following situations:

- Cases in which compliance with an ARAR will result in a greater risk to human health and the environment than an alternative option.

- Cases in which compliance with an ARAR is technically impracticable from an engineering perspective.

- Cases in which alternative treatment methods to those specified as ARARs have been shown to result in equivalent standards of performance.

- With respect to a State standard, requirement, criteria, or limitation, the State has not consistently applied procedures to establish a standard, requirement or criteria or demonstrated the intention to consistently apply the standard, requirement, criteria, or limitation in similar circumstances at other RAs.

Federal statutes, regulations, and "to-be-considered" criteria from which cleanup requirements will be developed are included in the current EPA guidance document, "CERCLA Compliance with Other Laws Manual." The following list identifies the key state statutes and regulations from which cleanup requirements will be developed for the Hanford Site. This list is not intended to be inclusive; other standards may be applicable on a case-by-

case basis. In addition, this list can be expanded as new State statutes and regulations become effective:

- Washington State Environmental Policy Act--Chapter 43.21C RCW, and implementing regulations;

  Guidelines Interpreting and Implementing the State Environmental Policy Act--197-11 WAC

- Water Well Construction Act--Chapter 18.104 RCW, and implementing regulations;

  Minimum Standards for Construction and Maintenance of Water Wells--173-160 WAC

- Washington Clean Air Act--Chapter 70.94 RCW

- Solid Waste Management, Recovery and Recycling Act--Chapter 70.95 RCW, and implementing regulations;

  Minimum Functional Standards for Solid Waste Handling--173-304 WAC

- Nuclear Energy and Radiation Act--Chapter 70.98 RCW, and implementing regulations;

  Standards for Protection Against Radiation--402-24 WAC

  Licensing Requirements for Land Disposal of Radioactive Waste--402-61 WAC

  Monitoring and Enforcement of Air Quality and Emission Standards for Radionuclides--402-80 WAC

- Hazardous Waste Management-Chapter 70.105 RCW, and implementing regulations;

  Dangerous Waste Regulations--173-303 WAC

- Model Toxics Control Act--Chapter 70.105D RCW, and implementing regulations;

  Model Toxics Control Act Cleanup Regulation--173-340 WAC

- Washington State Water Code--Chapter 90.03 RCW

- Regulation of Public Groundwaters--Chapter 90.44 RCW

- Water Pollution Control Act--Chapter 90.48 RCW, and implementing regulations;

Water Quality Standards for Water of the State of Washington--173-201 WAC

State Waste Discharge Program--173-216 WAC

Underground Injection Control Program--173-218 WAC

National Pollution Discharge Elimination System Permit Program--173-220 WAC

- Water Resources Act of 1971--Chapter 90.54 RCW
- Shoreline Management Act--Chapter 90.58 RCW and implementing regulations, 173-14 through 173-22 WAC

The DOE shall use the Federal and State sources of information, as mentioned above, in developing proposed ARARs during the RI/FS (or RFI/CMS) process. The detailed documentation of ARARs shall be provided in an appendix to the FS Phase III Report (or CMS report).

The lead regulatory agency for each CERCLA operable unit shall prepare a summary of the rationale for selection of ARARs for the ROD. The lead regulatory agency of each RPP operable unit shall prepare a summary of the rationale for selection of the ARARs for the fact sheet that will accompany the CMS report (including permit modification or permit revocation and reissuance, as applicable).

In the event that new standards are developed subsequent to initiation of RA at any operable unit, and these standards result in revised ARARs or "to-be-considered" criteria, these new standards will be considered by the lead regulatory agency as part of the review conducted at least every five years under Section 121(c) of CERCLA.

7.6 NATURAL RESOURCE TRUSTEESHIPS

Section 107 of CERCLA imposes liability for damages for injury to, destruction of, or loss of natural resources. It also provides for the designation of Federal and State trustees, who shall be responsible for, among other things, the assessment of damages for injury to, destruction of, or loss of natural resources. Current regulations concerning such trustees are in the NCP, 40 CFR Part 300, Subpart G.

The DOE shall notify appropriate Federal and State natural resource trustees as required by section 104(b)(2) of CERCLA and Section 2(e)(2) of Executive Order 12580.

In addition to DOE, the relevant Federal trustees for the Hanford Site are the U.S. Department of Commerce and the U.S. Department of the Interior (DOI). Their respective roles are described below.

7.6.1 National Oceanic and Atmospheric Administration

The National Oceanic and Atmospheric Administration (NOAA) acts on behalf of the Secretary of Commerce as a Federal trustee for living and nonliving natural resources in coastal and marine areas. Resources of concern to the NOAA include all life stages, wherever they occur, of fishery resources of the exclusive economic zone and continental shelf and anadromous species throughout their ranges. For resources in coastal waters and anadromous fish streams, the NOAA may be a co-trustee with the DOI, other Federal land management agencies, and the affected States, and Indian Tribes. Chinook, coho, and sockeye salmon, as well as steelhead trout, are the anadromous species that utilize the Hanford Reach for spawning, rearing, foraging, and as a migratory corridor.

Under an existing interagency agreement with the EPA, the NOAA will provide a Preliminary Natural Resource Survey (PNRS) to the EPA by December 31, 1988, detailing trust species of concern at the four aggregate areas at the Hanford Site (the 100, 200, 300, and 1100 Areas). The NOAA will also provide technical review, at the operable unit level, of RI/FS work plans, RI reports, FS reports, RD reports, and RA work plans, as appropriate. These technical reviews will be done to ensure that potential impacts to anadromous fish in the Hanford Reach are addressed in the CERCLA process. The NOAA will coordinate with other natural resource trustees, as appropriate, to preclude duplication of effort. The DOE will provide the NOAA with a copy of documents listed above at the time of submission to the EPA. The NOAA will provide technical comments to the EPA for incorporation and transmittal to the DOE. Timing for submittal of comments by the NOAA will be consistent with the time frames specified for primary document review in Section 9.2. The PNRS provided by the NOAA and each set of technical comments will become part of the administrative record.

7.6.2 Department of the Interior

The DOI responsibilities as a natural resource trustee will be shared by three separate bureaus within the DOI. These bureaus are the U.S. Geological Survey, U.S. Fish and Wildlife Service, and the Bureau of Indian Affairs. Each bureau will prepare a report for DOI based on its respective responsibility as a natural resource trustee. The DOI will consolidate these reports and issue a PNRS. The DOI will coordinate with other natural resource trustees, as appropriate, to preclude duplication of effort. The PNRS conducted by DOI will become part of the administrative record.

The PNRS will be completed under an existing interagency agreement between the DOI and the EPA. If further work beyond the PNRS is undertaken by the DOI, such work will be funded through DOI sources.

7.7 HEALTH ASSESSMENTS

The Agency for Toxic Substances and Disease Registry (ATSDR) is a part of the U.S. Public Health Service, which is under the U.S. Department of Health and Human Services. The ATSDR was created by Congress to help implement the health-related sections of laws that protect the public from hazardous waste and environmental spills of hazardous substances. The CERCLA requires ATSDR to conduct a health assessment within one year following proposal to the NPL for any site proposed after October 17, 1986.

The ATSDR health assessment is the result of the evaluation of data and information on the release of hazardous substances into the environment. Its purpose is to assess any current or future impacts on public health, to develop health advisories or other health recommendations, and to identify studies or actions needed to evaluate and mitigate or prevent adverse human health effects.

The ATSDR will prepare a preliminary health assessment for each of the four Hanford NPL areas (the 100, 200, 300, and 1100 Areas). Since the RI Phase I reports for these areas will not be available within one year following the proposal of Hanford to the NPL, these preliminary health assessments will be based on the best available information.

As additional information becomes available, and as appropriate, ATSDR may, at its discretion, expand these preliminary health assessments into full health assessments adding to the overall characterization of the site, or prepare addenda to the health assessments addressing the public health impact of either individual or a combination of operable units at the site.

The health assessments, including any addenda, will become part of the administrative record.

7.8 QUALITY ASSURANCE

The level of quality assurance and quality control (QA/QC) for the collection, preservation, transportation, and analysis of each sample which is required for implementation of this Agreement shall be dependent upon the data quality objectives for the sample. Such data quality objectives shall be specified in RI/FS or RFI/CMS work plans or in other work plans that may be used to describe sampling and analyses at CERCLA or RCRA past-practice units.

The QA/QC requirements shall range from those necessary for non-laboratory field screening activities to those necessary to support a comprehensive laboratory analysis that will be used in final decision-making. This range of QA/QC options is included in the "Data Quality Strategy for Hanford Site Characterization" (as listed in Appendix F). This document is subject to approval by EPA and Ecology.

Based upon the data quality objectives, the DOE shall comply with EPA guidance documents for QA/QC and sampling and analysis activities which are taken to implement the Agreement. Such guidance includes:

- "Guidelines and Specifications for Preparing Quality Assurance Program Plans" (QAMS-004/80);
- "Interim Guidance and Specifications for Preparing Quality Assurance Project Plans" (QAMS-005/80); and
- "Data Quality Objectives for Remedial Response Activities" (EPA/540/G-87/003 and 004).

In regard to quality assurance requirements for construction of land disposal facilities, DOE shall comply with "Technical Guidance Document: Construction Quality Assurance for Land Disposal Facilities" (EPA/530-SW-86-031).

For analytical chemistry and radiological laboratories, the QA/QC plans must include the elements listed in "Guidance on Preparation of Laboratory Quality Assurance Plans" (as listed in Appendix F). DOE shall submit laboratory QA/QC plans to EPA and Ecology for review as secondary documents prior to use of that laboratory. In the event that DOE fails to demonstrate to the lead regulatory agency that data generated pursuant to this agreement was obtained in accordance with the QA/QC requirements of this section, including laboratory QA/QC plans, DOE shall repeat sampling or analysis as required by the lead regulatory agency. Such action by the lead regulatory agency shall not preclude any other action which may be taken pursuant to this Agreement. For other data, Ecology or EPA may request DOE to provide QA/QC documentation. Any such data that does not meet the QA/QC standards required by this section shall be clearly flagged and noted to indicate this fact.

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8.0 MEETINGS AND REPORTS

8.1 PROJECT MANAGERS MEETING

Project managers shall meet at least quarterly to discuss progress, address issues, and review plans for the next quarter. The DOE will mark up the work schedule (Appendix D) to reflect current status and will present it at the meeting. In addition, at the request of any project manager, selected schedules from work plans, closure plans, etc., will be marked up to reflect current status and presented at the meeting along with any supporting technical information concerning the units. Any agreements and commitments resulting from the meeting will be prepared and signed by all parties as soon as possible after the meeting. The DOE shall issue meeting minutes to all parties within five working days following the meeting. The minutes will include, at a minimum, the following:

- Status of previous agreements and commitments
- Any new agreements and commitments
- Work schedule (with current status noted)
- Any approved changes signed off at the meeting in accordance with Section 12.2.

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 once work plans, closure plans, or Part B permit applications have been submitted to EPA and Ecology for review. The meetings shall be technical in nature, with emphasis on technical issues and work progress. The assigned DOE unit manager shall mark up the appropriate schedules from the RI/FS work plan, closure plan, etc., and/or detailed near-term schedules prior to the meeting. The schedules shall address all ongoing activities associated with the operable unit or separate TSD groups/units, to include actions on specific units (e.g., sampling). These schedules will be provided to all parties and reviewed at the meeting. Any agreements and commitments (within the unit manager's level of authority) resulting from the meeting will be prepared and signed by all parties as soon as possible after the meeting. Meeting minutes will be issued by the DOE unit manager summarizing the discussion at the meeting, with information copies to the project managers. The minutes will be issued within five working days following the meeting. The minutes will include, at a minimum, the following:

- Status of previous agreements and commitments
- Any new agreements and commitments
- Schedules (with current status noted)
- Any approved changes signed off at the meeting in accordance with Section 12.2.

8.3 QUARTERLY PROGRESS REPORT

The DOE shall issue a quarterly progress report for the Hanford Site within 45 days following the end of each quarter. Quarters end on March 31, June 30, September 30, and December 31. The quarterly progress report will be placed in the public information repositories as discussed in Section 10.2. The report shall include the following:

- Highlights of significant progress and problems
- Technical progress with supporting information, as appropriate
- Problem areas with recommended solutions. This will include any anticipated delays in meeting schedules, the reason(s) for the potential delay, and actions to prevent or minimize the delay
- Significant activities planned for the next quarter
- Work schedules (with current status noted).

9.0 DOCUMENTATION AND RECORDS

This section categorizes the documents that are described in this action plan, and describes the processes for their review and comment and for their revision if required. In addition, this section identifies the distribution requirements for documents and the requirement for an administrative record.

9.1 CATEGORIZATION OF DOCUMENTS

For purpose of the action plan, all documents will be categorized as either primary or secondary documents. Primary documents are those which represent the final documentation of key data and reflect decisions on how to proceed. Table 9-1 provides a listing of primary documents. Secondary documents are those which represent an interim step in a decision-making process, or are issued for information only and do not reflect key decisions. Table 9-2 provides a listing of secondary documents. Note that only primary documents are subjected to the dispute resolution process in accordance with the Agreement.

9.2 DOCUMENT REVIEW AND COMMENT PROCESS

9.2.1 Primary Documents (with exception of Part B permit applications)

Figure 9-1 provides the process flow for reviewing and commenting on primary documents. The flowchart reflects the multiple paths that a primary document may take depending on the type and extent of comments received. The time periods for specific actions are as noted on Figure 9-1. The process shown in Figure 9-1 does not preclude either the EPA or Ecology (whichever has authority regarding the primary document) from taking enforcement action at any point in the process for failure to perform. Comments may concern all aspects of the document (including completeness) and should include, but are not limited to, technical evaluation of any aspect of the document, and consistency with RCRA, CERCLA, the NCP, and any applicable regulations, pertinent guidance or written policy. Comments by the lead regulatory agency shall be provided with adequate specificity so that the DOE can make necessary changes to the document. Comments shall refer to any pertinent sources of authority or references upon which the comments are based and, upon request of the DOE, the commenting agency shall provide a copy of the cited authority or reference. The lead regulatory agency may extend the comment period for a specified period by written notice to the DOE prior to the end of the initial comment period.

Representatives of the DOE shall make themselves readily available to the EPA and Ecology during the comment period for the purposes of informally responding to questions and comments. Oral comments made during these discussions are generally not the subject of a written response by the DOE.

Upon receiving written comments from the lead regulatory agency, the DOE will update the document and/or respond to the comments (for closure plans, comments will be provided in the form of an NOD). The response will address all written comments and will include a schedule for obtaining

Table 9-1. Primary Documents.

Remedial investigation/feasibility study (RI/FS) work plan
Remedial investigation (RI) Phase II report
Feasibility study (FS) Phases I and II report
FS Phase III report
Proposed plan
Remedial design (RD) report
Remedial action (RA) work plan
Operation and maintenance (O&M) plan
Closure plan
Part B permit application (for operation and/or postclosure)
RCRA facility assessment (RFA) report
RCRA facility investigation/corrective measures study (RFI/CMS) work plan
RCRA facility investigation (RFI) report (Final)
Corrective measures study (CMS) report (Preliminary and final)
Corrective measures implementation (CMI) work plan
Corrective measures design (CMD) report
Interim response action (IRA) proposal
Interim measure (IM) proposal
Other work plans (As specified in Section 11.5)

Table 9-2. Secondary Documents.

Hanford Operable Units Report (Currently titled "Preliminary Operable Units Designation Project")
RI Phase I report
RFI Report (Preliminary)
Quarterly progress report
Hanford Site waste management units report
Sampling and data results
Treatability Investigation Work Plan*
Treatability Investigation Evaluation Report
Supporting studies and analyses
Other related documents, plans, and reports not considered as primary

*Per Section 7.3.6, selected treatability investigation work plans can be established as primary document by the lead regulatory agency (or EPA and Ecology for those performed outside of a specific operable unit).

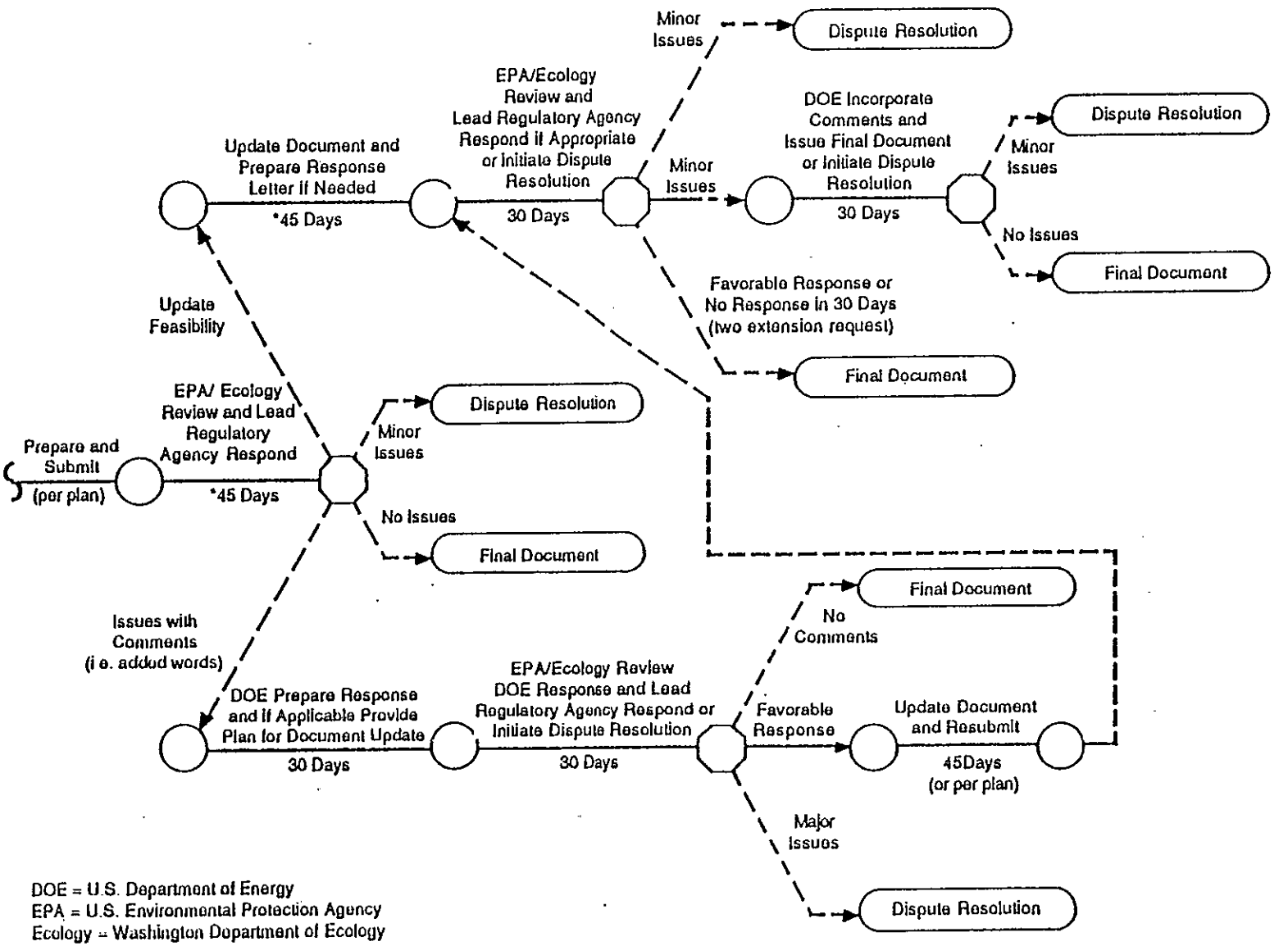


Figure 9-1. Review and Comment on Primary Documents. (See Figure 9-2 for Part B Application Review)

additional information if required. The DOE may request an extension for a specified period for responding to the comments by providing a written request to the lead regulatory agency.

Upon receiving responses to the comments on a primary document, the lead regulatory agency will evaluate the responses. In the event that the responses are inadequate, the matter will enter the dispute resolution process as set forth in the Agreement. However, dispute resolution related to NODs cannot be initiated until after two NODs have been issued by the lead regulatory agency, unless otherwise agreed to by all parties. It is anticipated that the majority of the disputes will be resolved during the informal dispute resolution period. Within 21 days of completion of the dispute resolution, or within 30 days of receipt of the lead regulatory agency evaluation of the responses if there is no dispute, the DOE will incorporate the resolved comments into the document. The DOE may extend the period for revising the document by obtaining written approval of the lead regulatory agency.

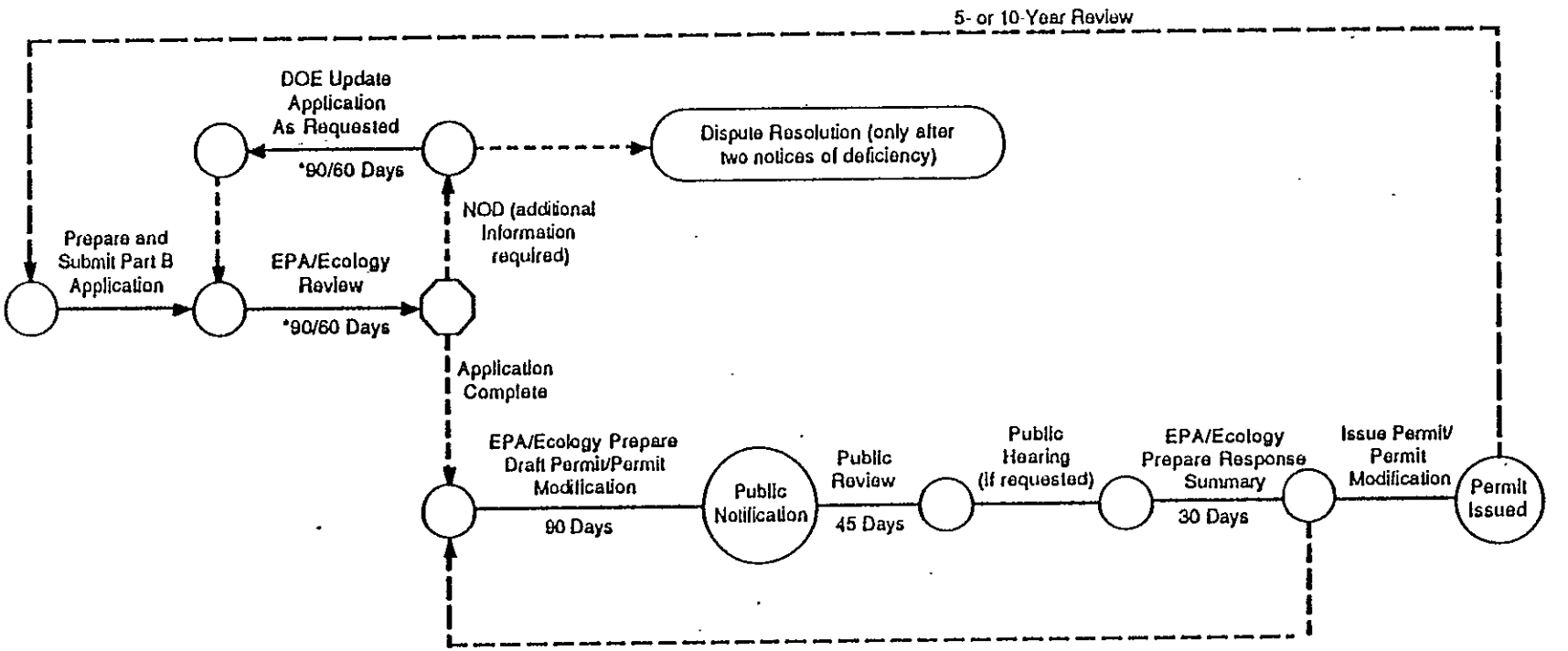
Upon receiving an updated document, the lead regulatory agency will determine if the document is complete. If major issues still exist, the dispute resolution process can be initiated. If the document is complete, or only minor modifications are necessary, the lead regulatory agency will so notify the DOE. If the lead regulatory agency does not respond and has not notified DOE of the need for an extension, the document becomes final at the end of the 30-day period.

9.2.2 Part B Permit Applications (Operations and Postclosure)

The process for review of Part B applications will be different than for other primary documents due to the size and complex nature of these documents. In addition, Part B applications do not receive final "approval" from the regulatory agencies. These documents, when complete, are used to form permit conditions. Portions of the applications will be incorporated into the permit along with permit conditions.

Figure 9-2 shows the process for review of Part B applications. Upon receiving these documents from the DOE, the lead regulatory agency has a period of 90 days to provide comments as outlined in Section 9.2.1 on the first submittal, and 60 days on subsequent submittals. It is understood by the parties that in many cases the lead regulatory agency will extend the comment period for a specified period of time to accommodate the complexity and size of the document.

If the Part B permit application is determined to be incomplete, comments will be transmitted by the lead regulatory agency in the form of an NOD. Upon receiving an NOD, the DOE will update the application as necessary within 90 days in response to the first NOD, and 60 days for subsequent NOD's. With concurrence of the lead regulatory agency, the update may be in the form of either supplemental information to, or a revised portion of, the previously submitted Part B application. If the DOE is unable to comply with this timeline, it may request an extension within 30 days of receipt of the NOD. This request will include specific justification for granting an extension, a detailed description of actions to be taken, and the proposed date for resubmittal of the application.



DOE = U.S. Department of Energy
Ecology = State of Washington Department of Ecology
EPA = U.S. Environmental Protection Agency
NOD = Notice of Deficiency

* 90 Days for Review of Initial Submittal and Response to First NOD; 60 Days Thereafter.

Figure 9-2. Part B Application Process Flowchart.

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Dispute resolution for NODs cannot be initiated until two NODs have been issued by the lead regulatory agency, unless agreed to by all parties. Once an application is determined by the lead regulatory agency to be complete, the agency will begin drafting the permit. The permitting actions are also shown in Figure 9-2. The process for development and maintenance of the Hanford Site permit is discussed in Section 6.2

In addition to standard public notification procedures, the public will be informed about proposed permit actions in the "Hanford Newsletter" and at quarterly public meetings. However, it is anticipated that in many cases, comments from the public will result in a public hearing on the draft permit. All comments on the draft permit, including those received during the public hearing will be addressed in a response summary and incorporated in accordance with 173-303-840(7) and (9) WAC. Public hearing opportunities are further discussed in Section 10.7.

9.2.3 Secondary Documents

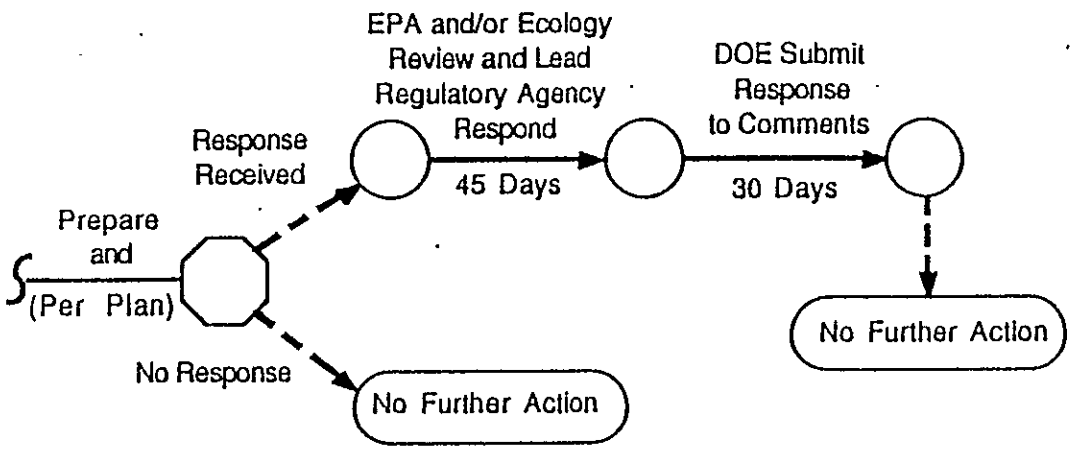
Figure 9-3 provides the process flow for reviewing and commenting on secondary documents. As shown, the EPA and Ecology have the option to provide comments or take no action. If comments are provided by the lead regulatory agency, then the DOE will respond in writing. The same criteria for review presented in Section 9.2.1 for primary documents will be used for secondary documents. Secondary documents are not subject to dispute resolution.

9.3 DOCUMENT REVISIONS

Following finalization of a document, the EPA, Ecology, or the DOE may seek to modify the document. Such modifications may require additional field work, pilot studies, computer modeling, or other supporting technical work. This normally results from a determination, based on new information (i.e., information that became available or conditions that became known after the report was finalized), that the requested modification is necessary. The requesting party may seek such a modification by submitting a concise written request to the appropriate project manager(s).

In the event that a consensus on the need for a modification is not reached by the project managers, any party may invoke dispute resolution, in accordance with the Agreement, to determine if such modification shall be conducted. Modification of a report shall be required only upon a showing that the requested modification could be of significant assistance in evaluating impacts on the public health or the environment, in evaluating the selection of remedial alternatives, or in protecting human health and the environment.

Nothing in this section shall alter the lead regulatory agency's ability to request the performance of additional work in accordance with the Agreement. If the additional work results in a modification to a final document, the review and comment process will be the same as for the original document.



DOE = U.S. Department of Energy
Ecology = State of Washington Department of Ecology
EPA = U.S. Environmental Protection Agency

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Figure 9-3. Review and Comment on Secondary Documents.

Minor changes to approved plans which do not qualify as minor field changes under Section 12.4 can be made through use of a change notice. Such plans include RI/FS work plans, remedial action work plans, RFI/CMS work plans, CMI work plans, and other work plans as described in Section 11.5. (Modifications to permits and closure plans will be done in accordance with applicable procedures specified in 173-303 WAC and 40 CFR 270.41.) The change notice will not be used to modify schedules contained within these supporting plans. Such schedule changes will be made in accordance with Section 12.0, Changes to Action Plan/Supporting Schedules.

Minor changes to approved plans include specific additions, deletions, or modifications to its scope and/or requirements which do not affect the overall intent of the plan or its schedule. The lead regulatory agency will evaluate the need to revise the plan. If the revision is determined to be necessary, the lead regulatory agency will decide whether it can be accomplished through use of the change notice, or if a full revision to the plan in accordance with this section is required.

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, the change notice will thereby become part of the Administrative Record. The change notice form shall, as a minimum, include the following:

- Number and title of document affected
- Date document last issued
- Date of this change notice
- Change notice number
- Description of change
- Justification and impact of change (to include affect on completed or ongoing activities)
- Signature blocks for the DOE and lead regulatory agency unit managers

9.4 ADMINISTRATIVE RECORD

The administrative record serves basically the same purpose in the CERCLA, RCRA, and State dangerous waste programs. The administrative record is the body of documents and information that is considered or relied upon in order to arrive at a final decision for remedial action or hazardous waste management.

The requirements governing the administrative record for a CERCLA response action are found in Section 113(k) of the CERCLA. Executive Order 12580 and CERCLA guidance documents provide that the administrative record is to be maintained by the regulated Federal facility (i.e., the DOE). The RCRA requirements pertaining to the record are found in 40 CFR 124.9 and

124.18. The State dangerous waste program requirements for the record are found in 173-303-840 WAC.

An administrative record will be established for each operable unit and TSD group and will contain all of the documents containing information considered in arriving at a record of decision or permit. When the investigation process begins at each operable unit or when a permit action for a TSD unit (or group of units) is initiated, the administrative record file will be available to the public for review during normal business hours at the following location:

- U.S. Department of Energy-Richland Operations Office
  Administrative Record Center
  345 Hills Street
  (off George Washington Way)
  Richland, Washington 99352

Two additional copies of the file will also be available to the public, during normal business hours, located as follows:

- EPA Region 10
  Superfund Administrative Record Center
  1200 Sixth Avenue
  Park Place Building, 11th Floor
  Mail Stop: HW-113
  Seattle, Washington 98101

- State of Washington
  Department of Ecology
  Nuclear and Mixed Waste
  Program Office
  5860 Pacific Avenue
  Lacey, Washington 98504
  (Olympia)

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.

A microfilm copy and one hard copy of the administrative records will be maintained in the Richland administrative record file. After one year following the CERCLA record of decision or RCRA permit determination, the hard copies of administrative record documents issued up to those decision points may be removed from the administrative record file. The microfilm copies will be kept on file for a minimum of 10 years. The final decision

documentation (i.e., CERCLA proposed plan and record of decision, and RCRA permit) will be maintained in hard copy through completion of all remedial actions or the term of the permit. Current versions of all general documents (e.g., guidance and applicable procedures) will be maintained in hard copy throughout the RI/FS process or through the term of the permit.

Certain types of documents will be included in the administrative record in all cases when considered applicable to one or more operable units or TSD groupings. These documents are shown in Table 9-3.

For those which are designated as primary documents (see Table 9-1) the administrative record will include:

- All drafts submitted to the regulatory agencies for review and/or approval
- Written comments from the support regulatory agency to the lead regulatory agency
- Written comments from the lead regulatory agency to DOE (to include Notice of Deficiency on a Permit Application)
- DOE written responses to comments received from the lead regulatory agency
- Final document and any subsequent revisions
- Drafts which are submitted for public comment.

For those which are designated as secondary documents (see Table 9.2), the administrative record will include:

- Final document and any subsequent revisions
- Written comments from the support regulatory agency to the lead regulatory agency, if provided
- Written comments from the lead regulatory agency to DOE, if provided
- DOE written responses to comments received from the lead regulatory agency.

Table 9-3. Administrative Record Documents. (sheet 1 of 2)

Factual Information/Data (CERCLA)

Remedial investigation/feasibility study work plan
Remedial investigation Phase I report
Feasibility study Phase I and II report
Feasibility study Phase III report
Proposed plan
Abatement proposal
Interim response action proposal
Documentation of preliminary assessment/site investigation
Treatability study work plan and characterization plan
ATSDR health assessment
Preliminary natural resource survey (by natural resource trustee)
Procedures as specified in work plans
Supplemental work plan
Health assessment
Work plan change notice
Sample data results

Factual Information/Data (RCRA)

Closure Plan
Permit application (Part A and Part B)
Draft permit (or permit modification) or notice of intent to deny
Statement of basis or fact sheet, including all resources to documentation
RCRA facility assessment report
RCRA facility investigation/corrective measures study work plan
RCRA facility investigation report (preliminary and final)
Corrective measures study report (preliminary and final)
Interim measure proposals
Procedures as specified in work plans
Work plan change notice
Sample data results

Policy and Guidance

Memoranda on policy decision
Guidance documents
Supporting technical literature

Decision Documents

Record of Decision
Responsiveness summary
Letters of approval
Action memoranda
Waiver requests and regulatory agency responses

Table 9-3. Administrative Record Documents. (sheet 2 of 2)

<u>Enforcement Documents</u>
Federal Facility Agreement and Consent Order including Action Plan
Administrative orders
Consent decrees
Affidavits
<u>Public Participation</u>
Community relations plan
Correspondence to or from the public
Public notices
Public comments
Public meeting minutes
Public hearing transcripts
Responses to public comments
Fact sheets (public information bulletins)

Drafts of documents which are undergoing internal review within any party will not be included in the administrative record.

In addition to those documents listed in Table 9-3, the unit managers for each party will determine which additional documents should be included in the administrative record. This may include:

- Validated sampling and analysis results
- Supporting technical studies and analyses
- Inspection reports and follow up responses.

The unit managers will meet at least monthly, as described in Section 8.2. During these meetings, the unit managers will decide which documents are appropriate for inclusion in the record. The DOE unit manager will then notify the administrative record staff of these documents to be added to the record.

For public participation documents listed on Table 9-3 the community relations staff for any party may transmit any document which they generate or receive directly to the administrative record staff, with a copy to each affected unit manager.

Any documents that the regulatory agency has determined to be subject to an applicable privilege, and that are part of the administrative record, shall be maintained exclusively in files of the appropriate parties until such time as enforcement action has been taken or the privilege has been waived.

The DOE will maintain an index of all documents entered into the administrative record. A current copy of the index will be distributed at least quarterly to each administrative record file, each public information repository, and each project manager.

9.5 DISTRIBUTION OF DOCUMENTS AND CORRESPONDENCE

- Unit managers' correspondence, not affecting decisions on remedial actions, is sent to the following:

  - Unit managers for the operable unit at all three parties
  - Project managers at all three parties

- Unit managers' correspondence, affecting decisions on remedial actions, is sent to the following:

  - Unit managers for the operable unit at all three parties
  - Project managers at all three parties
  - Administrative record files

- Project managers' correspondence, not affecting decisions on remedial actions, is sent to the following:

  - Project managers at the other two parties
  - Affected unit managers

- Project managers correspondence, affecting decisions on remedial actions, is sent to the following:

  - Project managers at the other two parties
  - Administrative record files
  - Affected unit managers

- Final primary or secondary documents and draft primary documents are sent to the following:

  - Unit managers for the operable unit at all three parties
  - Project managers at all three parties
  - Administrative record files

- Quarterly progress reports are sent to the following:

  - Unit managers for the operable unit at all three parties
  - Project managers at all three parties.

Note: Documents distributed to the public information repositories are specified in the Community Relations Plan.

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 9.7) 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 regularity 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. Those systems currently identified include:

- Crib Waste Management (CWM)
- Hanford Environmental Information System (HEIS) *
- Hanford Groundwater Database (HGWDB)
- Hanford Meteorological Data Collection System (HMS)
- Hazardous Waste Tracking Database (HWTD) *
- Laboratory Information Management System (LIMS) *

- Project and Data Management System
- Richland Solid Waste Information Management System (RSWIMS)
- 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.

10.0 COMMUNITY RELATIONS/PUBLIC INVOLVEMENT

10.1 INTRODUCTION

This section describes, in general, the way in which the public will be involved with the implementation of this action plan. The CERCLA, as amended, requires that a community relations plan (CRP) be approved by the EPA prior to initiation of field work related to an RI/FS. The parties have agreed that the CRP is also the proper mechanism to address the public involvement process for all of the RCRA activity to be conducted pursuant to this action plan. In this way, a single document will specify how the public will be involved in these processes.

A CRP has been drafted which will become the overall plan for community relations and public involvement. The following sections highlight key elements of the CRP.

10.2 PUBLIC INFORMATION REPOSITORIES

Information will be readily available to the public to ensure meaningful participation. One mechanism for accomplishing this goal is the establishment of public information repositories at major population centers. The locations of the repositories are as follows:

- University of Washington - Suzzalo Library
  Mailstop FM-25 - Government Publications
  Seattle, Washington 98915
  (206) 543-4664

- U.S. Department of Energy-Richland Operations
  Public Reading Room
  Federal Building Room 157
  825 Jadwin Avenue
  Richland, Washington 99352
  (509) 376-8583

- Portland State University Library
  P. O. Box 1151
  Corner of Harrison and Park
  Portland, Oregon 97207
  (503) 464-4617

- Crosby Library
  Gonzaga University
  E. 502 Boone
  Spokane, Washington 99258
  (509) 328-4220

All documents (with exception of drafts) listed on Table 2 of the CRP will be sent to the repositories. In addition, copies of drafts when submitted for public comment will be placed in the repositories. Any additional information or documents will be placed in the repositories as

deemed necessary by the project managers. In addition to review of documents at the repositories, the public may also review the administrative record files during normal working hours (see Section 9.4 for discussion and location of administrative records).

10.3 MAILING LISTS AND NEWSLETTER

A single Hanford Site mailing list will be maintained by the DOE for use by all three agencies to ensure consistency. The EPA, Ecology, or the DOE will periodically distribute information in the form of a direct mailing to those persons on the Hanford Site mailing list. Any person may be placed on the Hanford Site mailing list by contacting any of the community relations contacts shown in Appendix E.

A direct mailing will usually be in the form of a public information newsletter. The newsletter is a summary of the status of completed, ongoing, or upcoming activities. In some instances, this newsletter may be used in conjunction with a public notice and/or advertisement (newspaper or radio) to announce an event such as a public meeting, a public hearing, or a formal comment period on a certain document.

10.4 PRESS RELEASES

Any party issuing a formal press release to the media regarding any of the work required by this Agreement shall, whenever practicable, advise the other parties of such press release and the contents thereof, at least 48 hours before the issuance of such a press release.

10.5 PUBLIC MEETINGS

10.5.1 Quarterly Public Information Meetings

The EPA and Ecology, with the assistance of the DOE when requested, will conduct public information meetings at least quarterly. The quarterly meetings will cover significant issues pertaining to CPP units, RPP units, Federal RCRA/State dangerous waste permitting activities, and closure activities that took place during the previous three months. The quarterly meetings will also provide a forum for discussing with the public anticipated events scheduled during the next quarter.

10.5.2 Other Public Meetings

Additional public meetings on either CERCLA or RCRA matters will be scheduled on an as-needed basis, as determined by the EPA or Ecology. Situations involving complex issues or a high level of public interest will be reasons to schedule separate public meetings.

At least one public meeting will be held during the public comment period for each FS Phase III report/proposed plan. At least one public meeting for each CMS report will be held in conjunction with a public meeting for the relevant draft permit (or permit modification) package. Such meetings will be scheduled approximately halfway through the public comment period.

All public comments received on these documents, along with the lead regulatory agency's response to comments, will be placed in the administrative record and will be sent to the public information repositories.

10.5.3. Public Notification, Location, and Records

The DOE, at the request of the EPA and/or Ecology, will arrange for all public meetings by means of a public notice in a newspaper of general circulation and a major radio station in the area where the meeting is to be held. The DOE will also distribute a direct mail notice to all persons on the Hanford Site mailing list. All such notices shall be made 2 to 3 weeks prior to the date of the public meeting. The quarterly public information meetings will be scheduled, to the extent practicable, to coincide with public comment periods or other significant events.

The location of any public meeting will be decided in each case by the EPA and Ecology. In some cases, the agencies may decide to hold an additional public meeting on a subsequent day at another location.

Upon request by the EPA or Ecology, the DOE will provide an individual to accurately record the events and dialogue at each public meeting. This individual will provide a written meeting summary of the public meeting for review to the EPA, Ecology, the DOE project managers, and the community relations contacts within 14 days following the meeting. The meeting summaries will then be distributed to each of the public information repositories. Any individual may obtain a copy of the meeting summaries by submitting a request, in writing, to any of the community relations contacts listed in Appendix E.

10.6 PUBLIC COMMENT OPPORTUNITIES

The EPA and/or Ecology will make the documents as listed in this section available for public comment. These documents will be placed in the public information repositories. They may also be reviewed at the EPA Region 10 office in Richland, Washington; the Ecology office in Lacey, Washington; or the DOE office in Richland, Washington, by contacting the respective project managers listed in Appendix E.

Copies of all public comments received and the agencies' responses to comments will become part of the administrative record and will be sent to the public information repositories. Additionally, copies of all public comments and agency responses will be made available to any person upon written request to any of the community relations contacts listed in Appendix E.

The public notice for availability of these documents for comment will be published in a major newspaper of general circulation and announced on a major radio station in the areas of significant public interest and through the direct mailing list (see Section 10.3).

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.

- RI/FS Work Plan (CERCLA) or RFI/CMS Work Plan (RCRA). Either an RI/FS work plan or an RFI/CMS work plan will be prepared for each operable unit. Prior to lead regulatory agency approval of these work plans, they will be made available for public comment for a period of 30 days. On a case-by-case basis, the unit managers may agree to extend the comment period to 45 days. There is no statutory or regulatory requirement for such public comment, but the parties believe that the earliest possible public involvement will result in improved communication throughout the investigation process. The public notice published in the newspaper announcing the availability of work plans shall also indicate the location and availability of the Administrative Record file.

- Feasibility Study Phase III Report/Proposed Plan or Corrective Measure Study Report. Either an FS Phase III report/proposed plan (CERCLA) or a CMS report (RCRA) will be prepared for each operable unit. When the FS Phase III report and the proposed plan for remedy are finalized, the lead regulatory agency will issue a public notice of opportunity to comment on the documents. If the operable unit is being managed under the RPP authority, rather than CERCLA, the RCRA CMS report will be made available for comment as part of the draft permit modification package. The comment period will be 45 days. There are currently no specific requirements for public comment on the CMS report, but the parties consider this report to be the functional equivalent of the FS Phase III report and the proposed plan and, therefore, will make the CMS report available for public comment in the same manner.

- Draft Joint Dangerous Waste/Resource Conservation and Recovery Act Permits (for Treatment, Storage, and Disposal Units). The permit and associated modifications (see Section 6.2) for either new or continued operation of TSD groups/units or for postclosure care of TSD units will be made available for public comment in accordance with 173-303-840 WAC and 40 CFR 124.10. The comment period will be 45 days.

- Closure Plans (for Interim Status Treatment, Storage, and Disposal Units). All closure plans for TSD units (see Section 6.3) that

will be closed prior to or instead of issuance of a permit will be made available for public comment, in accordance with 173-303-840 WAC. The comment period will be 45 days.

- Interim Response Actions and Interim Measures. In any case where the lead regulatory agency believes that a release from a unit meets the criteria for an IRA or IM, as described in Section 7.2.4, it shall direct the DOE to submit either an IRA proposal or an IM proposal for remedy selection. Prior to approval, the lead regulatory agency will make the proposed remedy selection available for public comment for a period of 15 or 30 days.

- RCRA Section 3008(h) Orders and RCRA 7003 Orders. The EPA will propose the selected corrective action remedy to be performed under either RCRA 3008(h) or RCRA 7003 and make it available for public comment prior to final approval. The comment period for 3008(h) orders will be 30 days and the comment period for 7003 orders will be 15 days.

- Community Relations Plan. Any major revisions to the CRP will be subject to public comment for a period of 30 days. The EPA and Ecology will determine whether revisions are major and subject to public comment.

10.7 PUBLIC HEARING OPPORTUNITIES

The draft permit and all modifications are subject to public hearings upon request. A public hearing must be held if any person requests, in writing, that one be held. The request must state the nature of the issues to be raised at the hearing and must include a notice of opposition to the draft permit, in accordance with 173-303-840 WAC and 40 CFR 124.11 and 124.12.

The DOE will, upon request, assist the EPA and Ecology in the same manner as with public meetings, as previously described. The public notice for any public hearing will be made by the DOE at least 30 days prior to the date of the hearing. Transcripts of the public hearing will be distributed in the same manner as those for the public meetings. Any individual may obtain a copy of the transcript by submitting a request, in writing, to any of the community relations contacts listed in Appendix E.

A public hearing will be held in the locality from which the majority of requests for the hearing was generated. In some cases, a public hearing may be held at more than one location, at the discretion of the EPA and Ecology.

10.8 TECHNICAL ASSISTANCE GRANTS

The provision for Federal technical assistance grants (TAG) is found in Section 117(e) of CERCLA. The EPA will be responsible for administering any Federal TAG that is applied for in conjunction with the Hanford Site. The TAG is a mechanism by which the EPA provides reimbursement to the public for

a level of effort spent on CERCLA document review. In this way, the public can be directly involved in the review process of various CERCLA documents in more depth than otherwise might be possible. Information on TAGs can be obtained by contacting:

Technical Assistance Grant Coordinator
U.S. Environmental Protection Agency
1200 Sixth Avenue, Mail Stop: HW-113
Seattle, Washington 98101
(206) 442-0603

10.9 WASHINGTON STATE PUBLIC PARTICIPATION GRANTS

The Model Toxics Control Act, Chapter 70.105D RCW, and 173-321 WAC, provide for public participation grants to persons, and not-for-profit public interest organizations. The primary purpose of these grants is facilitating the active participation of persons and organizations in the investigation and remedying of releases or threatened releases of a hazardous substance. Additional information on this program may be obtained by contacting:

Public Participation Grant Coordinator
Solid and Hazardous Waste Program
Washington Department of Ecology
PV-11
Olympia, Washington 98504
(206) 459-3000

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.

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 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.

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.

10.11 CITIZEN SUIT PROVISIONS

Statutory provision for citizen suits under CERCLA is found in Section 310 of CERCLA, as amended. Statutory provision for citizen suits under RCRA is found in RCRA Section 7002. The application of these provisions can be found at Articles IX and XX of the Agreement.

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11.0 WORK SCHEDULE AND OTHER WORK PLANS

11.1 INTRODUCTION

This section describes the format and content of the work schedule, and the process for annual updates and other revisions. In addition, this section identifies those primary documents that contain other schedules that directly support the work schedule.

The work schedule is contained in Appendix D. It includes interim milestones and additional target dates that support the accomplishment of the major milestones contained in Section 2.0. Both major and interim milestones are considered enforceable under the Agreement. Dates specified as target dates in the work schedule are incorporated in the work schedule for the purpose of tracking progress toward meeting milestones, and are not enforceable. Work plans and reports will specify additional target dates and milestones. The milestones will be incorporated into the Agreement via the change process defined in Section 12.0 upon issuance of the approved work plan or report, and incorporated into the work schedule as part of the annual update. The work schedule will indicate planned actions for each operable unit identified in Appendix C or TSD group identified in Appendix B. Such actions include, but are not limited to, the following:

- Permitting activities
- Closures
- Groundwater monitoring
- Achieving interim status requirements
- Ceasing disposal of contaminated liquids to the soil column
- Investigations and characterization
- Remedial and corrective actions
- Technology improvements
- New facilities to enhance operations and eliminate long-term storage.
- Land disposal restriction requirements

11.2 WORK SCHEDULE FORMAT AND PREPARATION

The work schedule is depicted on a time-scale format, and is seven years in length. The current calendar year is shown on a monthly time scale in sufficient detail to identify all document submittals, major elements of work, and interactions between parties. The second year is shown on a quarterly scale, with the remaining five years on an annual scale. In addition, a listing of the interim milestones depicted on the work schedule

is provided. The listing of the interim milestones is grouped by major milestone.

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 is 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.

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.

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 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.

In the event that all parties do not concur on the annual update or other proposed revision to the work schedule, the issue shall be subject to the applicable dispute resolution process in accordance with Parts Two, Three, or Four of the Agreement.

11.4 SUPPORTING SCHEDULES

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

- RI/FS work plan
- Remedial action work plan
- Closure plan
- RFI/CMS work plan
- CMI plan
- Other work plans

Additional detailed schedules, beyond those contained in the above plans, may be needed as agreed to by the unit managers to provide more definitive schedules to track progress. These could be part of other plans, or could 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.

11.6 SUPPORTING TECHNICAL PLANS AND PROCEDURES

In addition to the requirements as specified in this Agreement, supporting technical plans and procedures may be developed by DOE. They will be reviewed for approved by EPA and Ecology as primary documents or reviewed as secondary documents as determined by EPA and Ecology. The DOE may submit such plans or procedures at any time, without request of the regulatory agencies. The EPA or Ecology may also request that specific plans or procedures be developed or modified by DOE, consistent with Article XXIX of the Agreement. These technical plans and procedures shall pertain to specific compliance and cleanup activities conducted pursuant to this Agreement and shall provide a detailed description of how certain requirements will be implemented at the Hanford Site. DOE shall comply with the most recent approved versions of these technical plans and procedures and those secondary documents which are in effect.

Appendix F contains a listing of current supporting technical plans and procedures and their respective status. Appendix F will be updated annually in conjunction with the annual update to the Work Schedule.

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12.0 CHANGES TO ACTION PLAN/SUPPORTING SCHEDULES

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 in Section 2.0)
- Appendix B--listing of TSD units
- Appendix C--prioritized listing of operable units
- Appendix D--work schedule
- 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.
- Class II Change--A Class II change is any change to Appendices B, C, or D except as specified for Class I or Class III changes. A Class II change requires the approval of the project managers.
- Class III Change--A Class III change is a change to a target date in the work schedule (Appendix D) or a supporting schedule that does not impact an interim milestone. A Class III change requires the approval of the DOE and lead regulatory agency unit managers. It is not the intent of the parties to revise target dates because work is slightly behind or ahead of schedule. Such schedule deviations will be reflected through the reporting of work schedule status. The use of the change process for revising target dates is for use by the parties to delete, add, or significantly accelerate or defer a target date.

12.3 FORMAL CHANGE CONTROL PROCESS

All types of changes as identified under Section 12.1 shall be processed using the change control sheet included as Figure 12-1. The following describes the process in accordance with the circled numbers shown in Figure 12-1.

(1) Obtain and enter a "change number." The DOE shall maintain a log of all changes by number and title, along with a file copy of the change. An individual will be assigned responsibility for maintaining the change

Change Number: ①	FEDERAL FACILITY AGREEMENT AND CONSENT ORDER CHANGE CONTROL FORM Do not use blue ink. Type, or print using black ink.	Date: ③
Originator: ②		Phone:
Class of Change: ④ ☐ I-Signatories (Section13.0) ☐ II-Project Manager ☐ III-Unit Manager		
Change title: ⑤		
Description/Justification of Change: ⑥		
Impact of Change: ⑦		
Affected Documents: ⑧		
Approvals: ___ Approved ___ Disapproved DOE ⑨ Date EPA Date ECOLOGY Date		⑩

Figure 12-1. Change Control Sheet.

file and will be responsible for assigning change numbers. The change number can be obtained any time during the change process, even after the change is approved.

(2) Enter the name of the originator or the requestor.

(3) Enter the date the change was initiated.

(4) Place an "x" in the box for the appropriate class of change per the criteria identified under Section 12.2.

(5) Enter a short title for the change, which will be used primarily as a cross-reference on the change log.

(6) Provide a description of the change, along with justification as to why the change should be made. Use an attached sheet of paper if additional space is required.

(7) Explain what is impacted by this change.

(8) List all documents that will have to be revised because of the change.

(9) Obtain approval signatures based on the class of change assigned. Approval via telephone is acceptable, but must be followed up with a signature as soon as possible thereafter.

(10) This space is available for special notes, comments, or other signatures as required.

Backup information should be attached as necessary to support the change. Once approved, the change is considered implemented. Affected documents (e.g., work schedule) need not be updated until their next scheduled update.

12.4 MINOR FIELD CHANGES

To ensure efficient and timely completion of tasks, minor field changes can be made by the person in charge of the particular activity in the field. Minor field changes are those that have no adverse effect on the technical adequacy of the job or the work schedule. Such changes will be documented in the daily log books that are maintained in the field. If it is anticipated that a field change will affect the agreed-to work schedule or requires the approval of the lead regulatory agency, the applicable DOE unit manager will then be notified.

12.5 REVISION OF ACTION PLAN

In addition to the changes described above, the action plan may be revised at any time when agreed to by all parties. This could result from a change in regulations or guidance documents or a change in authority (e.g., HSWA authority being given to the State). If a revision is required, the project managers will revise the action plan and issue it for public review

in accordance with Section 10.0. Upon resolution of public comments, the updated action plan will be signed and issued for use.

Appendices B, C, E, and F will be reissued annually in conjunction with the annual update of Appendix D. Appendices may be updated separately from the action plan at any time to incorporate approved changes. If done, the revised version of the applicable appendix will be dated and transmitted to the project managers and the public information repositories. The transmittal will reference what changes have been incorporated. The DOE project manager will be responsible for maintaining the appendices up-to-date as necessary and distributing the revised appendices.

13.0 SIGNATURE

The undersigned hereby approve this action plan for implementation:

For the United States Environmental Protection Agency:

_____ _____

Thomas P. Dunne — Date
Acting Regional Administrator, Region 10
U.S. Environmental Protection Agency

For the United States Department of Energy:

_____ _____

Michael J. Lawrence, Manager — Date
Manager, Richland Operations Office
U.S. Department of Energy

For the Washington State Department of Ecology:

_____ _____

Christine O. Gregoire — Date
Director
Department of Ecology

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APPENDIX A

DEFINITION OF TERMS AND ACRONYMS

- Acronyms
- Definition of Terms used in the Action Plan
- Definition of other Technical Terms

APPENDIX A

Acronyms (sheet 1 of 2)

ARAR	Applicable, or Relevant and Appropriate Requirement
ATSDR	Agency for Toxic Substances and Disease Registry
CDR	Conceptual Design Report
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CMD	Corrective Measures Design
CMI	Corrective Measures Implementation
CMS	Corrective Measures Study
CPP	CERCLA Past Practice
CRP	Community Relations Plan
DOE	U.S. Department of Energy
DOI	U.S. Department of Interior
DST	Double Shell Tank
DW	Dangerous Waste
EA	Environmental Assessment
Ecology	State of Washington Department of Ecology
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
FFTF	Fast Flux Test Facility
FS	Feasibility Study
HSWA	Hazardous and Solid Waste Amendments (of 1984)
HSWMUR	Hanford Site Waste Management Units Report
HWMA	Hazardous Waste Management Act
HWVP	Hanford Waste Vitrification Plant
IM	Interim Measure
IRA	Interim Response Actions
ISV	In-situ Vitrification
LDR	Land Disposal Restrictions
NCP	National Oil and Hazardous Substances Contingency Plan
NEPA	National Environmental Policy Act
NOAA	National Oceanic and Atmospheric Administration
NOD	Notice of Deficiency
NPL	National Priorities List
O&M	Operation and Maintenance
PNRS	Preliminary Natural Resource Survey
PUREX	Plutonium/Uranium Extraction
RA	Remedial Action
RCRA	Resource Conservation and Recovery Act
RCW	Revised Code of Washington
RD	Remedial Design
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RFI/CMS	RCRA Facility Investigation/Corrective Measures Study
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RPP	RCRA Past Practice

APPENDIX A

Acronyms (sheet 2 of 2)

SST	Single-Shell Tank
TAG	Technical Assistance Grant
TSD	Treatment, Storage, and Disposal
WAC	Washington Administrative Code
WIDS	Waste Identification Data System
WPPSS	Washington Public Power Supply System
WRAP	Waste Receiving and Processing

APPENDIX A

Definition of Terms Used in the Action Plan (sheet 1 of 11)

Administrative Record: The administrative record is the body of documents and information that is considered or relied upon in arriving at a final decision for a remedial action, removal action, corrective measure, interim measure, RCRA permit, or approved RCRA closure plan.

Agency (Agencies): unless otherwise specified, the State of Washington Department of Ecology and the U.S. Environmental Protection Agency.

Agency for Toxic Substances and Disease Registry: the agency under the Department of Health and Human Services, Public Health Service, that is responsible for conducting health assessments at Superfund sites for EPA. (see Section 7.7)

Agreement: The Hanford Federal Facility Agreement and Consent Order, including all attachments, addenda and modifications, which are required to be written and to be incorporated into or appended.

Applicable or Relevant and Appropriate Requirement (ARAR): any standard, requirement, criteria or limitation as provided in Section 121(d)(2) of CERCLA. (see Section 7.5)

Authority: legal jurisdiction enabling a governmental agency to administer and implement federal or state laws and regulations.

B Plant: old Hanford plutonium recovery and separations facility converted in 1968 for waste fractionation.

Base RCRA Program: those elements of the federal Resource Conservation and Recovery Act of 1976, as amended, for which the state of Washington has received authorization to implement. The state implements its own dangerous waste program in lieu of the base RCRA program.

Burial Ground: land area specifically designated to receive contaminated waste packages and equipment, usually in trenches covered with overburden.

Carbon Tetrachloride: a chlorinated organic solvent used in the plutonium extraction process at the Plutonium Finishing Plant. Carbon tetrachloride is a known human liver carcinogen via inhalation and ingestion. Other toxic effects include central nervous system damage.

APPENDIX A

Definition of Terms Used in the Action Plan (sheet 2 of 11)

Chromium: an inorganic element, found in the environment in two forms: hexavalent and trivalent. Hexavalent chromium is carcinogenic via inhalation; hexavalent and trivalent chromium are less toxic via ingestion. Hexavalent chromium is a primary contaminant in groundwater beneath the 100 Area at Hanford.

CERCLA Past Practice (CPP): a process by which a past practice unit containing hazardous substances will be addressed for remedial action (as opposed to RCRA past practice). (see Section 7.3)

Code of Federal Regulations (CFR): regulations developed by the federal government to implement statutory requirements.

Community Relations Plan (CRP): a report that assesses and defines a community's informational needs concerning potential hazards posed by conditions at hazardous waste sites. The CRP also encourages and ensures two-way communication between an affected community and the public agency overseeing the site cleanup. (see Section 10.0)

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as Superfund: the federal statute enacted in 1980 and reauthorized in 1986, which provides the statutory authority for cleanup of hazardous substances that could endanger public health or welfare or the environment.

Conceptual Design Report: DOE's initial design phase for a new hazardous waste management or support unit at Hanford; a specific element necessary in DOE's planning and budget process.

Confined Aquifer: an aquifer having defined, relatively impermeable upper and lower boundaries and the pressure of which is significantly greater than atmospheric.

Contamination (Groundwater and Surface Water): an impairment of quality by biological, chemical, or radiological materials that lowers the water quality to a degree which creates a potential hazard to the environment, public health, or interferes with a beneficial use.

Corrective Measures Implementation (CMI): the step in RCRA past practice process in which a corrective action system is designed and implemented; comparable to the Remedial Design and Remedial Action phases of the CERCLA process. (see Section 7.4)

APPENDIX A

Definition of Terms Used in the Action Plan (sheet 3 of 11)

Corrective Measures Study (CMS): the step in the RCRA past practice process in which alternatives for a corrective action system are investigated and screened; comparable to the Feasibility Study phase of the CERCLA process. (see Section 7.4)

Crib: an underground structure designed to receive liquid waste that can percolate into the soil directly and/or after travelling through a connected tile field.

Cyanide: an extremely hazardous substance used in the extraction of ores, treat of metals, and in the manufacture of pharmaceuticals.

Dangerous Waste (DW): those solid wastes designated in WAC 173-303-070 through 173-303-103 as dangerous or extremely hazardous wastes.

Days: calendar days, unless otherwise specified. Any submittal, Written Notice of Position or written statement of dispute that would be due under the terms of this Agreement on a Saturday, Sunday or federal or state holiday shall be due on the following business day.

Decontamination and Decommissioning (D&D)-(as defined by DOE Order 5840.2 for the D&D Program):

- Decontamination: the removal of radioactive contamination from facilities, equipment, or soils by washing, heating, chemical or electrochemical action, mechanical cleaning, or other techniques.

- Decommissioning: actions taken to reduce the potential health and safety impacts of DOE contaminated facilities, including activities to stabilize, reduce, or remove radioactive materials or to demolish the facilities.

Definitive Design: DOE's design phase in which detailed construction drawings and specifications are prepared following conceptual design for a new, or modification to a facility or unit.

Double Shell Tank (DST): a reinforced concrete underground vessel with two inner steel liners to provide containment and backup containment of liquid wastes; annulus is instrumented to permit detection of leaks from inner liner.

Extremely Hazardous Waste (EHW): those solid wastes designated in WAC 173-303-070 through 173-303-103 as dangerous or extremely hazardous wastes.

APPENDIX A

Definition of Terms Used in the Action Plan (sheet 4 of 11)

Fast Flux Test Facility (FFTF): A liquid metal test reactor that serves as a test tool for advanced reactor technology. Operations at the FFTF began in April 1982 and have since expanded into other areas, such as fusion research, space power systems and isotope production.

Feasibility Study (FS): the step in the CERCLA process in which alternatives for a remedial action system are investigated and screened (see Section 7.3).

Fiscal Year (FY): as used in this document, the federal government fiscal year, October 1 through September 30. Note that the State of Washington fiscal year is July 1 through June 30.

French Drain: a rock-filled encasement with an open bottom to allow seepage of liquid waste into the ground.

Groundwater: water which fills the spaces between soil, sand, rock, and gravel particles beneath the earth's surface. Rain that does not immediately flow to streams and rivers slowly percolates down through the soil to a point of saturation to form groundwater reservoirs. Groundwater flows at a very slow rate, compared to surface water, along gradients which often lead to river systems. If occurring in significant quantities, groundwater can be withdrawn for domestic, industrial, and agricultural purposes.

Grout: a fluid mixture of cementitious materials and liquid waste that sets up as a solid mass and is used for waste fixation and immobilization. The Hanford Grout facility will be regulated under the RCRA program.

Grout Campaign: the complete filling of one vault with treated waste/grout mixture.

Hanford Operable Units Report: documents the assignment of individual units to operable units and provides the rationale and justification for the prioritization of the operable units for the remedial investigation process.

Hanford Site: also referred to as "Hanford" or "Site", the approximately 560 square miles in Southeastern Washington State, excluding leased lands, and State and Bonneville Power Administration owned lands, which is owned by the United States and which is commonly known as the Hanford Reservation (Figure 7-1 in the Action Plan). This definition is not intended to limit CERCLA or RCRA authority regarding hazardous wastes, substances, pollutants or contaminants which have migrated off the Hanford Site.

APPENDIX A

Definition of Terms Used in the Action Plan (sheet 5 of 11)

Hanford Site Waste Management Units Report (HSWMUR): data base listing all known waste management units at Hanford and summarizes the wastes handled, dates of use and other information about each unit. (see Section 3.5)

Hanford Waste Vitrification Plant (HWVP): a facility to be constructed for treatment of high level liquid radioactive waste. Liquids are vitrified or glassified in order to reduce the potential for radioactive and hazardous contamination leaching into the environment. This unit will be regulated under RCRA.

Hazardous and Solid Waste Amendments of 1984, P.L. 98-616 (HSWA): the reauthorization of the RCRA program, enacted by Congress on November 8, 1984.

Hazardous Substance: substances regulated under CERCLA, as defined in CERCLA Sec. 101(14).

Hazardous Waste: those wastes included in the definitions of RCRA 1004(5) and RCW 70.105.010(15).

Hazardous Waste Constituent, also referred to as "hazardous constituent" or "constituent": a constituent that caused the Administrator of the Environmental Protection Agency to list the hazardous waste in 40 CFR Part 261, Subpart D or a constituent listed in Table 1 of 40 CFR 261.24. (Hazardous constituents are listed in 40 CFR Part 261, Appendix VIII).

Hazardous Waste Management Act (HWMA): the Hazardous Waste Management Act, codified at Ch. 70.105 RCW, and its implementing regulation at Ch. 173-303 Washington Administrative Code. (A state program, commonly referred to as the State Dangerous Waste Program, which regulates the generation, treatment, storage and/or disposal of hazardous wastes in cooperation with RCRA).

Imminent and Substantial Endangerment: a situation in which the lead regulatory agency and DOE immediately respond to a release of a hazardous substance or hazardous waste in order to abate the danger or threat to public health or welfare or the environment. Such action may be taken under CERCLA, RCRA, or HWMA authority, as appropriate.

APPENDIX A

Definition of Terms Used in the Action Plan (sheet 6 of 11)

In-Situ Vitrification (ISV): a process by which electrical current is passed through contaminated soils in-place heating the soil to a molten state. While cooling the soils become a homogenous glass-like block thereby minimizing the leachability of contaminants.

Interim Isolation (as pertains to Single-Shell Tanks): disconnecting and blanking or capping pipelines from SST systems and installing barriers to avoid inadvertent liquid addition.

Interim Measure (IM): an expedited action taken under RCRA authority to mitigate a hazardous waste release or to reduce the potential for a future release from a unit. (see Section 7.2.4)

Interim Response Action (IRA): an expedited action taken under CERCLA authority to mitigate a hazardous substance release or to reduce the potential for a future release from a unit. (see Section 7.2.4)

Interim Stabilization (as pertains to Single-Shell Tanks): is the removal of pumpable supernatant and interstitial liquid from SST systems into DST systems. As much liquid as practicable will be removed. Supernatant is free standing liquid. Interstitial liquid is that liquid in the waste matrix contained within the pore spaces of the salts and sludges, some of which is capable of gravity drainage while the rest is held by capillary forces.

Interim Status: a RCRA provision which grants a facility the right to continue to operate (treat, store, or dispose of hazardous waste) in accordance with applicable RCRA or state regulations until a RCRA permit is issued.

Land Disposal Restriction Waste (LDR): RCRA hazardous wastes, subject to Section 3004(d) through (m) of RCRA and 40 CFR 268.

Lead Regulatory Agency: the regulatory agency (EPA or Ecology) which is assigned the primary administrative and technical responsibility with respect to actions under this Agreement at a particular Operable Unit pursuant to Section 4.6 of the Action Plan. The designation of a Lead Regulatory Agency shall not change the jurisdictional authorities of the Parties.

National Oil and Hazardous Substances Pollution Contingency Plan (NCP): the title of the federal regulations (40 CFR Part 300) promulgated under the authority of CERCLA.

National Priorities List (NPL): EPA's list of priority waste sites containing hazardous substances that will be investigated and cleaned up under the Superfund program.

APPENDIX A

Definition of Terms Used in the Action Plan (sheet 7 of 11)

Notice of Deficiency (NOD): a RCRA administrative action in which the lead regulatory agency defines specific deficiencies or omissions in RCRA primary documents. (see Section 9.2)

Operable Unit: a discrete portion of the Hanford Site, as identified in Section 3.3 of the Action Plan. An operable unit at Hanford is a group of land disposal sites placed together for the purposes of doing a Remedial Investigation/ Feasibility Study (RI/FS) and subsequent cleanup actions. The primary criteria for placement of a site into an operable unit includes geographic proximity, similarity of waste characteristics and site type, and the possibility for economies of scale.

Parties: the U.S. Environmental Protection Agency, the State of Washington Department of Ecology, and the U.S. Department of Energy, all of which are signing the Agreement and Action Plan.

Plutonium Uranium Extraction (PUREX): latest in a line of separation technologies, preceded by bismuth phosphate and REDOX.

Preliminary Assessment and Site Inspection (PA/SI): normally the first step in analyzing the nature and severity of contamination at a potential CERCLA site and is used to determine if a site should be nominated for the NPL. Based upon extensive documentation previously submitted to EPA by DOE, this requirement is considered to have been satisfied for the Hanford Site.

Primary Documents: documents which contain information, documentation, data, and proposals upon which key decisions will be made with respect to the remedial action or permitting process. Primary documents are subject to dispute resolution and are part of the administrative record. (see Section 9.2)

Project Manager: the individual responsible for implementing the terms and conditions of the Agreement and Action Plan on behalf of his/her respective Party. EPA, DOE, and Ecology will each designate one Project Manager. (see Section 4.1)

Quality Assurance (QA): the systematic actions necessary to provide adequate confidence that a material, component, system, process, or facility performs satisfactorily, or as planned in service.

APPENDIX A

Definition of Terms Used in the Action Plan (sheet 8 of 11)

Quality Control (QC): the quality assurance actions that control the attributes of a material, process, component, system, or facility in accordance with predetermined quality requirements.

Radioactive Mixed Waste: also called "mixed waste", wastes that contain both hazardous waste subject to RCRA, as amended, and radioactive waste subject to the Atomic Energy Act of 1954, as amended. Mixed waste is regulated under the State Dangerous Waste Program.

Radioactive Waste: a solid, liquid, or gaseous material of negligible economic value that contains radionuclides in excess of threshold quantities except for radioactive material from post-weapons-test activities.

Record of Decision (ROD): the CERCLA document used to select the method of remedial action to be implemented at a site after the Feasibility Study/Proposed Plan process has been completed. (see Section 7.3)

Remedial Action (RA): the CERCLA process of remedial action implementation after the investigative steps have been completed and after issuance of the Record of Decision and after Remedial Design has been completed. (see Section 7.3)

Remedial Design (RD): the CERCLA process of design for the remedial action alternative that was selected in the Record of Decision. (see Section 7.3)

Remedial Investigation (RI): the CERCLA process of determining the extent of hazardous substance contamination and, as appropriate, conducting treatability investigations. The RI is done in conjunction with the Feasibility Study. (see Section 7.3)

Resource Conservation and Recovery Act (RCRA): 42 U.S.C. Sec. 6901 et seq., as amended. For purposes of this Agreement, "RCRA" also includes the HWMA Ch. 70.105 RCW. (A federal law enacted in 1976 that regulates the generation, transportation, treatment, storage, and disposal of hazardous wastes).

Responsiveness Summary: a summary of oral and/or written public comments received during a comment period on key documents, and agency responses to those comments. The responsiveness summary is especially valuable during the decision process at a site, because it highlights community concerns about the proposed decision.

APPENDIX A

Definition of Terms Used in the Action Plan (sheet 9 of 11)

RCRA Facility Assessment (RFA): the initial RCRA process to determine whether corrective action for a RCRA past practice unit is warranted, or to define what additional data must be gathered to make this determination; analogous to a CERCLA Preliminary Assessment and Site Inspection (see Section 7.4)

RCRA Facility Investigation (RFI): the RCRA process of determining the extent of hazardous waste contamination; analogous to the CERCLA Remedial Investigation. (see Section 7.4)

RCRA Past Practice (RPP): a process by which a past practice unit containing hazardous wastes or hazardous constituents will be addressed for corrective action, regardless of the date waste was received or discharged at a unit. (see Section 7.4)

RCRA Permit: a permit under RCRA and/or HWMA for treatment, storage or disposal of hazardous waste.

Revised Code of Washington (RCW): the Washington State statutes.

Secondary Document: as distinguished from Primary Document, it is considered to be a supporting document providing information or data and does not, in itself, reflect key decisions. A secondary document is subject to review by the regulatory agencies and is part of the administrative record. It is not subject to dispute resolution. (see Section 9.2)

Single-Shell Tank (SST): at Hanford, 149 single-shell carbon steel tanks (ranging in size from 55,000 to 1 million gallons) that have been used to store high-level radioactive wastes.

State of Washington Department of Ecology (Ecology): the State of Washington Department of Ecology, its employees and Authorized Representatives.

State-only Wastes: any liquid, solid, gas or sludge, regardless of quantity that exhibits any of the physical, chemical, or biological properties described in WAC 173-303-070 through 103.

Superfund Amendments and Reauthorization Act of 1986 (SARA): the reauthorization of the CERCLA statute, enacted by Congress in December 1986.

APPENDIX A

Definition of Terms Used in the Action Plan (sheet 10 of 11)

Support Agency: the regulatory agency (EPA or Ecology) which is not designated as the lead regulatory agency at an operable unit. The support agency will provide assistance to the lead regulatory agency, as needed.

Technical Assistance Grant (TAG): a grant available from EPA designed to enhance public participation as described in Section 117 of CERCLA. A maximum of $50,000 per NPL site is available. Grant money must be used for the purpose of interpreting information regarding CERCLA activity at the site.

Treatment, Storage, or Disposal (TSD): a RCRA term referring to the treatment, storage, or disposal of hazardous waste. Under RCRA, TSD activity can occur only at units which received or stored hazardous waste after November 19, 1980, the effective date of the RCRA regulations.

Treatment, Storage, or Disposal (TSD) Group: a grouping of TSD units for the purpose of preparing and submitting a permit application and/or closure plan pursuant to the requirements under RCRA, as determined in the Action Plan.

Treatment, Storage, or Disposal (TSD) Unit: a unit used for treatment, storage, or disposal of hazardous waste and is required to be permitted and/or closed pursuant to RCRA requirements as determined in this Action Plan.

Unit Manager: the individual responsible for implementing the terms and conditions of the Action Plan at the operable unit level on behalf of his/her respective Party.

United States Department of Energy (DOE): the United States Department of Energy, its employees and Authorized Representatives.

United States Environmental Protection Agency (EPA): the United States Environmental Protection Agency, its employees and Authorized Representatives.

Unplanned Release: an unintentional release, including a spill, of hazardous waste or hazardous substance into the environment.

Vadose Zone: the unsaturated region of soil between the ground surface and the water table.

Validated Data: Data that DOE has determined meets cirteria contained in the "Data Validation Guidelines for Contract Laboratory Program Organic Analyses" and "Data Validation Guidelines for Contract Laboratory Program Inorganic Analyses" that are contained in the Sample Management Administrative Manual.

APPENDIX A

Definition of Terms Used in the Action Plan (sheet 11 of 11)

Verified Data: Data that has been checked for accuracy and consistency by DOE following a transfer action (e.g., from manual log to computer or from distributed data base to centralized data repository).

Vitrification: [see Hanford Waste Vitrification Plant (HWVP) or In-Situ Vitrification.]

Washington Administrative Code (WAC): the Washington State regulations.

Waste Information Data System (WIDS): a data base which identifies all waste management units on the Hanford Site. It describes the current status of each unit, along with descriptive information. (see Section 3.5)

APPENDIX A

Definition of Other Technical Terms (sheet 1 of 7)

Note: These terms are not considered part of the Action Plan, but are provided to the reader for informational purposes only.

Absorption: the process by which radiation imparts some or all of its energy to any material through which it passes; the taking up of a substance by another substance.

Alpha-Emitter: a radioactive substance, such as plutonium, that emits alpha particles. Alpha radiation is much less penetrating than gamma or beta radiation, but is much more ionizing, and therefore potentially extremely toxic.

Aquifer: a geologic formation, group of formations, or part of a formation capable of yielding significant quantities of groundwater to wells, springs, or other points of discharge.

Aquifer System: a logical grouping of aquifers in a region, grouped on the basis of characteristics such as superficial geology, water quality, and vulnerability.

Annulus: also called "annular space", this is the space between the outer and inner casing of a well, or the space between the wall of the drilled hole and the casing.

As Low As Reasonably Achievable (ALARA): A radiation protection principle applied to radiation exposure, with costs and benefits taken into account.

Background Water Quality: the natural levels of chemical, physical, biological, and radiological constituents or parameters upgradient of a unit, practice, or activity that have not been affected by that unit, practice, or activity.

Barrier: a manmade addition to a disposal site that is designed to retard or preclude contaminant transport and/or to preserve the integrity of the disposal site.

Basalt: a dark, fine-grained, extrusive igneous rock.

Basalt Waste Isolation Project (BWIP): program to study Hanford as a possible location for the high-level nuclear waste repository.

APPENDIX A

Definition of Other Technical Terms (sheet 2 of 7)

Beneficial Uses: uses of waters of the state that include but are not limited to use for domestic water, irrigation, agriculture, fish, shellfish, recreation, industrial water, and generation of electric power.

Beta Radiation: essentially weightless charged particles (electrons or positrons) emitted from the nucleus of atoms undergoing nuclear transformation.

Bottoms (tank bottoms): the concentrated material remaining in the waste tanks after most of the contents have been pumped out for solidification or transfer to other storage tanks; refers also to specific tanks used to collect such bottoms waste from several other tanks.

Byproduct Material: waste produced by extraction or concentration of uranium or thorium from any ore processed primarily for its source material content, including discrete surface waste resulting from uranium solution extraction processes; excludes fission products and other radioactive material covered in 10 CFR Part 20.3(3).

Cold Standby: a condition whereby a reactor is defueled and maintained in a state that will allow the reactor to be restarted, if necessary.

Criteria: numerical or narrative values which represent the maximum level a contaminant must not exceed to maintain a given beneficial use.

Curie (Ci): the basic unit used to describe the intensity of radioactivy. A curie is equal disintegrations to 37 billion pr second.

Defense Waste: radioactive waste from any activity performed in whole or in part in support of DOE atomic energy defense activities; term excludes waste under purview of the Nuclear Regulatory Commission or generated by the commercial nuclear power industry.

Ditch: an unlined conveyance for transport of liquid wastes to a pond or trench structure designed for percolation.

Drywell: a drainage receptable constructed by digging a hole and refilling with coarse gravel; also a watertight well casing used for inserting monitoring equipment.

Enforcement Standard: the value assigned to any contaminant for the purposes of regulating that contaminant.

APPENDIX A

Definition of Other Technical Terms (sheet 3 of 7)

Ethylene Glycol: an organic compound used primarily as an anti-freeze. Ethylene glycol is moderately toxic when ingested.

Evapotranspiration: the combined loss of water from soil by evaporation and from the surfaces of plant structures.

Half-life: the time required for a radionuclide's activity to decay to half its value, used as a measure of the persistence of radioactive materials; each radionuclide has a characteristic constant half-life.

Halogenated Hydrocarbons: organic compounds containing atoms such as chlorine, fluorine, iodine, or bromine.

Hydraulic Continuity: a term used to describe the relationship between groundwater and surface water, wherein they are often connected, allowing flow in either or both directions.

Iodine: a gaseous inorganic chemical produced in the plutonium production reactors at Hanford. Radioactive isotopes of iodine are found in most radioactive waste streams at Hanford.

Ion Exchange: process for selectively removing a hazardous constituent from a waste stream by reversibly transferring ions between an insoluble solid and the waste stream; the exchange medium (usually from a column of resin) can then be washed to collect the waste or taken directly to disposal. Both the residue and liquid stream from this process may still be a hazardous waste.

Isotope: any of two or more forms of a chemical with the same atomic number and nearly identical chemical behavior but different atomic mass and physical (e.g. radioactive) properties.

Jet Pumping: a technique for removing interstitial liquor from single-shell tanks.

Leachate: the product obtained from the passage of water through landfills or storage piles.

APPENDIX A

Definition of Other Technical Terms (sheet 4 of 7)

Lead: a heavy metal used for shielding material in nuclear reactors. Lead can be toxic when ingested or inhaled. Lead can impair nervous system development in children and can cause nervous system damage in adults. Lead is also a reproductive toxin.

Level of Detection: the level at which a constituent can be detected by a department approved method of analysis.

Liquid Waste Disposal Site: units used for discharge of contaminated liquids to the ground.

Low-Level Waste (LLW): typically contains small amounts of radioactivity in large volumes, and most can be handled without protective shielding. Solid low-level waste consists of trash such as clothing, tools, and glassware. Liquid waste consists primarily of water circulated as cooling water.

Lysimeter: an instrument for measuring the water percolating through soils and determining the materials dissolved by the water.

Maximum Contaminant Level (MCL): the maximum level of a contaminant in water that can exist without harming the beneficial use of drinking water. Defined specifically in the Safe Drinking Water Act.

N-Reactor: N-Reactor is a dual purpose reactor, generating electricity from its steam by-product in addition to producing plutonium. It is the only plutonium production reactor at Hanford that has operated since 1971. It is currently in standby status.

National Pollutant Discharge Elimination System (NPDES): grants authority to EPA and authorized states to issue permits for discharge of wastewaters into certain surface water bodies within prescribed limits for constituents, concentrations and volumes.

Percolation: gravity flow of water through pore spaces in rock or soil.

pH: a measure of acidity and alkalinity.

Plume: a defined area of groundwater contamination.

Plutonium: a radioactive element used as the primary fuel in nuclear weapons. Plutonium is purified during various production operations at Hanford.

APPENDIX A

Definition of Other Technical Terms (sheet 5 of 7)

Point of Compliance: a RCRA term, the point at which the groundwater protection standard applies and where monitoring must be conducted. The point of compliance is a vertical surface located at the hydraulically downgradient limit of the waste management area that extends down into the uppermost aquifer underlying the regulated units.

Ponds: surface impoundments used to contain low-level liquid radioactive wastes, mixed wastes, or hazardous wastes.

Receptor: any living entity potentially affected by release of substances to the environment from Hanford operations.

Recharge: the net process of groundwater replenishment by infiltration of surface water through the soil column. Sources of recharge include precipitation and surface runoff from natural and man-made water courses and impoundments.

Reduction/Oxidation (REDOX): a facility and/or processes for separating plutonium from irradiated reactor fuels by using successive steps of chemical reduction/oxidation together with solvent extraction.

Reverse Well: liquid waste disposal structure consisting of a well (sometimes drilled into the water table) into which waste solutions were pumped.

Salt Cake: crystallized nitrate and other salts deposited in waste tanks, usually after active measures are taken to remove moisture.

Sanitary Landfill: a burial operation for disposing of nonradioactive, nonhazardous waste or garbage.

Saturated Zone: the subsurface zone in which all interconnected voids or pores are filled with water.

Seepage Pond: an artificial body of surface water formed by discharge from Hanford process operations.

Solid Waste (radioactive): either solid radioactive material or solid objects that contain radioactive material or bear radioactive surface contamination.

APPENDIX A

Definition of Other Technical Terms (sheet 6 of 7)

Stabilization: treatment of waste or a waste site to protect the environment from contamination.

State Waste Discharge Permit: a permit issued pursuant to Chapter 173-216 WAC.

Strontium 90: a highly radioactive isotope common in most radioactive waste streams at Hanford.

Sulfuric Acid: a highly corrosive inorganic acid used in various production processes at Hanford.

Surplus Facility: any facility or site (including equipment) that has no identified programmatic use and may or may not be radioactively contaminated to levels that require controlled access.

Synthetic Organic: man-made chemical compounds that contain carbon and may be highly persistent in the environment.

Tank Farm: an installation of multiple adjacent tanks, usually interconnected, for storage of liquid waste, or substances used in Hanford operations. Major tank farms at Hanford at underground.

Transuranic (TRU) Waste: waste contaminated with long-lived transuranic elements in concentrations with in a specified range established by DOE, EPA, and the Nuclear Regulatory Commission (NRC). These are elements shown above uranium on the chemistry periodic table, such as plutonium, americium, and neptunium.

Trend Analysis: a statistical methodology used to detect net changes or trends in contaminant levels over time.

Tritium: a radioactive isotope of hydrogen used in nuclear weapons to increase the efficiency of the nuclear reaction.

Tunnel: a large underground storage structure for large pieces of equipment, often on railroad cars; PUREX storage tunnels.

Unconfined Aquifer: an aquifer overlain with permeable material and sensitive to contamination; also, an aquifer that has a water table or surface at atmospheric pressure.

Vault: a RCRA approved, subsurface structure designed for permanent disposal of low-level mixed wastes in grout.

APPENDIX A

Definition of Other Technical Terms (sheet 7 of 7)

Washington Guidance Level (WGL): an interim health level for a contaminant which does not have an established criterion but which may create a public health hazard. A WGL is based on less stringent development processes than a criterion and is meant to act as an enforcement guide until a criterion is established. WGL will be based on the most current available data which may include, but not be limited to: (a) USEPA Maximum Contaminant Level Goals, (b) USEPA Priority Pollutant Values, (c) USEPA Ambient Water Quality Criteria, (d) USEPA Health Advisories, (e) Other States criteria or Guidance Levels, and (f) Department of Social and Health Services Health Risk Assessments.

Water Table: the upper boundary of an unconfined aquifer surface below which soil saturated with groundwater occurs; defined by the levels at which water stands in wells that barely penetrate the aquifer.

200 Areas Plateau: the highest portion (aside from Rattlesnake and Gable Mountains) on the Hanford Site, containing most of the waste processing and storage facilities.

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ATTACHMENT 3

MUTUAL COOPERATION FUNDING AGREEMENT BETWEEN THE STATE OF WASHINGTON DEPARTMENT OF ECOLOGY AND THE U.S. DEPARTMENT OF ENERGY

This MUTUAL COOPERATION FUNDING AGREEMENT (hereinafter called "Funding Agreement"), effective upon the date of signature, is by and between the United States Department of Energy, represented by the Richland Operations Office, and the State of Washington, represented by the Department of Ecology.

Whereas, the parties have entered into an AGREEMENT IN PRINCIPLE BETWEEN THE STATE OF WASHINGTON AND THE UNITED STATES DEPARTMENT OF ENERGY (hereinafter called "the Principle Agreement"), effective the 27th day of February 1989, and;

Whereas, the Department of Energy (DOE) desires to provide funding to the State Agencies responsible for environmental oversight, monitoring and emergency preparedness services to DOE as set forth in the Principle Agreement and this Agreement; and

Whereas, the State of Washington is willing to perform the effort contemplated by the Principle Agreement and this Agreement, and report thereon as contemplated by said agreements; and

Whereas, this Funding Agreement is executed by DOE under the authority of PL 95-91 and other applicable law, and by the State of Washington, through the Governor, under the authority of Article III of the Washington Constitution and Washington Revised Code Chapter 43.06 and other applicable law;

NOW THEREFORE, the parties hereto agree as follows;

ARTICLE I - SCOPE OF AGREEMENT

1. The State of Washington will implement an aggressive environmental oversight program as contemplated by this Agreement and the Principle Agreement, in support of DOE's activities at the Hanford Site, including technical analysis, work to be performed under the Hanford Federal Facilities Agreement and Consent Order (FFACO) sharing of samples and data, public education and information exchange, and monitoring of air, soil, vegetation, wildlife, fish, foodstuffs, ambient radiation, and water in the environs of the Hanford Site. Consistent with the Agreement in Principle which

the parties have signed, the State will establish and staff an extension office at Hanford to assist in the performance of these services.

ARTICLE II - PAYMENT

1. In consideration of the State of Washington's performance of its responsibilities herein, DOE will make available to Ecology advance payments estimated to be $2.9 million. This amount shall be provided through a letter of credit, which DOE shall establish, as follows:

For the period through September 30, 1989	$ 500,000
For the period of October 1989 through September 1991 an estimated	$2,400,000

2. The State of Washington agrees to use and apply the funds provided pursuant to this Agreement for the sole purpose of helping to defray the costs of its employees who are performing work under the Principle Agreement and this Agreement (salary and related costs), and the reasonable directly associated costs of the State's activities under the Principle Agreement and this Agreement. The State of Washington agrees to establish procedures which will assure that the funding is utilized as provided herein.

3. Funding is currently available only in the amount of $500,000. Payments commencing in October 1989 are subject to the availability of funds appropriated by the Congress which DOE may legally obligate and pay.

4. Funding for the State for its CERCLA costs and for the payment of RCRA permit fees and reasonable service charges pursuant to applicable State law are covered under the Hanford Federal Facilities Agreement and Consent Order, and therefore, such costs are separate from this agreement.

5. DOE shall, subject to the availability of appropriated funds, continue to provide funding to the State to perform the work and services under this Agreement during the period federal FY 1990 through FY 1993. On an annual basis, the State shall submit to DOE a proposed work scope and cost estimates for work and services to be performed by the State under this Agreement during the upcoming federal fiscal year. Subsequent to review by DOE, DOE shall provide such funds to the State through its letter of credit in accordance with this Agreement. In the event DOE disagrees with the State's proposed work scope and cost estimates, or does not have sufficient funds available, the signatories to the Agreement in Principle will attempt to resolve the funding level. Failure to agree to the funding amount shall result in termination of this agreement.

6. Ecology's performance of its obligations under Article I shall be

excused if its costs are not paid pursuant to the terms of this Funding Agreement.

ARTICLE III - REPORTS, RECORDS AND ACCOUNTS

1. The State of Washington agrees to keep records and books of account, in accordance with generally accepted accounting principles and practices, covering the DOE's payment of funds and the State's use of such funds.

2. The State will provide to DOE, within 90 days after the end of each federal fiscal year, a Financial Status Report (SF 269, short form) showing the expenditure of DOE funds under this agreement.

3. DOE shall at all reasonable times be afforded access to the books and records and to related correspondence, receipts, vouchers, memoranda, and other data reflecting the use of funds provided under this Funding Agreement. The State of Washington shall preserve such books and papers in accordance with the retention requirements referenced in Article IV Examination of Records by Comptroller General.

ARTICLE IV - EXAMINATION OF RECORDS

1. The Comptroller General of the United States or any of his duly authorized representatives shall, until the expiration of 3 years after final payment of funds under this Funding Agreement, have access to and the right to examine any directly pertinent books, documents, papers, and records of the State involving transactions related to this Funding Agreement.

2. Expenditures 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)

3. Nothing herein shall be deemed to preclude an audit by the General Accounting Office of any transaction under this Agreement.

ARTICLE V - OFFICIALS NOT TO BENEFIT

No member of or delegate to Congress, or resident commissioner, shall be admitted to any share or part of the Funding Agreement or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this Agreement if made with a corporation for its general benefit.

ARTICLE VI - TERM AND TERMINATION

This Funding Agreement shall be in effect through federal FY 93; provided, however, that if the Principle Agreement is terminated, this Funding Agreement shall also terminate and any obligation of the State of Washington to perform the effort as contemplated herein and any obligation of DOE to provide funding as contemplated herein shall cease upon the effective date of the termination.

ARTICLE VII - IMPACT OF OTHER ARRANGEMENTS AND CONTINUATION

The parties agree that, prior to the expiration of this Funding Agreement, they will enter into discussions regarding the need for continuation or extension of this Funding Agreement.

DATED THIS 15th DAY OF May, 1989.

FOR THE STATE OF WASHINGTON

Christine O. Gregoire
Director
Department of Ecology

FOR THE U.S. DEPARTMENT OF ENERGY

Michael J. Lawrence
Manager
Richland Operations Office