

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
and
THE STATE OF COLORADO

IN THE MATTER OF:)	FEDERAL FACILITY
)	AGREEMENT AND
)	CONSENT ORDER
UNITED STATES DEPARTMENT)	
OF ENERGY)	CERCLA/RCRA-VIII-89-
)	
ROCKY FLATS (COLORADO) SITE)	STATE OF COLORADO
)	DOCKET # _____
)	

CHAPTER I

GENERAL PROVISIONS

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

This Agreement is divided into five Chapters. Chapter One contains statements of jurisdiction, parties, and the purposes of this Agreement, as well as general introductory information. Chapter Two contains provisions addressing the role of the State of Colorado (State) when the State acts as the Lead Regulatory Agency for various Operable Units at the Site pursuant to its authority under the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §§ 6901 et seq., and the Colorado Hazardous Waste Act (CHWA), §§ 25-15-101, et seq. C.R.S. Chapter Three addresses EPA's role as Lead Regulatory Agency for various

ADMIN RECORD

1
"REVIEWED FOR CLASSIFICATION"
By R B Hoffman
Date 7-11-90

REVIEWED FOR CLASSIFICATION/UCNI
By George H. Sedlock
Date @ 6/27/90

Operable Units at the Site, pursuant to the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986 (CERCLA), 42 U.S.C. § 9601 et seq. Chapter Four provides the mechanism for integration of EPA and State responsibilities pursuant to CERCLA, RCRA and CHWA through the Lead/Support Regulatory Agency concept, and provides the mechanism for resolving disputes over regulatory conflicts in this context. Chapter 5 contains common provisions. All Chapters shall be construed as a whole, subject to Part 46 (Severability). Nothing in this Agreement shall be construed to change the jurisdictional authorities of the Parties. Titles to Parts and Chapters of this Agreement are for descriptive purposes only.

PART 1 JURISDICTION

1. The United States Environmental Protection Agency, Region VIII (EPA), enters into those portions of this Agreement that relate to the Remedial Investigation/Feasibility Study (RI/FS) pursuant to section 120(e)(1) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. § 9620(e)(1), 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. §§ 6961, 6928(h), 6924(u) and (v), as amended by the Hazardous and Solid Waste Amendments of 1984

(HSWA) [hereinafter jointly referred to as RCRA] and Executive Order 12580.

2. EPA enters into those portions of this Agreement that relate to interim remedial actions and final remedial actions pursuant to section 120(e)(2) of CERCLA, Executive Order 12580, and sections 6001, 3008(h), and 3004(u) and (v) of RCRA.

3. Pursuant to section 3006 of RCRA, 42 U.S.C. § 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 Colorado has received authorization from EPA to administer and enforce such a program within the State of Colorado. In addition, Colorado is, as of the date of execution of this Agreement, one of only five States authorized by EPA to regulate radioactive mixed wastes under RCRA. The Colorado Department of Health (CDH) is the State agency designated by section 25-15-301(1) C.R.S. (1982) to implement and enforce the provisions of RCRA and CHWA.

4. The State of Colorado (the State), enters into this Agreement pursuant sections 107, 120(f), 121, and 310 of CERCLA, § 3006 of RCRA, and CHWA. Portions of Attachment 2 and 3 that relate to RCRA and CHWA are Compliance Orders on Consent issued by the State pursuant to § 25-15-308(2), C.R.S.

5. The United States Department of Energy (DOE) enters into those portions of this Agreement that relate to the RI/FS pursuant to section 120(e)(1) of CERCLA, sections 6001, 3008(h), and 3004(u) and (v) of RCRA, the National Environmental Policy

Act (NEPA), 42 U.S.C. § 4321, Executive Order 12580, and the Atomic Energy Act of 1954, as amended (AEA), 42 U.S.C. § 2011 et seq.

6. DOE enters into those portions of this Agreement that relate to interim remedial actions and final remedial actions pursuant to section 120(e)(2) of CERCLA, sections 6001, 3008(h), and 3004(u) and (v) of RCRA, Executive Order 12580, NEPA, and the AEA.

7. Pursuant to section 120(a) of CERCLA, DOE agrees that it is bound by this Agreement and that the terms of this Agreement may be enforced against it pursuant to Parts 13 (Enforceability), 20 (Enforceability), and 48 (Reservation of Rights) of this Agreement or as otherwise provided by law. DOE consents to and will not contest EPA or State jurisdiction for the purpose of executing and enforcing this Agreement or its requirements.

8. The Parties agree that the generation, treatment, storage, and disposal of hazardous waste at the Rocky Flats Site is regulated by the State pursuant to CHWA and regulations governing the management of hazardous wastes contained at 6 CCR 1007-3 (4-87). Pursuant to section 6001 of RCRA, 42 U.S.C. § 6961, DOE agrees that as a Federal agency it must comply with the procedural and substantive requirements of such State law, except as provided by paragraphs 107 and 121, and Parts 27 (EPA-State Dispute Resolution) and 29 (RCRA/CERCLA

Reservation of Rights) of this Agreement. DOE agrees that it is a "person" as defined at § 25-15-101(18) C.R.S. (1982).

9. The activities undertaken pursuant to this Agreement shall be consistent with CERCLA and the National Oil and Hazardous Substances Pollution Contingency Plan, 40 C.F.R. Part 300, Federal Register Vol. 50, No. 224, at 47912 (November 20, 1985) [NCP]. If the NCP or any other statute or regulation pertinent to this Agreement is amended subsequent to the date of execution of this Agreement, any modifications to this Agreement made necessary by such amendments shall be incorporated by modification into this Agreement, and other modifications related to such amendments shall be subject to further negotiations.

10. On the effective date of this Agreement as established pursuant to Part 56 (Effective Date) of the Agreement, the 1986 Compliance Agreement, RCRA VIII-86-06/CERCLA VIII-86-08, which became effective on July 31, 1986, shall terminate and be replaced with this Agreement by consensus of the Parties. The 1986 Compliance Agreement required that DOE conduct Remedial Investigations and Feasibility Studies (RI/FSs) and conduct Facility Investigations and/or closure activities for RCRA corrective action at the Site. The Parties have determined that the 1986 Compliance Agreement should be terminated and replaced by this Agreement for the following reasons:

A. The 1986 Compliance Agreement did not reflect the new requirements of SARA, including but not limited to

the requirements governing Federal facilities pursuant to section 120 of CERCLA.

B. Since the 1986 Compliance Agreement was issued, EPA's and the State's priorities for investigation of the Site have been clarified based on increased knowledge of the Site accrued from the ongoing investigation. The current priorities place greater emphasis on those Operable Units that, based on information presently available, are known to pose the greatest risk to humans and the environment through actual or potential contact with wastes or contaminated soils, air, or water. EPA and the State establish criteria in this Agreement's Statement of Work reflecting priorities for addressing both human health and environmental issues.

Any work currently being conducted pursuant to the 1986 Agreement shall be incorporated into the requirements of this Agreement and shall become enforceable parts hereof.

PART 2 PARTIES AND ROLE OF DOE CONTRACTORS

11. The Parties to this Agreement are EPA, the State, and DOE.

12. DOE shall provide a copy of this Agreement and relevant attachments to its prime contractors. DOE is responsible for and assumes all liability for costs of CERCLA response actions or corrective actions required due to actions of its 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, and the provisions of this Agreement shall be binding on any successors in interest.

13. DOE shall notify EPA and the State of the identity and work scope 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 lower tier subcontractors performing work under this Agreement. DOE shall be responsible for ensuring that all contractors, employees, agents, consultants, firms, and other persons or entities acting on behalf of DOE with respect to matters included herein, will comply with the terms of this Agreement. DOE remains obligated by this Agreement regardless of whether it carries out the terms through agents, contractors, operators, and/or consultants.

PART 3 STATEMENT OF PURPOSE

14. The general purposes of this Agreement are to:

A. Ensure that the environmental impacts associated with past and present activities at the Site will continue to be thoroughly investigated and that appropriate response action is taken and completed as necessary to protect the public health, welfare, and environment.

B. Facilitate cooperation and the exchange of information and expertise of the Parties to this Agreement.

C. Establish a procedural framework and schedule for developing, implementing, and monitoring appropriate response actions at the Site in accordance with CERCLA, RCRA, and CHWA, implementing regulations of these statutes, including the NCP, and CERCLA, CHWA, and RCRA guidance and policy.

D. Provide a framework for permitting RCRA Treatment, Storage, and Disposal Units (TSDs); promote an orderly, effective investigation and cleanup of contamination at the Site; and avoid litigation between the Parties.

E. Ensure compliance with RCRA and CHWA, including requirements covering permitting, corrective action, closure, and post-closure care.

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

A. Identify Interim Remedial Actions (IRAs) and Interim Measures (IMs), if any, which are appropriate at the Site prior to the implementation of final remedial actions for the Site. IRA/IM alternatives shall be identified and proposed as early as possible prior to selection of final IRAs/IMs by EPA and the State. This process is designed to promote cooperation among the Parties in identifying IRA/IM alternatives prior to selection of final IRAs/IMs.

B. Identify any additional TSD Units that require permits; establish schedules to complete DOE's Part B permit application for such Units in accordance with the Statement of Work; identify TSD Units that will undergo closure; close such TSD Units in accordance with State-approved closure plans and other laws and regulations; require post-closure care when necessary in accordance with post-closure permits or approved plans and other laws and regulations; and coordinate closure with any interconnected corrective or remedial action at the Site.

C. Establish requirements for the performance of a Remedial Investigation/RCRA Facility Investigation (RI/RFI) for each Operable Unit (OU) at the Site to determine fully the nature and extent of the threat to the public health or welfare or the environment caused by the release or threatened release of hazardous substances, pollutants, contaminants, hazardous waste or constituents at the Site; and to establish requirements for the performance of a Feasibility Study/Corrective Measures Study (FS/CMS) for each OU at the Site to identify, evaluate, and select alternatives for the appropriate remedial/corrective action(s) to prevent, mitigate, or abate the release or threatened release of hazardous substances, pollutants,

contaminants, hazardous waste or constituents at the Site in accordance with CERCLA, RCRA, and CHWA.

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

E. Implement the selected IRAs/IMs and final remedial/corrective actions in accordance with CERCLA, RCRA, and CHWA.

F. Assure compliance with Federal and State hazardous waste laws and regulations for matters covered by this Agreement.

G. Describe the roles and responsibilities of the Parties.

H. Describe and list the applicable or relevant and appropriate legal requirements for remedial action(s).

I. Provide for continued operation and maintenance of the selected remedial/corrective action(s).

PART 4 STATUTORY COMPLIANCE/RCRA-CERCLA INTEGRATION

16. The Parties intend to integrate into this Agreement DOE's CERCLA response obligations and CHWA and RCRA closure and corrective action obligations which relate to the release(s) of hazardous substances, contaminants, pollutants, hazardous wastes, and hazardous constituents covered by this Agreement. Therefore, the Parties intend that compliance with activities covered by

this Agreement will be deemed to achieve compliance with CERCLA, 42 U.S.C. § 9601 et seq.; to satisfy the corrective action requirements of sections 3004(u) and (v) of RCRA, 42 U.S.C. § 6924(u) and (v), for a RCRA permit, and section 3008(h), 42 U.S.C. § 6928(h), for interim status facilities; the closure and corrective action requirements of CHWA; and to meet or exceed all applicable or relevant and appropriate Federal and State laws and regulations, to the extent required by section 121 of CERCLA, 42 U.S.C. § 9621.

17. Operable Units (OUs) at the Rocky Flats Site have been classified as either 1) State Lead Regulatory Agency OUs that the State will address under RCRA and CHWA primarily, but shall also address CERCLA requirements, 2) EPA Lead Regulatory Agency OUs that EPA shall address primarily under CERCLA, but shall also address RCRA and CHWA requirements, or 3) EPA-State joint lead OUs. Chapter 2 of this Agreement sets forth the State's responsibilities as Lead Regulatory Agency and DOE's obligations to obtain TSD permits, to close TSD Units, and otherwise comply with applicable RCRA and CHWA requirements. Chapter 3 of this Agreement sets forth EPA's responsibilities as Lead Regulatory Agency and DOE's obligations to satisfy CERCLA.

18. On November 2, 1984, EPA authorized the State to implement CHWA in lieu of the base RCRA Program implemented by EPA. On July 14, 1989, EPA authorized the State to implement, inter alia, the corrective action provisions of HSWA pursuant to section 3006 of RCRA. EPA will administer those provisions of

Subtitle C of RCRA for which the State is not authorized. When the State issues a permit to DOE for hazardous waste management activities pursuant to Chapter 2 of this Agreement, any interim and remedial actions at OUs will be incorporated in the corrective action requirements of the permit.

19. When Corrective Action regulations are promulgated and become effective, the Parties agree to amend the Statement of Work as necessary to incorporate such regulatory requirements. Prior to such amendment, should any activity at an OU identified as a State lead reach the corrective action stage, DOE and the State will utilize the CERCLA remedial action process.

20. Based upon the foregoing, the Parties intend that any remedial action/corrective action selected, implemented, and completed under this Agreement shall be deemed by the Parties to be protective of human health and the environment such that remediation of releases covered by this Agreement shall obviate the need for further action on those same OUs or individual sites outside the scope of this Agreement.

21. The State is preparing a draft permit for certain ongoing hazardous waste management activities at the Plant. The draft permit will incorporate corrective action provisions. The Parties recognize the need for consistency between the draft permit conditions and Attachments 2 and 3 of this Agreement. To insure such consistency, the State will include provisions of Attachments 2 and 3 in the draft permit. Should public comment on the draft permit necessitate changes to the corrective action

portions of the permit, the Parties agree to meet to resolve inconsistencies between the two documents. The Corrective Action schedules of the final permit shall be incorporated into this Agreement and shall become an enforceable part hereof.

PART 5 DEFINITIONS

22. Except as noted below or otherwise explicitly stated, the definitions provided in CERCLA, RCRA, CHWA, and their implementing regulations, as appropriate, shall control the meaning of the terms used in this Agreement. If there is inconsistency in any definition in CERCLA, RCRA, or CHWA, the definitions in CERCLA shall apply.

In addition:

23. "Additional Work" within the context of this Agreement shall mean any new or different work outside 1) the originally agreed upon Statement of Work and 2) any subsequent Workplans incorporated into this Agreement.

24. "Administrative Record" shall refer to the compilation of documents which establishes the basis of all remedial action decision(s) for each OU at the Site, required pursuant to Part 44 (Public Participation) of this Agreement, the Statement of Work incorporated into this Agreement as Attachment 2, and section 113(k)(1) of CERCLA. The Administrative Record requirements shall apply to all OUs at the Site.

25. "Agreement" shall refer to this document and shall include all Submittals, Attachments, Addenda, Amendments, and Modifications to this document. All such Submittals,

Attachments, Addenda, Amendments, and Modifications shall be incorporated into and become an enforceable part of this Agreement.

26. "As appropriate" when used throughout this Agreement in reference to dispute resolution provisions of Parts 12, 16, and/or 27, shall mean use of Part 12 dispute resolution mechanisms for disputes arising at an OU for which the State is the Lead Regulatory Agency, except as otherwise provided throughout this Agreement; use of Part 16 dispute resolution mechanisms for disputes arising at an OU for which EPA is the Lead Regulatory Agency, except as otherwise provided throughout this Agreement; and use of Part 27 for disputes between EPA and the State except as otherwise provided throughout this Agreement.

27. "Authorized representative" shall include a Party's contractors or agents acting in a specifically designated or defined capacity, including in an advisory capacity.

28. "CERCLA," shall mean the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. § 9601 et seq., as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), Pub. L. 99-499, and the NCP.

29. Colorado Hazardous Waste Act (CHWA) shall refer to §§ 25-15-101 et seq., C.R.S. (1982) as amended, and its implementing regulations.

30. "Consultation," as that term is used anywhere in this Agreement to describe EPA's obligation to consult with the State, shall include, but not be limited to, reviewing any State

comments and recommendations, advising the State of EPA's proposed position or determination, giving in writing its reasons for disagreeing with any comments or recommendations by the State, and, if requested, meeting with the State to attempt to resolve differences before announcing its position or determination. Where the term is used to describe the State's obligations to consult with EPA, the same obligations shall apply.

31. "Corrective Action" (CA) shall refer to the RCRA term for the cleaning up of releases of hazardous waste or hazardous constituents at treatment, storage, or disposal facilities subject to Subtitle C of RCRA.

32. "Corrective Action Decision" (CAD) shall refer to the RCRA term for the decision by the State or EPA selecting a corrective measure alternative or alternatives to remedy environmental concerns at a Site. Consideration will be given to health risks, environmental effects and other pertinent factors. The selecting agency shall use technical, human health, and environmental criteria to justify the remedy selection.

33. "Corrective Measures Study" (CMS) shall refer to the RCRA term for the study through which the owner/operator of a facility identifies and evaluates appropriate corrective measures and submits them to the regulatory agency.

34. "Days" shall mean calendar days unless business days are specified. Any submittal or Written Statement of Dispute that under the terms of this Agreement would be due on a

Saturday, Sunday, State of Colorado, or Federal holiday shall be due on the following business day.

35. "Individual Hazardous Substance Site (site)" shall refer to individual locations where hazardous substances have come to be located at a discrete area within the larger "Site".

36. "Interim Measure" (IM) shall refer to the RCRA term for corrective actions, generally of short term, that may be taken at any time during the RFI/CMS process, to respond to immediate threats, such as actual or potential exposure to hazardous waste or constituents, drinking water contamination, threats of fire and explosion, and other situations posing similar threats.

37. "Lead Regulatory Agency" is that regulatory agency (EPA or the State) which is assigned primary administrative and technical responsibility with respect to actions under this Agreement at a particular Operable Unit pursuant to the Statement of Work attached hereto as Attachment 2.

38. "Operable Unit" (OU) shall refer to those groupings of individual hazardous substance sites into a single management area, as detailed in the Statement of Work attached herein as Attachment 2, and any additional groupings developed for the Site according to the procedures in Part 22 of this Agreement.

39. "Radioactive Mixed Waste" or "Mixed Waste" shall refer to waste that contains both hazardous waste and material that DOE classifies as source, special nuclear, or byproduct material.

40. "Interim Remedial Action" (IRA) shall refer to the CERCLA term for an expedited response action done in accordance

with remedial action authorities to abate an actual or potential threat to public health, welfare, or the environment at or from the Site.

41. "RCRA" means the Resource Conservation and Recovery Act, 42 U.S.C. § 6901 et seq., as amended by the Hazardous and Solid Waste Amendments of 1984, and implementing regulations.

42. "RCRA Permit" means a permit issued under RCRA and/or CHWA for treatment, storage, or disposal of hazardous waste.

43. "RCRA Facilities Investigation" shall refer to the RCRA term for an investigation conducted by the owner/operator of a facility to gather data sufficient to fully characterize the nature, extent, and rate of migration of contamination from releases identified at the facility.

44. "Site" shall refer to the federal enclave known as the Rocky Flats Plant, including the buffer zone, as identified in the map attached hereto as Attachment 1 and shall also include all areas that are contaminated by hazardous substances, pollutants, or contaminants as those terms are defined in sections 101(14) and (33) of CERCLA, and/or any hazardous waste or hazardous constituents as those terms are defined in section 1004 of RCRA or CHWA from sources at the federal enclave.

45. "Solid Waste Management Unit" (SWMU) means an individual location on the Rocky Flats Site where solid waste, including hazardous waste, has or may have been placed, either planned or unplanned, as identified in the Statement of Work.

46. "State" shall refer to the State of Colorado, its employees and authorized representatives.

47. "Statement of Work" is an initial project description including, at a minimum, the elements listed in Attachment 2 to this Agreement. The elements listed in the Statement of Work shall form the basis of any Workplan(s) developed for the Site.

48. "Submittal" shall mean every document, report, schedule, deliverable, Workplan, or other item to be submitted to EPA and the State pursuant to this Agreement.

49. "Timetables and deadlines" shall mean schedules for performance of tasks including Submittals and all work and actions which are to be completed and performed in conjunction with such schedules (including performance of actions established pursuant to the dispute resolution procedures set forth in Parts 12, 16 or 27 of this Agreement). The "deadline(s)" established in the schedules shall reflect the dates by which documents are to be received by EPA or the State.

50. "TSD Unit" means a treatment, storage, or disposal unit which is required to be permitted and/or closed pursuant to RCRA and CHWA requirements as determined in the Statement of Work.

51. "U.S. DOE" or "DOE" shall mean the United States Department of Energy and/or any predecessor or successor agencies, their employees and authorized representatives.

52. "U.S. EPA" or "EPA" shall mean the United States Environmental Protection Agency, its employees and authorized representatives.

53. "Workplan(s)" shall refer to the detailed plans developed from the Statement of Work incorporated into this Agreement and to be attached hereto.

54. "Written Statement of Dispute" shall mean a written statement by a Party of its position with respect to any matter subject to dispute resolution pursuant to either Part 12, 16, or 27 of this Agreement, as appropriate, containing, at a minimum, the elements described in paragraphs 92 and 109.

PART 6 LEGAL BASES OF AGREEMENT

55. The following Paragraphs 56 through 88 constitute a summary of the Findings of Facts, Conclusions of Law, and Determinations upon which EPA and the State are relying to enter into this Agreement. Nothing in the following Parts shall be considered admissions by DOE, nor shall they be used for any purpose other than to determine the jurisdictional basis of this Agreement.

PART 7 FINDINGS OF FACT

56. The U.S. Department of Energy's Rocky Flats Plant, (the Plant or Rocky Flats), was acquired and established in 1951 by the U.S. Atomic Energy Commission (AEC), began operation in 1953, and is still an operating plant. Rocky Flats is part of a nation-wide nuclear weapons research, development, and production complex. The Management and Operating contractor from July 1975 through December 1989 is Rockwell International. Prior to July 1975, the Dow Chemical Company was the operating contractor. The Plant, in existence since 1951, is the sole manufacturing plant

in the country for production of plutonium components for nuclear weapons. Both radioactive and nonradioactive wastes are generated in the process. Storage and disposal of hazardous and radioactive wastes occurred at various locations within the boundaries of the federally-owned property.

57. The Site consists of 2650 hectares (6550 acres) of Federally owned land plus property beyond the boundaries that has become contaminated from sources within the boundaries of the Federally-owned property. The Site is located approximately 26 kilometers (16 miles) northwest of downtown Denver and is almost equidistant from the cities of Boulder, Golden, and Arvada. In addition to these cities, several large communities are located near the Site, including Louisville, Lafayette and Broomfield. Major plant structures are located within a security-fenced area of 155 hectares (384 acres).

58. The Site is directly upstream of two major metropolitan drinking water supplies (Great Western Reservoir and Standley Lake) and some groundwater drinking and agricultural water supply sources. The 1980 population, within a 50-mile radius of the plant, consisted of approximately 1.8 million people. Several ranches are located within 10 miles of the Site. They are operated to produce crops, raise beef cattle, supply milk, and/or breed and train horses.

59. Production of nuclear weapons components, reprocessing of radioactive substances, various mission support laboratory

research, and modern metals fabrication are the primary functions of the Plant.

60. Since establishment of the Plant in 1951, materials defined as hazardous substances, pollutants, and contaminants by CERCLA, and materials defined as hazardous waste and hazardous constituents by RCRA and/or CHWA, have been produced and disposed or released at various locations at the Site, including, but not limited to, Treatment, Storage and Disposal Units (TSDs). Certain hazardous substances, contaminants, pollutants, hazardous wastes, and hazardous constituents have been detected and remain in groundwater, surface water, and soils at the Site. Groundwater, soils, sediments, surface water, and air pathways provide routes for migration of hazardous substances, pollutants, contaminants, hazardous wastes, and hazardous constituents from the Plant into the environment.

61. DOE has since July 1, 1975, contracted with Rockwell to perform management services and operate the Plant in support of DOE's production activities. Effective January 1, 1990, the new operating contractor will be EG & G.

62. Consistent with section 3010 of RCRA, 42 U.S.C. § 6930, DOE and Rockwell notified EPA of hazardous waste activity at the Plant on or about August 18, 1980. In this notification, DOE and Rockwell identified themselves as a generator and as a treatment, storage, and/or disposal facility of hazardous waste at the Plant. DOE and Rockwell also identified themselves as handling several hazardous wastes at the Plant.

63. The Site was proposed for inclusion on the National Priorities List (NPL) on October 15, 1984, pursuant to section 105 of CERCLA, 42 U.S.C. § 9605 and became final September 21, 1989.

64. On November 1, 1985, DOE and Rockwell filed Part A and B permit applications to both EPA and the State, identifying certain hazardous waste generation streams and processes.

65. On December 4, 1985, CDH issued a Notice of Intent to Deny DOE's Part B permit application on the grounds of incompleteness.

66. On July 31, 1986, DOE, CDH, and EPA entered into a Compliance Agreement (1986 Compliance Agreement) which defined roles and established milestones for major environmental operations and corrective/remedial action investigations for the Site. The 1986 Compliance Agreement also established requirements for compliance with CERCLA. Through this action, the 1986 Compliance Agreement established a specific strategy which allowed for management of high priority past disposal areas and low priority areas at the Site.

67. Pursuant to the 1986 Compliance Agreement, DOE identified approximately 166 individual hazardous substance sites and RCRA/CHWA regulated closure sites.

68. The 1986 Compliance Agreement also established roles and requirements for compliance with RCRA and CHWA through compliance with interim requirements and submittal of required

permit applications and closure plans. The major TSD units identified to date which may have impacted groundwater and soils include the Solar Evaporation Surface Impoundments, the Present Landfill, the Old Process Waste Lines, the Building 443 Fuel Oil Tank, the West Spray Fields, and Outside Storage Areas [See Map, Attachment 1]. DOE and Rockwell have submitted additional closure plans which are being evaluated by EPA and the State to determine whether these areas are sources of groundwater and soils contamination.

69. Through the 27 specific tasks identified in the five schedules included in the 1986 Compliance Agreement, DOE and Rockwell identified over 2000 waste generation points.

70. As required by the 1986 Compliance Agreement, draft Remedial Investigation/Feasibility Study (RI/FS) reports and revisions for the 881 Hillside Area and draft RI reports and Workplans for the 903 Pad, East Trenches, and Mound Areas were submitted.

71. Several evaluations discussed in paragraph 70, above, have indicated elevated levels of hazardous substances including uranium, plutonium, and other metals of concern. In addition, contamination from chlorinated hydrocarbons has been detected in groundwater at the Site. These materials have toxic effects, including possible carcinogenic, mutagenic, and/or teratogenic effects on humans and other life forms.

PART 8 CONCLUSIONS OF LAW

72. Based on the Findings of Fact set forth in paragraphs 56 to 71 and the information available as of the date of execution of this Agreement, EPA and the State have determined the following:

73. DOE is a "person" as defined in section 101(21) of CERCLA, 42 U.S.C. section 9601(21).

74. The Rocky Flats Site is a "facility" as defined in section 101(9) of CERCLA, 42 U.S.C. section 9601(9).

75. DOE is the "owner" of the Rocky Flats Site within the meaning of section 101(20)(A) of CERCLA, 42 U.S.C. § 9601(20)(A).

76. Plutonium, trichloroethylene (TCE), tetrachloroethylene (PCE), and 1,1,1, trichloroethane (TCA), inter alia, are "hazardous substances" as defined by section 101(14) of CERCLA, 42 U.S.C. § 9601(14)(E). Attachment 4 lists all the hazardous substances found in significant quantities at the Site.

77. The discharge, pouring, emitting, and/or disposing of these hazardous substances at the Rocky Flats Site constitutes a "release" as defined in section 101(22) of CERCLA, 42 U.S.C. section 9601(22).

PART 9 DETERMINATIONS

78. Based on the preceding Findings of Facts, Conclusions of Law, information available as of the date of execution of this Agreement, and the entire Administrative Record for this Site, EPA and the State have determined that:

79. The Rocky Flats Site is subject to the requirements of CERCLA.

80. Pursuant to § 6001 of RCRA, 42 U.S.C. § 6961, DOE is subject to, and must comply with RCRA and CHWA.

81. DOE is a responsible party subject to liability pursuant to 42 U.S.C. § 9607 of CERCLA, with respect to present and past releases at the Rocky Flats Site.

82. There is or has been a release of hazardous substances, pollutants, or contaminants into the environment from the Rocky Flats Site.

83. The Rocky Flats Plant includes certain hazardous waste treatment, storage, and disposal units authorized to operate under section 3005(e) of RCRA, 42 U.S.C. § 6925(e), and section 25-15-303(3) of CHWA, and is subject to the permit requirements of section 3005 of RCRA, and section 25-15-303 of CHWA.

84. Certain wastes and constituents at the Rocky Flats Site are hazardous wastes or hazardous constituents as defined by section 1004(5) of RCRA, 42 U.S.C. § 6903(5), and 40 C.F.R. Part 261. There are also hazardous wastes or hazardous constituents at the Rocky Flats Site within the meaning of section 25-15-101(9) of CHWA and 6 CCR 1007-3, Part 261.

85. The Rocky Flats Site constitutes a facility within the meaning of sections 3004 and 3005 of RCRA, 42 U.S.C. §§ 6924 and 6925, and section 25-15-303 of CHWA.

86. DOE is the owner and co-operator, and Rockwell is the co-operator, of the Rocky Flats hazardous waste management facility within the meaning of RCRA and CHWA.

87. There is or has been a release of hazardous waste and/or hazardous constituents into the environment from Solid Waste Management Units and disposal of hazardous waste within the meaning of section 3004(u) of RCRA, and CHWA.

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

CHAPTER TWO

STATE AS LEAD REGULATORY AGENCY

PART 10 STATE RESPONSIBILITIES

89. This Chapter Two addresses the roles and responsibilities of the State for OUs for which the State is the Lead Regulatory Agency. The Parties agree that the State shall perform its responsibilities under this Agreement in accordance with the provisions of Chapter 4.

90. OUs for which the State has been designated the Lead Regulatory Agency are identified in Attachment 2. Additional OUs for which the State shall be the Lead Regulatory Agency shall be identified according to the procedures in paragraph 142 of this Agreement.

PART 11 PERMITTING AND CLOSURE

91. DOE shall comply with RCRA and CHWA permit and closure requirements, including State-approved closure plans, for OUs specifically identified for permitting or closure in the Statement of Work, and shall submit permit applications and closure plans in accordance with the Statement of Work. DOE shall implement all closures in accordance with the Statement of Work and approved Workplans. Closures under this Chapter shall be regulated by the State under applicable law, but shall as necessary be coordinated with remedial action requirements of this Agreement.

PART 12 RESOLUTION OF DISPUTES

92. If DOE objects to any action taken by the State in accordance with the State's role as Lead Regulatory Agency as described in Chapter 4, it shall submit to the State Project Coordinator within 14 days of such State action, a Written Statement of Dispute, setting forth the nature of the dispute, DOE's position with respect to the dispute, and the information relied upon to support its position. EPA shall invoke the provisions of this Part for disputes regarding approval by the State in accordance with its role as Lead Regulatory Agency, of Submittals other than Workplans, the Comprehensive Risk Assessment, IRAs/IMs, draft Proposed Plans, and CAD/RODs. The Parties agree to raise disputes within fourteen days of any such State action; however, failure to raise a dispute within this timeframe shall not affect any remedial/corrective action selection authorities pursuant to Chapter 4. All Parties to this Agreement shall make reasonable efforts to informally resolve disputes at the Project Coordinator level. 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.

93. If the Project Coordinators are unable to resolve such dispute within fourteen (14) days of notice to the State of the objections as described above, the Project Coordinators shall jointly draft a written statement describing the issues underlying the dispute and attempts to resolve the dispute, and

shall provide this statement along with the Written Statement of Dispute to the Dispute Resolution Committee (DRC) by the end of the 14 day period. The DRC will serve as a forum for resolution of disputes for which agreement has not been reached through informal dispute resolution.

94. The State designated member of the DRC is the Chief of the Hazardous Waste Control Section. DOE's designated member of the DRC is the Assistant Manager for Operations, Rocky Flats Office. The EPA member of the DRC is the Region VIII Hazardous Waste Management Division Director. Written notice of any delegation of authority from a Party's designated DRC member shall be provided to the other Parties, pursuant to the procedures of Part 36 (Notification). The DRC shall have 21 days from receipt of the Written Notice of Dispute and joint statement described in paragraphs 92 and 93 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 and joint statement shall be forwarded along with any supporting information to the Senior Executive Committee (SEC) for resolution.

95. The SEC will serve as the forum for resolution of disputes for which agreement has not been reached by the DRC. The State's representative on the SEC shall be the Assistant Director for the Office of Health and Environmental Protection of the Department of Health (Assistant Director). The EPA's representative on the SEC is the Regional Administrator of EPA's

Region VIII. The DOE's representative on the SEC is the Manager, Rocky Flats Office.

96. The SEC members shall as appropriate, confer, meet, and exert their best efforts to resolve the dispute and issue a written decision. If unanimous resolution of the dispute is not reached within 21 days, the Assistant Director shall issue a written position on the dispute. The decision or determination shall be considered final agency action for the purposes of judicial review under § 24-4-106, C.R.S. (1988). If DOE objects to such decision or determination, DOE may appeal to the appropriate tribunal for review. The decision of the State Director shall in no way impair or limit EPA's responsibilities for oversight pursuant to Federal authorization of the hazardous waste program(s).

97. Subject to Parts 29 (RCRA/CERCLA Reservation of Rights) and 48 (Reservation of Rights), the Parties shall be bound by and abide by all terms and conditions of any final resolution of dispute obtained pursuant to this Part.

98. The pendency of any dispute under this Chapter shall not affect DOE's responsibility for timely performance of the work required by this Agreement except as provided in Part 42 (Extensions). 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.

99. Within 21 days of the final resolution of any dispute under this Part, 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 the State as to the action(s) taken to comply with the final resolution of a dispute.

100. The State shall process closure plans, post-closure plans, and permit applications in accordance with its applicable regulations. Under the applicable portions of the Statement of Work attached to this Agreement, the State will make final written decisions or determinations regarding compliance with CHWA. Disputes regarding these decisions or determinations shall be resolved utilizing the appropriate dispute resolution procedures.

PART 13 ENFORCEABILITY

101. The State, at OUs for which it is the Lead Regulatory Agency, shall conduct "close out sessions" with DOE (and EPA, if EPA so desires) at the conclusion of inspections of the Site related to implementation of this Agreement. After an inspection has concluded, the State shall also send DOE a letter summarizing the State's initial assessment of the inspector's findings (a "follow-up letter"). Any Party may invoke the provisions of Part 12 to resolve issues raised in the follow-up letter.

102. In the event DOE fails to comply with RCRA or CHWA provisions of this Agreement at OUs for which the State is the Lead Regulatory Agency, the State (or EPA, pursuant to its oversight authority specifically reserved in Part 28 (EPA

Oversight)) may utilize the appropriate dispute resolution procedures prior to initiating administrative or judicial enforcement of this Agreement. The State (or EPA) may initiate administrative or judicial enforcement at these OUs regardless of whether dispute resolution has³ been invoked. For any RCRA or CHWA violations at EPA Lead OUs, the State agrees to employ the appropriate dispute resolution procedures prior to initiating any enforcement action. Any Notice of Violation (NOV) or Compliance Order prepared by the State shall be reviewed by the Director of the Hazardous Materials and Waste Management Division, Colorado Department of Health, prior to issuance. Notwithstanding paragraph 105, in enforcing the RCRA or CHWA provisions of this Agreement, the State or EPA may seek injunctive relief, specific performance, and penalties under CHWA or RCRA, and such sanctions or other relief as may be available under other applicable law. DOE agrees not to contest the State's (or EPA's) choice of enforcement authorities from those available under this Agreement.

103. Chapter Two and other RCRA and CHWA provisions of this Agreement including those related to statutory requirements, Submittals, regulations, permits, closure plans, corrective action requirements, or record keeping and reporting shall be enforceable by any person, including the State, pursuant to any rights existing under section 7002(a)(1)(A) of RCRA. DOE agrees that the State or one of its agencies is a "person" within the meaning of section 7002(a) of RCRA.

104. The Parties agree that the RCRA and CHWA provisions set forth in this Agreement which address record keeping, reporting, Submittals, regulations, permits, closure plans, or corrective action are statutory requirements and are thus enforceable by the Parties.

105. In the event (1) legislation is enacted that either (a) clarifies that RCRA Section 6001 waives the Federal government's sovereign immunity from State-imposed fines and penalties, or (b) waives such sovereign immunity or (2) the U.S. Supreme Court rules that RCRA § 6001 waives the federal government's sovereign immunity from State-imposed fines and penalties, the Parties agree to negotiate appropriate changes and modify the Agreement accordingly.

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CHAPTER THREE

EPA AS LEAD REGULATORY AGENCY

PART 14 EPA RESPONSIBILITIES

106. This Chapter addresses the roles and responsibilities of EPA for those OUs for which EPA is the Lead Regulatory Agency. OUs for which EPA has been designated the Lead Regulatory Agency are identified in Attachment 2. Additional OUs for which EPA shall be Lead Regulatory Agency shall be identified according to the procedures in paragraph 142 of this Agreement. The Parties agree that EPA shall perform its responsibilities under this Agreement in accordance with the provisions of Chapter 4.

PART 15 ARARs

107. DOE shall conduct a detailed ARARs analysis to establish cleanup standards at the Site, taking into account both Federal and State ARARs. The ARARs analysis shall be conducted according to the terms and schedules established in the Statement of Work attached hereto as Attachment 2, and the Workplan(s) developed pursuant to the Statement of Work. EPA, after consultation with the State, will determine the ARARs to be applied at the Rocky Flats Site. If DOE or the State disputes EPA's determination, either party may initiate the Dispute Resolution procedures in Part 16 (Resolution of Disputes) of this Agreement. ARARs shall also be re-evaluated, at a minimum, throughout the document review process referenced in Part 25 (Documents). Nothing in this Agreement shall be construed to

resolve whether any waiver by EPA of an ARAR affects any authority the State may have to impose such an ARAR as a substantive requirement under State law.

108. ARARs determinations shall be incorporated into this Agreement and shall be an enforceable part thereof. CERCLA remedial action(s) and, as appropriate, HSWA corrective action(s), shall meet ARARs in accordance with section 121 of CERCLA.

PART 16 RESOLUTION OF DISPUTES

109. If DOE objects to any action taken by EPA in accordance with the EPA's role as Lead Regulatory Agency as described in Chapter 4, it shall submit to the EPA Project Coordinator within 14 days of such EPA action, a Written Statement of Dispute, setting forth the nature of the dispute, DOE's position with respect to the dispute, and the information relied upon to support its position. The State shall invoke the provisions of this Part for disputes regarding approval by EPA, in accordance with its role as Lead Regulatory Agency, of Submittals other than Workplans, the Comprehensive Risk Assessment, IRAs/IMs, draft Proposed Plans and ROD/CADs. The Parties agree to raise disputes within fourteen days of any such EPA action; however, failure to raise a dispute within this timeframe shall not affect any remedial/corrective action selection authorities pursuant to Chapter 4. All Parties to this Agreement shall make reasonable efforts to informally resolve disputes at the Project Coordinator level. 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.

110. If the Project Coordinators are unable to resolve such dispute within fourteen (14) days of notice to EPA of the objections as described above, the Project Coordinators shall jointly draft a written statement describing the issues underlying the dispute and attempts to resolve the dispute, and shall provide this statement along with the Written Statement of Dispute to the Dispute Resolution Committee (DRC) by the end of the 14 day period. The DRC will serve as a forum for resolution of disputes for which agreement has not been reached through informal dispute resolution.

111. The EPA member of the DRC is the Region VIII Hazardous Waste Management Division Director. The State member of the DRC is the Chief of the Hazardous Waste Control Section. DOE's designated member of the DRC is the Assistant Manager for Operations, Rocky Flats Office. Written notice of any delegation of authority from a Party's designated DRC member shall be provided to the other Parties, pursuant to the procedures of Part 35 (Notification). The DRC shall have 21 days from receipt of the Written Notice of Dispute and joint statement described in paragraphs 109 and 110 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 and joint statement shall be

forwarded along with any supporting information to the Senior Executive Committee (SEC) for resolution.

112. The SEC will serve as the forum for resolution of disputes for which agreement has not been reached by the DRC. The EPA's representative on the SEC is the Regional Administrator of EPA's Region VIII. The State's representative on the SEC shall be the Assistant Director of Office of Health and Environmental Protection (Assistant Director). The DOE's representative on the SEC is the Manager, Rocky Flats Office.

113. The SEC members shall as appropriate, confer, meet, and exert their best efforts to resolve the dispute and issue a written decision. If unanimous resolution of the dispute is not reached within 21 days, EPA's Regional Administrator shall issue a written position on the dispute.

114. DOE or the State may, within 21 days of the Regional Administrator's issuance of EPA's position, issue a written notice elevating the dispute to the Administrator of EPA for resolution, in accordance with applicable laws and procedures. In the event that DOE or the State elects not to elevate the dispute to the Administrator within the designated 21-day escalation period, DOE and the State shall be deemed to have agreed with the Regional Administrator's written position with respect to the dispute.

115. Upon escalation of a dispute to the Administrator of EPA pursuant to paragraph 114, the Administrator will review and resolve the dispute within 21 days. Upon request and prior to

resolving the dispute, the EPA Administrator shall meet and confer with the Secretary of DOE and the Colorado Department of Health Executive Director to discuss the issue(s) under dispute. Upon resolution, the Administrator shall provide DOE and the State with a written decision setting forth final resolution of the dispute.

116. Subject to Parts 29 (RCRA/CERCLA Reservation of Rights) and 48 (Reservation of Rights), the Parties shall be bound by and abide by all terms and conditions of any final resolution of dispute obtained pursuant to this Part.

117. The pendency of any dispute under this Chapter shall not affect DOE's responsibility for timely performance of the work required by this Agreement except as provided in Part 42 (Extensions). 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.

118. Within 21 days of the final resolution of any dispute under this Part, 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 EPA as to the action(s) taken to comply with the final resolution of a dispute.

PART 17 SCHEDULES

119. DOE shall commence activities according to the schedules set forth in the attached Statement of Work and the

Workplan(s) developed thereunder. The Parties agree that these schedules satisfy section 120(e)(1) of CERCLA. RI/RFI and FS/CMS Schedules for each OU will be published by EPA and the State, as provided in section 120(e)(1) of CERCLA.

120. DOE shall commence substantial continuous physical on-Site remedial action for each OU in accordance with section 120(e)(2) of CERCLA. DOE shall complete the remedial action as expeditiously as possible, as required by CERCLA § 120(e)(3).

PART 18 PERMITS

121. The Parties recognize that under section 121(e)(1) of CERCLA, portions of the response actions called for by this Agreement and conducted entirely on the Rocky Flats Site are exempted from the procedural requirement to obtain Federal, State, or local permits, when such response action is selected and carried out in compliance with Section § 121 of CERCLA. Nonetheless, these actions 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. It is the understanding of the Parties that the statutory language is intended to avoid delay of on-Site response actions, due to procedural requirements of the permit process. DOE agrees to seek and implement any permit, including RCRA or CHWA permits, for any operation or process, other than permits for portions of remedial/corrective actions which are both (1) exclusively limited to DOE's obligation to perform a remedial/corrective action in accordance with paragraph

161 and (2) conducted entirely on-Site. All such permits shall be incorporated into this Agreement and become an enforceable part hereof.

122. When DOE proposes a response action to be conducted entirely on the Rocky Flats Site which in the absence of CERCLA section 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 122(B) immediately above.

123. Upon the request of DOE, EPA and the State will provide their positions with respect to paragraphs 122B and C above in a timely manner.

124. This Part is not intended to relieve DOE from any applicable requirements, including section 121(d)(3) of CERCLA, for the shipment or movement of hazardous waste or hazardous substances off the Rocky Flats 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-site shall comply with DOE's Policy on Off-Site Transportation, Storage, and Disposal of Nonradioactive Hazardous Waste, dated June 24, 1986, and the EPA Off-Site Response Action Policy, dated May 6, 1985, 50 Fed. Reg. 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.

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

126. If a permit which is necessary for implementation of activities related to this Agreement is not issued or is issued or renewed in a manner that is materially inconsistent with the requirements of this Agreement, DOE shall notify the State 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 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 30 days from the date it submits its notice of intention to propose modifications, DOE shall submit to the State and EPA

its proposed modifications to this Agreement with an explanation of its reasons in support thereof.

127. The State and EPA shall review any of DOE's proposed modifications to this Agreement pursuant to this Part. If DOE submits proposed modifications prior to a final determination of any appeal taken on a permit needed to implement this Agreement, the State and EPA may elect to delay review of the proposed modifications until after such final determination is entered. If the State and EPA elect to delay review, DOE shall continue implementation of this Agreement as provided in the following paragraph. If EPA and the State fail to agree to a modification proposed by DOE within 30 days of such proposal, pursuant to paragraph 126, DOE may invoke the Dispute Resolution procedures of Part 12 or 16, as appropriate.

128. 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).

PART 19 DELAY IN PERFORMANCE/STIPULATED PENALTIES

129. In the event that DOE fails to submit a primary document to EPA and the State pursuant to the appropriate timetable or deadline in accordance with the requirements of this Agreement or fails to comply with a term or condition of this Agreement which relates to an interim or final remedial action,

EPA may assess a stipulated penalty against DOE. If EPA fails to assess a stipulated penalty against DOE, and the State believes it appropriate to assess one, the State may request of EPA that it do so. In the case of a State request for issuance of a stipulated penalty by EPA, the matter may be referred³ to the DRC for resolution pursuant to Part 16. A stipulated penalty may be assessed in an amount not to exceed \$5,000 for the first week (or part thereof) and \$10,000 for each additional week (or part thereof) for which a failure set forth in this paragraph occurs. The stipulated penalty shall begin to accrue upon receipt of notice of violation pursuant to paragraph 130 below.

130. Upon determining that DOE has failed in a manner set forth in paragraph 129, EPA, after consultation with the State, shall so notify DOE in writing. If the failure in question is not already subject to dispute resolution at the time such notice is received, DOE shall have 15 days after receipt of the notice to invoke dispute resolution on the question of whether the failure did in fact occur. DOE may dispute whether the violation upon which the stipulated penalty is assessed has occurred, and the number of days that the violation has occurred, but shall not dispute the amount of stipulated penalties assessed. 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 any dispute resolution procedures related to the assessment of the stipulated penalty.

131. 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 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.
- E. The total dollar amount of the stipulated penalty for the particular failure.

132. Stipulated penalties assessed pursuant to this Part shall be payable to the Hazardous Substances Response Trust Fund from funds authorized and appropriated for that specific purpose.

133. In no event shall this Part give rise to a stipulated penalty in excess of the amount set forth in section 109 of CERCLA.

134. This Part shall not affect DOE's ability to obtain an extension of a timetable, deadline, or schedule pursuant to Part 42 of this Agreement.

135. Nothing in this Part shall preclude EPA from pursuing any other remedy or sanction for DOE's failure to comply with

this Agreement, after the appropriate dispute resolution process has concluded in accordance with paragraph 137E.

136. Nothing in this Agreement shall be construed to render any officer or employee of DOE personally liable for the payment of any stipulated penalty assessed pursuant to this Part.

PART 20 ENFORCEABILITY

137. 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, and is incorporated into this Agreement is enforceable by any person pursuant to section 310 of CERCLA, and any violation of such standard, regulation, condition, requirement, or order will be subject to civil penalties under sections 310(c) and 109 of CERCLA.

B. All timetables or deadlines associated with the development, implementation, and completion of the RI/RFI or the FS/CMS as specified in the Statement of Work shall be enforceable by any person pursuant to section 310 of CERCLA, and any violation of such timetables or deadlines will be subject to civil penalties under sections 310(c) and 109 of CERCLA.

C. All terms and conditions of this Agreement which relate to interim measures, interim or final remedial actions, and/or corrective 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 section 310(c) of CERCLA, and any violation of such terms or conditions will be subject to civil penalties under sections 310(c) and 109 of CERCLA.

D. Any final resolution of a dispute pursuant to the appropriate provisions of this Agreement which establishes a term, condition, timetable, deadline, or schedule shall be enforceable by any person pursuant to section 310(c) of CERCLA, and any violation of such term, condition, timetable, deadline, or schedule will be subject to civil penalties under sections 310(c) and 109 of CERCLA.

E. At EPA lead OUs, EPA may invoke dispute resolution prior to invoking its enforcement authorities pursuant to CERCLA or RCRA, including its RCRA oversight authorities. However, EPA may initiate administrative or judicial enforcement at EPA lead OUs regardless of whether dispute resolution has been invoked by any Party. At State lead OUs, EPA agrees to employ the appropriate dispute resolution prior to initiating any enforcement action.

138. 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 CERCLA, including section 113(h) of CERCLA.

139. The Parties agree that all Parties shall have the right to enforce the terms of this Agreement.

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CHAPTER FOUR

INTEGRATION OF EPA AND STATE RESPONSIBILITIES

PART 21 RCRA/CERCLA INTERFACE

140. EPA and the State recognize that there is a potential for the two regulatory agencies to impose conflicting requirements upon DOE due to the complexities of the Rocky Flats Site and due to the overlap between the respective authorities of the two regulatory agencies. This Chapter Four establishes the procedures for remedial/corrective activities and the framework for EPA and the State to resolve certain disputes that may arise concerning the respective responsibilities of the two regulatory agencies. EPA and the State intend to carry out their responsibilities so as to minimize the potential for any such conflicts.

PART 22 LEAD REGULATORY AGENCY AND REGULATORY APPROACH DECISIONS

141. In order to minimize the potential for such conflicts, the Parties mutually agree to recognize a Lead Regulatory Agency and Support Regulatory Agency for each specific OU at the Site. In certain instances, EPA and the State may choose to have a joint lead for a particular OU. Lead Regulatory Agency and Support Regulatory Agency designations for each of the ten OUs identified as of the date of execution of this Agreement are specified in the Statement of Work. The designation of a Lead and Support Regulatory Agency is for the purposes of administering this Agreement only and shall not change the

jurisdictional authorities of the Parties. Where EPA is designated the Lead Regulatory Agency, the State shall be the Support Regulatory Agency for that OU. Conversely, where the State is designated the Lead Regulatory Agency, EPA shall be the Support Regulatory Agency for that OU. The designation of the State as Lead Regulatory Agency for any OU shall not constitute "authorization" of any of its actions pursuant to § 122(e)(6) of CERCLA. DOE recognizes the need for and benefit of oversight of environmental investigatory and response activities at the Site and agrees to this concept for the purposes of minimizing conflicts between the Parties and clarifying roles and responsibilities. The respective duties of each of the Parties in order to implement this concept are detailed in this Chapter. Particular tasks related to these duties are detailed in the Statement of Work, incorporated into this Agreement as Attachment 2, and shall be further delineated in the Workplan(s) to be submitted pursuant to paragraph 148 of this Agreement.

142. The redesignation of Lead Regulatory Agency, and designation of Lead Regulatory Agency for OUs and/or individual hazardous substance site(s) not identified as of the date of execution of this Agreement, shall be made through the Workplan update process. EPA and the State have joint authority to determine the choice of Lead Regulatory Agency, and DOE shall not dispute such joint determinations, although EPA and the State agree to consider DOE's technical comments on the appropriateness of either other Party as the Lead or Support Regulatory Agency

for a particular OU. The Parties agree that absent any pertinent statutory amendment, EPA shall be designated the Lead Regulatory Agency for any additional OUs identified after the effective date of this Agreement and believed to contain purely radioactive substances. Any Party may, as appropriate, request that the Lead Regulatory Agency designation at an OU be redesignated pursuant to the procedures of this Part.

143. If the EPA and State Project Coordinators cannot agree on the choice of Lead Regulatory Agency for a particular OU or individual hazardous substance site not identified as of the date of execution of the Agreement, then they shall resolve such disputes using the dispute resolution process in Part 27.

144. The Lead Regulatory Agency shall be responsible for primary review and sole approval of all Submittals received pursuant to the terms of this Agreement except as provided in paragraph 148, 150, 154, and 155. The Support Regulatory Agency shall provide comments on each Submittal to the Lead Regulatory Agency, which shall assemble those comments and provide them without editing to DOE. The Lead Regulatory Agency shall transmit a copy of its consolidated comments to the Support Regulatory Agency at least seven business days prior to transmittal to DOE. No informal guidance, suggestions, or comments by the State or EPA regarding reports, Workplans, specifications, schedules, or any other Submittal shall satisfy the requirement for formal approval required by this Agreement. The Lead Regulatory Agency may provide written comments to DOE on

the Support Regulatory Agency's comments along with its distribution to DOE of comments on the Submittal.

145. When drafting comments and providing commentary on the Support Regulatory Agency's comments, the Lead Regulatory Agency shall render responses which are, to the maximum extent possible, consistent with CERCLA, RCRA, and CHWA. For those OUs for which the State is the Lead Regulatory Agency, it shall also take into account the technical requirements for the CERCLA RI/FS process, in order to minimize conflict and to promote efficient regulatory efforts at the Site. For those OUs for which EPA is the Lead Regulatory Agency, it shall also take into account the technical requirements for the RCRA/CHWA process.

146. The Parties recognize the present regulatory jurisdictional dispute between DOE and the State concerning regulation of radioactive waste pursuant to RCRA and CHWA. In order to ensure that all contaminants are properly addressed at the Site, and to avoid any delays in the regulatory process and environmental cleanup due to this dispute, the Parties agree that for those OUs for which the State is the Lead Regulatory Agency, it shall address both the radioactive and hazardous components of hazardous substances. The Parties acknowledge that EPA shall also, if necessary, impose requirements pursuant to CERCLA on the radioactive waste, the radioactive portion of the mixed waste, or both the hazardous and radioactive constituents of the mixed waste at issue if the radioactive portion can not be segregated out for that portion of the investigative or response process.

Should this become necessary, as agreed to by EPA and the State, EPA agrees to impose such requirements in a way that minimizes any interference with the State's role as the Lead Regulatory Agency for that OU.

147. In the event that EPA and the State cannot agree on a unified position on remedy selection, EPA retains final decision-making authority for CERCLA determinations to be made in the course of executing this Agreement. If EPA makes a decision in such circumstances inconsistent with the State's position, the provisions of Part 26 shall apply.

PART 23. WORK TO BE PERFORMED UNDER DIRECTION OF LEAD AND SUPPORT REGULATORY AGENCIES

148. DOE shall submit to the State and EPA for their joint review and approval, according to the schedule established in the Statement of Work, Workplan(s) for those OUs identified in Attachment 2. Said Workplan(s) shall be based upon, and consistent with, the Statement of Work attached to this Agreement as Attachment 2. Said Workplan(s) shall provide a detailed description of the work to be performed in order to comply with the requirements of Attachment 2 and RCRA, CERCLA, and CHWA. After approval of each such Workplan, it shall be incorporated into this Agreement in subsequent Attachments and shall become an enforceable part hereof. DOE shall perform the actions described in the Statement of Work and Workplan(s) in accordance with the requirements and schedules therein. EPA and the State agree to provide DOE with guidance and timely response to requests for

guidance to assist DOE in the performance of its work under this Agreement. Any dispute raised by DOE regarding Workplan approval shall be resolved through Parts 12 or 16, as appropriate. A dispute between EPA and the State over Workplan approval shall be resolved through the dispute resolution procedures of Part 27.

149. The following paragraphs 150 through 156 provide summaries of categories of work required of DOE pursuant to this Agreement and the respective statutes it embodies. DOE shall perform the requirements of these paragraphs in accordance with pertinent guidance and policy as set forth in the Statement of Work and updated regularly through the Workplan update process. Detailed descriptions of the work described below are provided in the Statement of Work attached to this Agreement as Attachment 2.

150. Interim Remedial Actions/Interim Measures. DOE agrees that it shall develop and implement Interim Remedial Actions/Interim Measures (IRAs/IMs) at OUs as required by EPA and the State. EPA and the State shall jointly select the IRAs/IMs at the Site. The IRAs/IMs shall be consistent with the purposes set forth in Part 3 (Purpose) of this Agreement. All IRAs/IMs shall be based on, and consistent with, the requirements for IRAs/IMs detailed in the Statement of Work. IRAs/IMs shall, to the greatest extent practicable, attain ARARs and be consistent with and contribute to the efficient performance of final response actions consistent with section 121 of CERCLA. Any dispute raised by DOE concerning an IRA/IM shall be resolved pursuant to Parts 12 or 16, as appropriate (Resolution of

Disputes). Any dispute between EPA and the State on the selection of an IRA/IM shall be resolved through the dispute resolution procedures of Part 27.

151. Remedial Investigations/ RCRA Facility Investigations. DOE agrees it shall develop, implement, and report upon Remedial Investigations/RCRA Facility Investigations (RI/RFIs) to investigate the nature and extent of contamination at the Site. RI/RFIs shall be submitted in accordance with the requirements and the time schedules set forth in the Statement of Work and shall comply with the requirements of CERCLA, RCRA, CHWA, pertinent guidance and policy as set forth in the Statement of Work.

152. Feasibility Studies/Corrective Measures Studies. DOE agrees to design, propose, undertake, and report upon Feasibility Studies/Corrective Measures Studies (FS/CMSs) to identify alternatives for remedial action/corrective action for OUs at the Site. FS/CMSs shall be submitted in accordance with the requirements and time schedules set forth in the Statement of Work and shall comply with the requirements of CERCLA, RCRA, CHWA, and pertinent guidance and policy as set forth in the Statement of Work.

153. All OUs shall undergo the RI/RFI and FS/CMS process set forth in Paragraphs 151 and 152. For OUs identified at the completion of the FS/CMS stage as containing purely radioactive substances, EPA (and DOE in accordance with its authority under § 120(e)(4) of CERCLA) shall issue a ROD. If at the end of the

FS/CMS process either (1) hazardous waste constituents are also identified to be present or, (2) federal statutory amendments expressly provide for State authority over radionuclides, then the State shall issue a CAD and the procedures of paragraphs 155, 156, 158, 160, and 161 shall apply. However, if neither of the events in (1) or (2) of this paragraph occur, the State shall not issue a CAD, and only the CERCLA provisions of this Part shall apply to remedy selection at that OU.

154. Risk Assessment. DOE shall conduct a Risk Assessment for each OU at the Site and shall submit the Risk Assessment to EPA and the State for review and comment by both Parties and approval by the Lead Regulatory Agency for that OU according to the schedule set forth in the Statement of Work. These OU-specific Risk Assessments shall form the basis for a Comprehensive Risk Assessment of the Site, which shall be prepared and submitted according to the schedule set forth in the Statement of Work. The Comprehensive Risk Assessment shall be jointly reviewed by EPA and the State. The OU-specific and Comprehensive Risk Assessments shall comply with the requirements of CERCLA, RCRA, CHWA and pertinent guidance and policy as set forth in the Statement of Work.

155. Remedial and Corrective Actions/Proposed Plan. DOE shall develop and submit to EPA and the State for their joint review and approval, a draft Proposed Plan for Remedial/Corrective Action in accordance with the requirements and schedules set forth in the Statement of Work. Where the

Parties agree on the draft Proposed Plan, DOE shall release it for public comment in accordance with § 117 of CERCLA, incorporating any comments by EPA and the State. The State will simultaneously issue a draft permit modification consistent with the draft Proposed Plan in accordance with 6 C.C.R. 1007-3, Part 100.6.

156. DOE and EPA, in consultation with the State, shall select the remedial action for each OU, taking into consideration comments received during the Proposed Plan comment period described in paragraph 155 above. If DOE and EPA are unable to agree on the remedial action, the selection of such action shall be made by the Administrator of EPA or his duly authorized delegate. The State, in consultation with EPA, shall select the Corrective Action, except as provided in paragraph 153, and shall prepare a CAD describing such decision.

157. This paragraph describes dispute resolution for disputes relating to selection of a corrective/remedial action at OUs for which the State is the Lead Regulatory Agency, as described in the attached Statement of Work. For each of these OUs, the State shall prepare a CAD. EPA, as the Support Regulatory Agency for that OU, (and DOE, consistent with its authorities pursuant to section 120(e)(4) of CERCLA), shall prepare a Record of Decision (ROD) for the remedial action portion of that OU. The CAD/ROD shall constitute the final Proposed Plan and permit modification. Where all Parties agree on the corrective/remedial action as described in the CAD/ROD,

the ROD portion of the CAD/ROD at a State lead OU shall be a concurrence ROD. If EPA and the State disagree on the remedy for that particular OU, the dispute resolution procedures of Part 27 shall be invoked, subject to the reservations of right in Parts 29 and 48. If EPA and the State agree on the remedy selected in the CAD/ROD, but DOE disagrees on any element common to both the CAD and ROD, DOE shall invoke the dispute resolution procedures of Part 12. If DOE disagrees with any element of the selected remedy pertaining solely to the CAD portion, it shall invoke the dispute resolution procedures of Part 12. If DOE disagrees with any element of the selected remedy pertaining solely to the ROD portion, it shall invoke the dispute resolution procedures of Part 16, although final remedy selection on the remedial action portion shall be made by the EPA Administrator in the event that the disagreement can not be resolved.

158. This paragraph describes dispute resolution for disputes relating to selection of a remedial/corrective action for those OUs for which EPA is the Lead Regulatory Agency. For each of these OUs, EPA (and DOE consistent with its authority pursuant to section 120(e)(4) of CERCLA) shall prepare a Record of Decision (ROD) based on the Proposed Plan. The State, as Support Regulatory Agency for that OU, except as provided in paragraph 153, shall prepare a CAD. The ROD/CAD shall constitute the final Proposed Plan and permit modification. Where all Parties agree on the remedial/corrective action for that OU, the CAD portion shall be a concurrence CAD. If EPA and the State

disagree on the remedy for that OU, the dispute resolution procedures of Part 27 shall be invoked, subject to the reservation of rights in Parts 29 and 48. If EPA and the State agree on the remedy selected, but DOE disagrees on an element common to both the ROD and the CAD, DOE shall invoke the dispute resolution procedures of Part 16, although final remedy selection for that OU shall be made by the EPA Administrator in the event the disagreement can not be resolved. If DOE disputes an element of the remedy related solely to the ROD portion, it shall invoke the dispute resolution procedures of Part 16, although final selection of the remedy for that OU shall be made by the EPA Administrator, in the event that the disagreement can not be resolved. If DOE disputes an element of the remedy related solely to the CAD portion, it shall invoke the dispute resolution procedures of Part 12.

159. Consistent with EPA's responsibilities pursuant to section 120(g) of CERCLA, EPA (and DOE, to the extent required by section 120(e)(4)) shall prepare a ROD for those OUs for which the State is the Lead Regulatory Agency. EPA agrees that its intent is to prepare a ROD consistent with the CAD, so long as the CAD is consistent with the requirements of CERCLA.

160. For those OUs for which EPA is designated the Lead Regulatory Agency, and where preparation of a CAD by the State is appropriate, the State agrees that its intent is to prepare a CAD consistent with the ROD, so long as the ROD is consistent with RCRA and CHWA.

161. Implementation of Remedial and Corrective Actions.

Following final selection for each OU of the remedial action by EPA (and DOE consistent with its authority pursuant to § 120(e)(4) of CERCLA), and final selection of the corrective action by the State, DOE shall design, propose, and submit to EPA and the State a detailed plan for implementation of each selected remedial action and corrective action, including arrangements for long term operation and maintenance, according to the schedule and conditions set out in the Statement of Work and Workplan(s) developed according to the Statement of Work. Following review and approval by the Lead Regulatory Agency for that OU according to the procedures referenced in Part 25 (Documents), DOE shall implement the remedial action(s) and corrective action(s) in accordance with the requirements and time schedules in the Statement of Work and the approved Workplan(s).

PART 24. WORK STOPPAGE

162. Any Party may request a work stoppage order, whether or not the particular work at issue is already the subject of dispute resolution, (1) if it believes a particular task or portion of work is inadequate or defective and likely to yield an adverse effect on human health or the environment as a result of such inadequacy or defect, or (2) with respect to work that it believes is likely to have a substantial adverse effect on the remedy/corrective action selection or implementation process; except that the work stoppage provisions of this Part shall not be invoked for any disagreement on the selection of remedy for

that OU or an affected OU. Such request shall be made in writing by the DRC member of the requesting Party, sent to the DRC members of all other Parties, and shall state the reason as to why stoppage is required.

163. Work affected by the stoppage will immediately be discontinued for up to five (5) business days pending determination by the DRC. The DRC shall confer and meet as necessary during this period. If the DRC does not concur in the need for work stoppage, work shall remain stopped pending elevation to the SEC. Once the issue is referred to the SEC, the procedures of Parts 12 and 16 shall apply as appropriate, except that the Lead Regulatory Agency member of the SEC shall render its decision within five (5) business days. To the extent practicable, prior notification shall be given to all other parties that a work stoppage request is forthcoming.

164. DOE's time periods for performance of the work subject to the work stoppage, as well as the time period for any other work dependent upon the work which was stopped, shall be extended pursuant to Part 42 (Extensions) of this Agreement for such period of time equivalent to the time in which work was stopped, or longer as agreed to by the Parties.

PART 25 DOCUMENTS

165. The Statement of Work establishes the procedures that shall be used by EPA and the State for appropriate notice, review, comment, and response to comments regarding Submittals specified as either Primary or Secondary documents in the

Statement of Work. All Primary Documents shall be subject to Dispute Resolution in accordance with Parts 12, 16, or 27 (Resolution of Disputes), as appropriate. Secondary Documents shall not be subject to Dispute Resolution.

PART 26 PHYSICALLY INCONSISTENT ACTIONS

166. EPA and the State intend that neither regulatory agency shall direct actions to be taken at the Rocky Flats 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 pursuant to RCRA, CHWA, or CERCLA, including field modifications. For the purposes of this Agreement, Physically Inconsistent Actions shall mean any actions, which, if either were properly performed, would significantly reduce the effectiveness of, or render it impossible to perform, part or all of the other action at the same area, another area, or the Site. The setting of priorities for action based on budgetary considerations shall not be used as a factor in determining the presence of physical inconsistency. Actions shall not be considered physically inconsistent merely because one action is more stringent than the other. The provisions of this Part are independent of and do not modify or otherwise affect the provisions of Part 29 (RCRA/CERCLA Reservation of Rights).

167. In the event of a dispute between EPA and the State over an issue of physical inconsistency, either Party may refer such dispute to the dispute resolution process pursuant to Part

27. In resolving a dispute concerning a possible physical inconsistency, the Project Coordinators, 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 overall environmental quality at the Site.

PART 27 DISPUTE RESOLUTION BETWEEN STATE AND EPA

168. Except as provided in paragraphs 92, 109, 157 and 158, resolution of disputes between the State and EPA under this Agreement shall be resolved as described in paragraphs 169-175 below:

169. Each regulatory agency's Project Coordinators shall make reasonable efforts to informally resolve disputes arising between EPA and the State. 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 State-EPA Dispute Resolution Committee (SEDRC) as described below. Receipt of the Written Statement of Dispute, along with any supporting documents, by the SEDRC shall constitute formal elevation of the dispute in question to the SEDRC. At such time as the disputing party submits a statement of dispute to the SEDRC, a copy shall be sent to DOE. The SEDRC will serve as the forum for resolution of disputes for which agreement has not been reached through informal dispute resolution. The State 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.

170. The State designated member of the SEDRC is the Hazardous Materials and Waste Management Division Director. EPA's designated member of the SEDRC is the Hazardous Waste Division Director of EPA's Region VIII. Following elevation of a dispute to the SEDRC, the SEDRC 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 and the reasons for such determination. At such time, a copy of such documentation shall be sent to DOE. If the SEDRC is unable to unanimously agree on a resolution, the members shall forward pertinent information and their respective recommendations to the State-EPA Senior Executive Committee (SESEC) for resolution.

171. The State designated member of the SESEC is the Assistant Director, Office of Health and Environmental Protection, Colorado Department of Health. EPA's designated member of the SESEC is the Regional Administrator of EPA's Region VIII. The SESEC will serve as the forum for resolution of disputes for which agreement has not been reached by the SEDRC. The SESEC members shall, as appropriate, confer, meet, and exert their best efforts to resolve the dispute. The SESEC 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

and the reasons therefor. At such time, a copy of such documentation shall be sent to DOE.

172. If unanimous resolution is not reached within 21 days, EPA or the State may issue a written notice elevating the dispute to the Administrator of EPA and the Executive Director of the State Department of Health for resolution. The Administrator and Executive Director shall, as appropriate, confer, meet, and exert their best efforts to resolve the dispute and issue a written decision.

173. Throughout the above dispute resolution process, EPA and the State shall as appropriate consult with DOE in order to facilitate resolution of disputes.

174. If disputes are not resolved pursuant to this Part, such disputes shall be subject to Part 29 (RCRA/CERCLA Reservation of Rights) and Part 48 (Reservation of Rights).

175. 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 as provided in Part 42 (Extensions).

PART 28 EPA OVERSIGHT

176. Nothing in this Agreement shall be interpreted to affect EPA's responsibility for oversight of the State'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 Part 27.

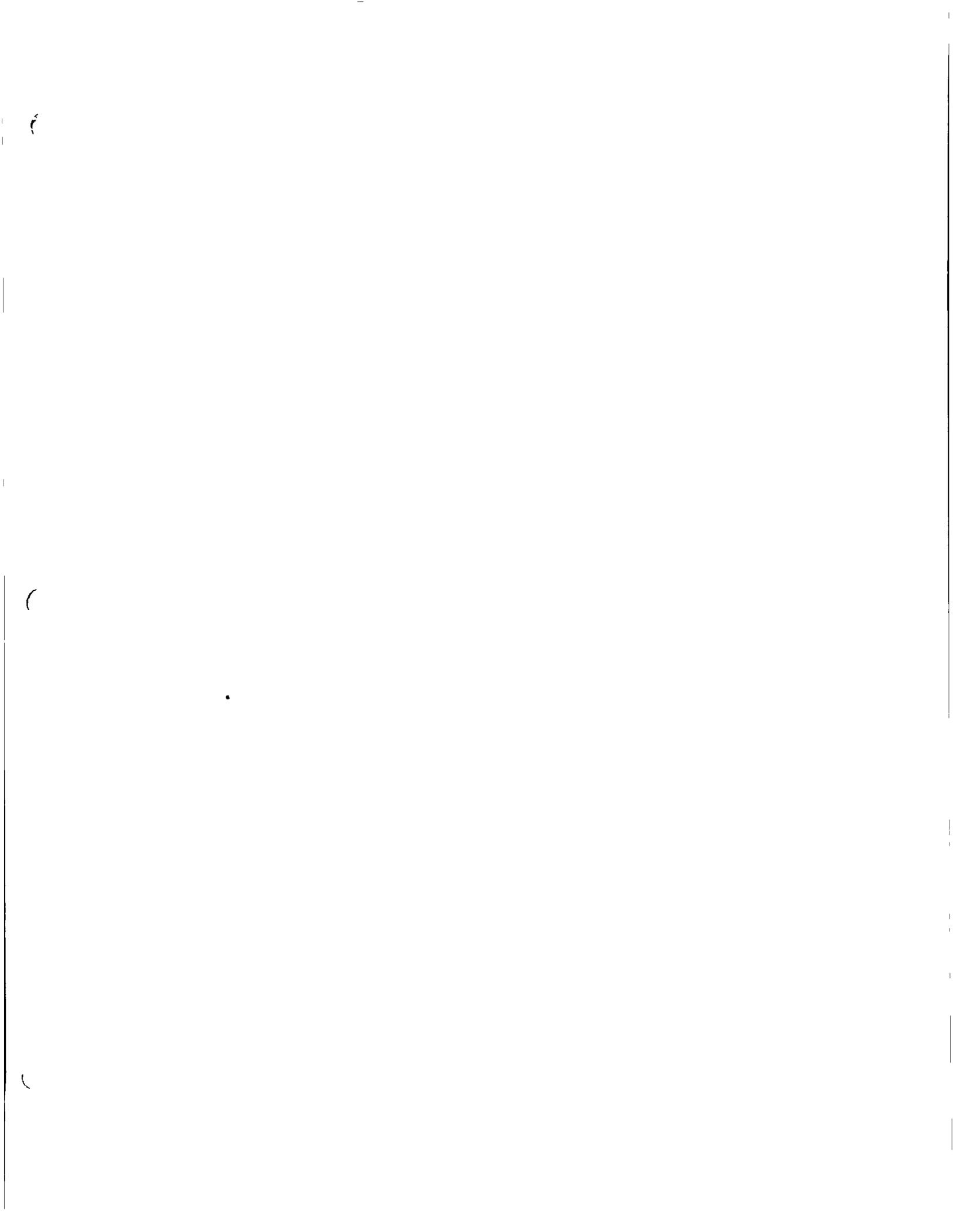
PART 29 RCRA/CERCLA RESERVATION OF RIGHTS

177. If EPA and the State are unable to resolve any dispute arising under this Agreement after utilizing the appropriate dispute resolution procedures, 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.

178. EPA and the State each reserve any rights they may have to seek judicial review of a proposed decision or action taken with respect to corrective or remedial actions at any given OU on the grounds that either EPA or the State claims that such proposed decision or action conflicts with its respective laws governing protection of human health and/or the environment. EPA and the State agree to utilize the appropriate Dispute Resolution procedures provided in this Agreement prior to seeking such judicial review. 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.

179. Nothing in this Agreement shall be interpreted to affect EPA's authority under CERCLA to impose requirements necessary to protect public health and the environment. EPA agrees to utilize the appropriate dispute resolution procedures prior to invoking this authority at State lead OUs.

180. Nothing in this Agreement shall be construed to excuse DOE from complying with the requirements of RCRA and CHWA, including closure and corrective action requirements as specified in the attached Statement of Work and subsequent Workplans, subject to Parts 26 (Physically Inconsistent Actions), 27 (EPA-State Dispute Resolution), and 29 (RCRA/CERCLA Reservation of Rights), and paragraphs 107 (ARARs) and 121 (Permit Waivers).



CHAPTER FIVE

COMMON PROVISIONS

PART 30 RECOVERY OF EPA EXPENSES

181. EPA and DOE recognize that in order to fully implement this Agreement, the costs of both Parties must be adequately funded. Therefore, DOE agrees to use its best efforts to assist EPA to obtain adequate funds and Full Time Equivalent (FTE) positions to provide timely response and competent oversight, and EPA agrees to use its best efforts to assist DOE to obtain adequate funds for implementing the activities mandated by this Agreement, including the Statement of Work and subsequent Workplans.

182. The Parties recognize that significant resources will be required for EPA to fulfill its obligations established by this Agreement. EPA estimates that adequate funding for Federal fiscal years 1990 and 1991 (FY90 and FY91) over currently budgeted resources and including Superfund response costs incurred by EPA prior to the effective date of this Agreement, is as follows:

FY90: 6 FTE and \$1,200,000

FY91: 6 FTE and \$600,000

183. EPA contends that monies expended by EPA in the course of fulfilling its obligations established by this Agreement should be reimbursed by DOE. As of the effective date of this Agreement, EPA and DOE have been unable to resolve the issue of

reimbursement of EPA's expenses associated with fulfilling its obligations under this Agreement.

184. Nevertheless, so that activities to be performed under this Agreement may be commenced, EPA agrees to reprogram its FY90 funds to fulfill its obligations under this Agreement for a period not to exceed one year. During this one-year period, EPA and DOE will develop a mutually satisfactory method to fund EPA for its expenses incurred in the course of DOE's response activities at the Rocky Flats Site, including all EPA expenses associated with fulfilling EPA's obligations under this Agreement.

185. If EPA and DOE are unable to resolve the issue of cost reimbursement within the one-year period established above, EPA may terminate this Agreement at any time upon ninety (90) days written notice to all Parties.

186. EPA's agreement to continue to negotiate a mechanism to fund EPA for its expenses shall not prejudice EPA's ability to obtain reimbursement of funds expended regarding the Rocky Flats Site, including those expended during the one year period referred to in paragraph 184. EPA reserves all rights to recover at any time and from any entity any past and future costs incurred by EPA and not reimbursed in connection with CERCLA activities conducted at the Rocky Flats Site.

[Paragraphs 187-188 Reserved]

PART 31 RECOVERY OF STATE COSTS

189. Permit Fees and Reasonable Service Charges. DOE agrees to pay in full, and no later than 30 days after receipt of invoice, all document review fees and annual waste fees as required by 6 CCR 1007-3, Part 100.3, consistent with § 6001 of RCRA. In the event DOE disputes any such charges by the State, DOE may contest the disputed charges in accordance with the Dispute Resolution procedures of Part 12.

190. DOE agrees to reimburse the State for all costs incurred by the State specifically related to the implementation of this Agreement at the Rocky Flats Site and not inconsistent with the NCP, to the extent such costs are not covered by permit fees and other assessments, or by other agreement between the Parties. The amount and schedule of payment of these costs will be negotiated with consideration for DOE's multi-year funding cycle. The State reserves all rights it has to recover any other past and future costs incurred by the State in connection with CERCLA activities conducted at the Rocky Flats Site. For the purposes of budget planning only, the State shall annually provide DOE, before the beginning of the fiscal year, a written estimate of the State's projected costs to be incurred in implementing this Agreement in the upcoming fiscal year. A separate funding agreement between DOE and the State will be executed within 90 days after the Parties execute this Agreement, which shall be the specific mechanism for the transfer of funds

(e.g. a Grant) between DOE and the State for payment of the costs referred to in this paragraph.

PART 32 ADDITIONAL WORK OR MODIFICATION TO WORK

191. In the event that any Party to this Agreement determines that additional work, or modification to work, including investigatory work, engineering evaluation, and/or construction activities is necessary to accomplish the objectives of this Agreement, notification of such additional work or modification to work shall be provided to the other Parties. Upon agreement that such additional work or modification to work is necessary, DOE agrees to implement any such work. If DOE does not agree that such additional work is necessary to accomplish the objectives of this Agreement or if DOE asserts that such additional work is otherwise inappropriate, DOE may invoke the Dispute Resolution procedures of Part 12 or Part 16 of this Agreement, as appropriate. The Workplan(s) for that OU shall be amended to reflect this additional work, with sufficient time to perform the additional or modified work and to complete other work affected by such additional or modified work.

192. Any additional work or modification to work agreed to or determined to be necessary pursuant to paragraph 191 above, shall be completed in accordance with the standards, specifications, and schedule established in the amendment referenced in paragraph 191 above.

PART 33 QUALITY ASSURANCE

193. All work performed pursuant to this Agreement shall be done under the direction and supervision of, or in consultation with, as necessary, an engineer, hydrologist, geologist, or other expert with experience and expertise in hazardous waste management, site investigation, cleanup, and monitoring.

194. Throughout all sample collection and analysis activities, DOE shall submit to EPA for approval, with a copy to the State prior to implementation, a detailed description of its quality assurance, quality control, and chain of custody procedures. EPA, in consultation with the State, agrees to evaluate the QA, QC, chain of custody, sampling protocols, etc., used by DOE with respect to work completed at the Site for consistency with EPA-approved procedures. In the event of a conflict between EPA- and State-approved procedures, compliance with EPA-approved procedures shall constitute compliance with this Part.

195. As EPA and the State determine it to be appropriate, DOE shall:

- A. Follow guidance in accordance with the Statement of Work and any additional guidance incorporated into future Workplans or modifications to Workplans.
- B. Consult with EPA and the State in planning for, and prior to submitting, a Sampling and Analysis Plan for review, concurrence, and approval.

C. Inform the EPA and State Project Coordinators in advance which laboratories will be used by DOE and ensure that EPA and State personnel and EPA-authorized and State-authorized representatives have reasonable access to the laboratories and personnel used for analyses.

D. Ensure that laboratories used by DOE perform analyses according to EPA methods or other methods deemed satisfactory to EPA and the State. DOE shall submit all protocols to be used for analyses to EPA and the State within 14 days prior to the commencement of analyses.

E. Ensure that laboratories used by DOE for analyses participate in a Quality Assurance/Quality Control program (QA/QC) equivalent to that of, and approved by, EPA. As part of such a program and upon request by EPA or the State, such laboratories shall perform analyses of samples provided by EPA or the State to demonstrate the quality of the analytical data. A maximum annual number of four (4) such samples per agency may be provided to each laboratory. If State quality assurance/quality control programs are in conflict with EPA's program, compliance with an EPA-approved QA/QC program shall constitute compliance with this Part.

PART 34 REPORTING

196. DOE shall submit to EPA and the State monthly written progress reports which describe the actions which DOE has taken during the previous month to implement the requirements of this Agreement. Progress reports shall also describe the activities scheduled to be taken during the upcoming month. Progress reports shall be submitted by the 20th day of each month following the effective date of this Agreement. The progress reports shall include:

- A. A detailed statement of the manner and extent to which the requirements and time schedules set out in this Agreement are being met.
- B. Any anticipated delays in meeting time schedules, the reason(s) for the delay, and action taken to prevent or mitigate the delay.
- C. Any potential problems that may result in a departure from the requests and time schedules.

PART 35 NOTIFICATION

197. Unless otherwise specified, any report, document, or Submittal provided to EPA and the State pursuant to a schedule or deadline identified in or developed under this Agreement shall be sent by certified mail, return receipt requested, or hand delivered in duplicate to:

U.S. Environmental Protection Agency, Region VIII
ATTN: Rocky Flats Project Manager, 8HWM-RI
999 18th Street, Suite 500
Denver, Colorado 80202-2405

and

Hazardous Waste Facilities Unit Leader
Colorado Department of Health
4210 E. 11th Avenue
Denver, CO 80220

Documents must be sent in a manner designed to be received by the date due.

198. Documents sent to DOE shall be addressed as follows unless DOE specifies otherwise by written notice:

IAG Project Coordinator
United States Department of Energy
Rocky Flats Office
P.O. Box 928
Golden, Colorado 80402-0928

199. Unless otherwise requested, all routine correspondence may be sent via regular mail to the above-named persons.

PART 36 PROJECT COORDINATORS

200. Within ten (10) days of the effective date of this Agreement, each Party shall notify all other Parties of the name and address of its Project Coordinator and Alternate (herein jointly referred to as Project Coordinator). Each Project Coordinator shall be responsible for overseeing the implementation of this Agreement. To the maximum extent possible, all communications between DOE, the State, and EPA, and all documents including reports, approvals, and other correspondence concerning the activities performed pursuant to the terms and conditions of this Agreement shall be directed through the Project Coordinators.

201. Any Party may change its designated Project Coordinator by written notification to the other Parties.

202. Each Project Coordinator shall be responsible for assuring that all communication from the other Project Coordinators is appropriately disseminated and processed by the entities which the respective Project Coordinators represent.

203. The EPA-designated Project Coordinator shall have the authority vested in the Remedial Project Manager and the On-Scene Coordinator by the NCP including, but not limited to, the authority to direct DOE to halt, conduct, or perform any tasks required by this Agreement and any response action portions thereof when the EPA Project Coordinator determines that conditions may present an immediate risk to public health or welfare or the environment. If EPA issues such verbal request, it shall follow up such request in writing within seven (7) days.

204. The State Project Coordinator shall be an employee of the Hazardous Materials and Waste Management Division of the Colorado Department of Health and shall have the authorities described in § 25-15-301(4)(a) of CHWA.

205. EPA and State Project Coordinators shall have the authority to, among other things: (1) take samples, obtain duplicate, split samples or sub-samples of DOE samples, (2) ensure that work is performed properly and pursuant to EPA and State protocols, as well as pursuant to the Attachments and Workplans incorporated into this Agreement; (3) observe all activities performed pursuant to this Agreement, take photographs

consistent with security restrictions, and make such other reports on the progress of the work as the Project Coordinator deems appropriate; (4) review records, files, and documents relevant to this Agreement; and, (5) require field modifications to the work to be performed pursuant to this Agreement, or in techniques, procedures, or design utilized in carrying out this Agreement, which are necessary to the completion of the project.

206. The DOE Project Coordinator may also recommend and request non-routine field modifications to the work to be performed pursuant to this Agreement or in techniques, procedures, or design utilized in carrying out this Agreement which are necessary to the completion of the project. The Lead Regulatory Agency, after consultation with the Support Regulatory Agency, must approve the proposed modification in writing for said modification to be effective. Notification of routine field modifications shall be provided in the monthly progress reports required in Part 34 for the month immediately following the modification.

207. If agreement cannot be reached on the proposed additional work or non-routine field modification pursuant to paragraph 205 and 206, dispute resolution as set forth in Part 16 or Part 12, as appropriate, may be used in addition to this Part. Within five (5) business days following a modification made pursuant to this Part, the Project Coordinator who requested the modification shall prepare a memorandum detailing the

modification and the reasons therefore and shall provide or mail a copy of the memorandum to the other Project Coordinators.

208. The DOE Project Coordinator or his designee shall be physically present at the Rocky Flats Site or reasonably available to supervise work performed at the Site during implementation of the work performed pursuant to this Agreement.

PART 37 SAMPLING AND DATA/DOCUMENT AVAILABILITY

209. DOE shall make available to EPA and the State quality-assured results of sampling, tests, or other data generated by DOE or on its behalf, with respect to the implementation of this Agreement as specified in the Statement of Work or subsequent Workplans, as appropriate. If quality assurance is not completed within the time frames specified in the Statement of Work and subsequent Workplan(s), raw data or results shall be submitted upon the request of EPA or the State within that period and quality-assured data or results shall be submitted as soon as they become available.

210. DOE shall notify the EPA and State Project Coordinators by telephone, providing for sufficient time for EPA and the State to attend, before conducting independent verification, and shall provide a schedule for routine environmental sampling in the monthly progress reports required by Part 34. At the request of EPA or the State, DOE shall provide or allow EPA or the State or the authorized representative of each to observe field work and to take split or duplicate samples of all samples collected by DOE pursuant to this Agreement. At the request of DOE, EPA and

the State similarly shall provide or allow DOE or its authorized representatives to take split or duplicate samples of all samples collected by EPA or the State related to the Rocky Flats Site. If it is not possible to provide the designated prior notification described above, the other Project Coordinators shall be notified as soon as possible after the other Parties become aware that samples will be collected, but no later than 48 hours in advance.

211. DOE shall permit EPA, the State, or their authorized representatives to inspect and copy, at reasonable times, all records, files, photographs, documents, and other writing, including sampling and monitoring data, pertaining to work undertaken pursuant to this Agreement.

PART 38 RETENTION OF RECORDS

212. DOE shall preserve, for a minimum of ten (10) years after termination of this Agreement, all of its records and documents in its possession or in the possession of its divisions, employees, agents, accountants, or contractors which relate in any way to the presence of hazardous substances, pollutants, and contaminants at the Site, or to the implementation of this Agreement, despite any document retention policy to the contrary. After this ten-year (10) period, DOE shall notify EPA and the State at least 45 days prior to destruction or disposal of any such documents or records. Upon request by EPA or the State, DOE shall make available such records or documents to either Party.

PART 39 ACCESS

213. Without limitation on any authority conferred on EPA or the State by statute, regulation, or other agreement, EPA, the State, and/or their authorized representatives, with proper safety and security clearances, shall have authority to enter the Site at all reasonable times, with or without advance notification for the purposes of, among other things:

- A. Inspecting records, operating logs, contracts, and other documents directly related to implementation of this Agreement.
- B. Reviewing the progress of DOE, or its response-action contractors in implementing this Agreement.
- C. Conducting such tests as the EPA or State Project Coordinator deems necessary.
- D. Verifying the data submitted to EPA and/or the State by DOE.

214. DOE shall honor all requests for such access by EPA or the State, conditioned only upon presentation of proper credentials and conformance with Plant security and safety requirements. The latter may include dosimetry devices, training on Plant safety features (such as alarms, barriers, and postings), and advance fittings for clothing and respiratory equipment as ordinarily required. Escorts to restricted areas shall be assigned expeditiously by the Assistant Manager for Compliance, Rocky Flats Office.

215. To the extent that this Agreement compels access to property not owned by DOE, DOE shall use the maximum extent of its authority, including CERCLA, section 104 authorities, to obtain access for DOE, EPA, the State, and their authorized employees and contractors. DOE shall provide a copy of such signed agreements to EPA and the State. With respect to non-DOE property upon which monitoring wells, pumping wells, treatment facilities, or other response actions are to be located, the access agreements shall also 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. The access agreements shall also provide that the owners of any property where monitoring wells, pumping wells, treatment facilities, or other response actions are located shall notify EPA, the State, and DOE by certified mail, at least 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.

216. In the event that Site access is not obtained as described in paragraph 215 above, DOE shall notify EPA and the State within 15 days regarding the lack of, and efforts to obtain, such access agreements. Within 15 days of any such

notice, DOE shall submit appropriate modification(s) to this Agreement in response to such inability to obtain access.

PART 40 FIVE-YEAR REVIEW

217. Pursuant to CERCLA, section 121(c), DOE agrees that EPA and the State will review any remedial action that results in any hazardous substances, pollutants, or contaminants remaining on-Site, no less often than every five (5) years after the initiation of such final remedial action to assure that human health and the environment are being protected by the remedial action being implemented. If upon such review it is the judgment of EPA, after consultation with the State, that additional action or modification of the remedial action is appropriate in accordance with section 104 or section 106 of CERCLA, EPA shall require DOE to implement such additional or modified action, notwithstanding Parts 32 or 41.

218. Any dispute by DOE or the State of the determination under this Part shall be resolved under Part 16 of this Agreement.

PART 41 AMENDMENT OF AGREEMENT

219. This Agreement may be amended by mutual agreement among EPA, the State, and DOE. Such amendments shall be in writing and shall have as their effective date the date on which they are signed by all Parties, unless otherwise agreed, and shall be incorporated into this Agreement by reference. Any dispute as to the need for the proposed amendment shall be resolved pursuant to Part 12, 16, or 27 of this Agreement, as appropriate. Should the

Parties determine that an amendment to this Agreement is necessary, and the amendment would affect the CHWA permit for the Plant, the State shall initiate appropriate permit modification procedures for that permit in accordance with its regulations.

220. Any noncompliance with amendments to this Agreement shall be considered a failure to achieve the requirements of this Agreement.

PART 42 EXTENSIONS

221. 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 request for extension by any Party shall be submitted in writing and shall specify:

- A. The timetable and deadline or the schedule that is sought to be extended.
- B. The length of the extension sought.
- C. The good cause(s) for the extension.
- D. Any related timetable and deadline or schedule that would be affected if the extension were granted.

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

- A. An event of Force Majeure.
- 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.

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

223. 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.

224. Within fourteen (14) days of receipt of a request by DOE for an extension of a timetable and deadline or a schedule, the Lead Regulatory Agency, after consultation with the Support Regulatory Agency, shall advise DOE and the Support Regulatory Agency in writing of its respective position on the request. For any requested change in a RCRA or CHWA corrective action schedule, the State shall also be required to approve the schedule subject to the procedures of this paragraph. If the Lead Regulatory Agency does not concur in the requested extension, it shall include in its statement of nonconcurrence an explanation of the basis for its position.

225. If there is agreement among the Parties that the requested extension is warranted, the affected timetable and deadline or schedule shall be extended accordingly. If there is no agreement 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 a determination resulting from the dispute resolution process. If an extension would affect a RCRA or CHWA Permit, the permit shall be amended in accordance with the procedures in 6 CCR 1007-3, Part 100.6 and 40 CFR § 270.42.

226. Within fourteen (14) days of receipt of a statement of nonconcurrence with the requested extension, any Party disagreeing with the proposed extension may invoke the dispute resolution procedures of Parts 12 or 16, as appropriate.

227. A timely and good faith request for an extension shall toll any assessment of stipulated penalties or 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 the appropriate dispute resolution is invoked and the requested extension is denied, stipulated 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 or an application for judicial enforcement may be sought only to compel compliance with the timetable and deadline or schedule, as most recently extended.

PART 43 CONVEYANCE OF TITLE

228. No conveyance of title, easement, or other interest in the Rocky Flats 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 30 days prior to any conveyance, DOE shall notify EPA and the State of the provisions made for the continued operation and maintenance of any response action(s) or system installed or implemented pursuant to this Agreement. DOE shall also comply with the provisions of section 120(h) of CERCLA regarding any conveyance of title at the Site.

PART 44 PUBLIC PARTICIPATION/ADMINISTRATIVE RECORD

229. DOE shall develop and implement a Community Relations Plan (CRP) which responds to the need for an interactive relationship with all interested community elements in the Rocky Flats area. The Plan shall address current and future activities and elements of work being undertaken by DOE. DOE agrees to develop and implement the CRP in a manner consistent with section 117 of CERCLA, the NCP, requirements of the Statement of Work, EPA guidelines set forth in EPA's Community Relations Handbook, and any modifications thereto. The CRP shall be reviewed in accordance with the requirements of the Statement of Work attached hereto as Attachment 2.

230. Any Party issuing a formal press release to the media regarding any of the work required by this Agreement shall advise the other Parties of such press release, and the contents thereof, at least 48 hours before the issuance of such press release and of any subsequent changes prior to release.

231. DOE agrees it shall establish and maintain an Administrative Record at or near the Site in accordance with section 113(k) of CERCLA. Once the Administrative Record is established, DOE shall maintain the Administrative Record at Building 60 (Public Reading Room) directly north of the Rocky Flats Plant West Entrance. A second copy of the Administrative Record shall be kept at the offices of the Governor's Rocky Flats Environmental Monitoring Council at 1536 Cole Blvd., Suite 150, Golden, Colorado 80401. The Administrative Record shall be established and maintained in accordance with EPA policy and guidelines. Any future changes to these policies and guidelines affecting DOE's maintenance of the Administrative Record shall be discussed by the Parties and agreement reached on how best to accommodate those changes. A suitable addendum to this Part shall then be prepared and attached to this Agreement. A copy of each document placed in the Administrative Record will be provided to EPA and the State.

232. The Administrative Record developed by DOE shall be updated and supplied to EPA and the State on at least a quarterly basis; provided, however, that documents previously submitted to EPA and the State need not be resubmitted. The Administrative Record shall address all the OUs at the Site. An index of documents in the complete Administrative Record will accompany each update to the Administrative Record. Documentation on issues giving rise to decisions from the dispute resolution

procedures of Parts 12, 16, and 27, and the decisions themselves, shall be included in the Administrative Record.

233. EPA, after consultation with the State when necessary, shall make the final determination of whether a document is appropriate for inclusion in the Administrative Record. EPA or the State may also submit documents to DOE that DOE shall include in the Administrative Record as EPA or the State deems appropriate.

PART 45 DURATION/TERMINATION

234. Upon satisfactory completion of a remedial action phase at a given OU, as identified in the Statement of Work, the Lead Regulatory Agency shall issue a Notice of Completion to DOE for that OU. At the discretion of the Lead Regulatory Agency, a Notice of Completion may be issued for completion of a portion of the response action for an OU.

235. This Agreement shall terminate by written notice from EPA and the State to DOE when DOE has satisfactorily completed all work pursuant to this Agreement and the Statement of Work and subsequent Workplan(s) as determined by EPA and the State or when the Parties unanimously agree to termination.

PART 46 SEVERABILITY

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

PART 47 CLASSIFIED AND CONFIDENTIAL INFORMATION

237. 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 the State reserve their right to seek to otherwise obtain access to such information or facilities when it is denied, in accordance with applicable law.

238. Any Party may assert on its own behalf, or on behalf of a contractor, subcontractor, or consultant, a confidentiality claim or privilege covering all or any part of the information requested by this Agreement, pursuant to 42 U.S.C. § 9604 and State law. Except as provided in paragraph 237, analytical data shall not be claimed as confidential. Parties are not required to provide legally privileged information. At the time any information is furnished which is claimed to be confidential, all Parties shall afford it the maximum protection allowed by law. If no claim of confidentiality accompanies the information, it may be made available to the public without further notice.

PART 48 RESERVATION OF RIGHTS

239. The Parties have determined that the activities to be performed under this Agreement are in the public interest. Except as provided in paragraph 243, EPA and the State agree that

compliance with this Agreement shall stand in lieu of any administrative and judicial remedies against DOE, that are available to EPA and the State regarding the currently known release or threatened release of hazardous substances, hazardous wastes, pollutants, hazardous constituents, or contaminants at the Site that are the subject of the activities being performed by DOE under Part 23 (Work). Provided that nothing in this Agreement shall preclude EPA or the State 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 CHWA including any discharge or release of hazardous waste which is not addressed in the Statement of Work or subsequent Workplans.

B. Upon discovery of new information regarding hazardous substances or hazardous waste management including, but not limited to, information regarding releases of hazardous waste, hazardous constituents, or hazardous substances which is not addressed in the Statement of Work or subsequent Workplans.

C. Upon the State's or EPA's determination that such action is necessary to abate an imminent and substantial endangerment to the public health, welfare, or the environment.

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

241. 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 under this Agreement or to sue or intervene in any action to enforce State or Federal law.

242. Except as provided in paragraph 239, DOE is not released from any liability which it may have pursuant to any provisions of State and Federal law.

243. DOE is not released from any claim for damages for injury to, destruction of, or loss of natural resources pursuant to § 107(a)(4)(c) of CERCLA.

244. EPA and the State reserve all rights to take any legal or response action for any matter not specifically part of the work covered by this Agreement.

245. Nothing in this Agreement shall be construed to affect any criminal investigations or criminal liability of any person(s) for activities at the Site. However, compliance with an EPA directive pursuant to this Agreement shall constitute an affirmative defense for any matter related to that compliance.

246. Notwithstanding this Part or any other Part of this Agreement, the State reserves any rights it may have to seek judicial review of an interim or final remedial action in accordance with sections 113, 121 and 310 of CERCLA, 42 U.S.C. §§ 9613, 9621 and 9659, but agrees to employ the appropriate dispute resolution process prior to seeking judicial review.

247. The State also reserves any rights it may have to seek judicial review of any ARAR determination in accordance with sections 121 and 310 of CERCLA.

248. The Parties reserve their rights to challenge any decision affecting remedy selection under all applicable Laws consistent with Part 29.

PART 49 FORCE MAJEURE

249. A Force Majeure shall mean any event arising from factors 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, acts of God; fire; war; insurrection; civil disturbance; explosion; unanticipated breakage or accident to machinery, equipment or lines of pipe despite reasonably diligent maintenance; adverse weather conditions that could not reasonably be anticipated; restraint by court order or order of public authority; inability to obtain, consistent with statutory requirements 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 the DOE; and delays

caused by compliance with applicable statutes or regulations governing contracting, procurement or acquisition procedures, despite the exercise of reasonable diligence. A Force Majeure shall also include any strike or other labor dispute not within the control of the Parties affected thereby. Force Majeure shall not include increased costs or expenses of response actions, whether or not anticipated at the time such response actions were initiated.

PART 50 FUNDING

250. 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 use its best efforts to obtain timely funding to meet its obligations under this Agreement, including but not limited to budget requests supported by DOE's Environmental Restoration and Waste Management Five Year Plan.

251. The activities and related milestones in the Five-Year Plan shall be consistent with the provisions, including requirements and schedules, of this Agreement; it is the intent of DOE that the Five-Year Plan shall reflect the provisions of this Agreement. Any amendments to this Agreement will be incorporated, as necessary, in the annual updates of the Five-Year Plan. To support the annual updates of the Five-Year Plan that are consistent with the provisions of this Agreement, the State and EPA shall assist DOE in determining the activities and

corresponding work schedule for each fiscal year in the following manner:

A. DOE shall develop its Activity Data Sheets (ADS) for the Rocky Flats Plant compliance and cleanup activities in consultation with the State and EPA. This information, which shall include proposed activities and other technical and scheduling information, but not funding estimates, shall be provided to the State and EPA for the purpose of reaching agreement on the activities to be included in the period addressed by each annual update of the Five-Year Plan.

B. DOE agrees to meet and confer with the State or EPA, at the request of either, up to and including the point at which the ADSs are submitted to DOE Headquarters for validation.

C. DOE also agrees to meet and confer with the State and EPA during the development of the implementation plans for each update of the Five-Year Plan, prepared on an annual basis to address the budget request year and subsequent four year period.

D. Subsequent to receipt of Congressional appropriations by DOE, DOE agrees to meet and confer with the State and EPA during any revision to the Rocky Flats Plant implementation plans associated with the annual update of the Five-Year Plan where such revisions are necessitated by differences in appropriated funding from that identified in the budget

request. This consultation would be dependent upon the timing of the Congressional action.

E. Nothing in this Agreement shall affect DOE's intended separate interactions on the Five-Year Plan with States, EPA, public and other groups for the purposes of consultation and implementation.

252. In accordance with section 120(e)(5)(B) of CERCLA, 42 U.S.C. § 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, including any EPA and State cost estimates, and shall justify any discrepancies between EPA, State, and DOE estimates.

253. If appropriated funds are not available to fulfill DOE's obligations under this Agreement, EPA and the State reserve the right to initiate any other action either Party deems appropriate. Initiation of any such action shall not release DOE from its obligations under this Agreement.

254. EPA and DOE agree that any requirement for the payment or obligation of funds including stipulated penalties under Part 19 (Stipulated 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 to pay EPA-assessed stipulated penalties in violation of the Anti-Deficiency Act, 31 U.S.C. § 1341, in cases where payment or obligation of such funds shall be appropriately adjusted.

255. 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 the State and DOE agree that in any action by the State against DOE 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. The State disagrees that lack of appropriations or funding is a valid defense. However, DOE and the State agree and stipulate that it is premature at this time to raise and adjudicate the existence of such a defense. Acceptance of this paragraph 255 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. § 1341.

PART 51 COMPLIANCE WITH APPLICABLE LAWS

256. 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, when necessary, shall be provided in accordance with Part 42 (Extensions).

PART 52 OTHER CLAIMS

257. 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, including any DOE or predecessor agency contractor, subcontractor, and/or operator, either past or present, for any liability it may have arising out of or relating in any way to the generation, storage, treatment, handling, transportation, release, or disposal of any hazardous substances, hazardous wastes, pollutants, or contaminants found at, taken to, or taken from the Rocky Flats Site.

258. This Agreement does not constitute any decision on pre-authorization of funds under section 111(a)(2) of CERCLA, 42 U.S.C. § 9611(a)(2).

259. Neither EPA nor the State shall be held as a party to any contract entered into by DOE to implement the requirements of this Agreement.

PART 53 PUBLIC COMMENT/EFFECTIVE DATE

260. All Parties shall jointly and simultaneously announce the availability of a draft of this Agreement to the public for review and comment for a period of 45 days. Prior to the public comment period, the Parties shall execute a Notice of Intent to Sign the Agreement, which shall be attached to this Agreement as Attachment 5. EPA shall assemble and distribute to DOE and the State public comments submitted during this period. After the public comment period, the Parties shall sign the Agreement in accordance with this Part and the Notice of Intent to Sign. At the end of the comment period, the Parties shall review such comments and shall either:

A. Determine that this Agreement should be executed in its present form, in which case EPA shall notify all Parties in writing, and this Agreement shall be executed; or,

B. Determine that modification of this Agreement is necessary, in which case the Parties shall meet to discuss and agree upon any proposed changes. If agreement is reached on any proposed changes, EPA shall notify all Parties in writing, and this Agreement shall be executed by the Parties.

C. If there is disagreement among the Parties as to the need for such modification, such Party need not execute this Agreement.

261. The effective date of this Agreement shall be the date on which the last party signs this Agreement under the terms of this paragraph. All Parties shall sign this Agreement within fourteen (14) days of the determination that either the Agreement should be executed in its present form according to subparagraph 260(A) above, or when DOE receives notification that agreement has been reached on modification according to subparagraph 260(B) above.

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.

FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY:

James J. Scherer
Regional Administrator, Region VIII
U.S. Environmental Protection Agency

FOR THE UNITED STATES DEPARTMENT OF ENERGY:

David Simonson, Manager
Rocky Flats Office

FOR THE STATE OF COLORADO DEPARTMENT OF HEALTH:

Thomas P. Looby
Assistant Director, Office of Health and Environmental Protection
Colorado Department of Health

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
THE STATE OF COLORADO
UNITED STATES DEPARTMENT OF ENERGY
NOTICE OF INTENT TO EXECUTE ROCKY FLATS AGREEMENT

The United States Environmental Protection Agency (EPA), State of Colorado (State), and the United States Department of Energy (DOE) [the Parties] hereby declare their intent to execute the Rocky Flats Federal Facility Agreement and Consent Order (Agreement) as presented for public comment, subject to any changes necessitated by public comment and agreed to by the Parties. The Parties agree that:

Within fifteen (15) days of execution of this Notice, the Parties shall:

- 1) Publish this notice of intent to execute the Agreement;
- 2) Make available for review by the public copies of the Agreement including all attachments; and,
- 3) Conduct public meetings regarding the Agreement.

EPA shall accept written comments from the public on behalf of all the Parties for a period of sixty (60) days following such Notice. In addition, EPA, DOE, and the State will accept public comment at informal public meetings during this period, either in writing or orally. After the close of the comment period, EPA, DOE, and the State shall review such comments. EPA and the State will determine whether the comments disclose facts or considerations which indicate that the proposed Agreement is inappropriate, improper, or inadequate. The Parties shall execute the Agreement by March 30, 1989, unless EPA or the State determine that modification of the Agreement is necessary, in which case all Parties reserve their right to decline to execute the Agreement.

U.S. DEPARTMENT OF ENERGY

By: David Simonson
Date: 12/14/89
David Simonson, Manager
Rocky Flats Office

U.S. ENVIRONMENTAL PROTECTION AGENCY

By: James J. Scherer
Date: December 8, 1989
James J. Scherer
Regional Administrator, Region 8

THE STATE OF COLORADO

By: Thomas P. Looby Date: 12/8/89
Thomas P. Looby
Assistant Director, Office of Health and Environmental Protection
Colorado Department of Health

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ATTACHMENTS

- ATTACHMENT 1: MAP
 2: STATEMENT OF WORK
 3: WORKPLANS (RESERVED)
 4: HAZARDOUS SUBSTANCES LIST
 5: NOTICE OF INTENT TO SIGN

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ATTACHMENT 1 - MAP

The map presented as this Attachment locates all inactive sites known to have managed hazardous substances, or released hazardous substances to the environment. Sites 211 and 217 are within Building 881 and are not shown on the map. Site 178 is located in a room within Building 881, and not the entire building as represented in the map. Sites 187 and 189 have not been located on the map at this time due to insufficient information. These two sites will be located and investigated as required by this Agreement. Sites 198 through 202 are off-site or general areas and are not shown on the site map.

ATTACHMENT 2 - Rocky Flats Plant U.S.D.O.E.
FEDERAL FACILITY AGREEMENT STATEMENT OF WORK

I.A. Introduction

The purpose of this attachment is to set forth the elements of work required to be performed to respond to all hazardous substance releases or threat of releases at or from the U.S. DOE Rocky Flats Plant (DOE) which may cause harm to human health or the environment. This attachment outlines work to be performed during the investigatory and study phase, ie; Remedial Investigation/Feasibility Study (RI/FS)/RCRA Facility Investigation/Corrective Measures Study (RFI/CMS), of the response process. It does not completely describe the specifics of the Submittals required during the remedial design, remedial action, or other implementation phases of the response program. All response activities performed by DOE shall be consistent with CERCLA, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), RCRA, and applicable State law. At a minimum, all response activities shall also be consistent with:

- Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, Interim Final, October 1988.
- RCRA Facility Investigation Guidance, Interim Final, May 1989.
- Guidance on Preparing Superfund Decision Documents: The Proposed Plan and Record of Decision, March 1988.
- Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, SW-846, October 1986.
- Compendium of Superfund Field Operation Methods, September 1987.
- Superfund Public Health Evaluation Manual, October 1986.
- Community Relations in Superfund: A Handbook, Interim Final, June 1988.
- Federal Register, Volume 52, Number 53, Thursday, March 19, 1987, pp. 8704 - 8709.
- Risk Assessment Guidance for Superfund, Volume II-

Environmental Evaluation Manual, Interim Final,
March, 1989.

[The most recent version of the above citations published at least four months prior to the required submittal date for each document shall always be used.]

While this Statement of Work (SOW) provides details on specific response requirements that must be met during the investigatory and study phase of the response process, it is incumbent upon DOE to perform all response activities in compliance and consistent with this Federal Facility Agreement and Consent Order (Agreement) and applicable laws, regulations and guidance.

I.B. General Response Procedures

I.B.1. As described in the aforementioned guidance documents, the general response processes under CERCLA and RCRA during the investigatory and study phase of each Operable Unit (OU) call for: 1) Preparing initial overview of the project scope, 2) Identification of individual hazardous substance releases, or threats of release 3) Grouping the individual hazardous substance sites into OUs, 4) Characterizing the nature and extent of all releases, 5) Developing and screening remedial alternatives, performing treatability investigations, as required, 6) Determining the risks to human health or the environment posed by each release of hazardous substances, 7) Selecting and documenting remedies, and 8) Performing Interim Measures/Interim Remedial Actions (IM/IRAs), when required. These tasks shall be documented in various primary and secondary documents, as described in Table 4 of this SOW and in the Agreement. The timetables and deadlines for submittal of primary and secondary documents are presented within this SOW.

I.B.2. All individual hazardous substance sites (sites), defined as locations associated with a release or threat of release of hazardous substances which may cause harm to human health and/or the environment, and are known at the time of execution of this Agreement, are described in Table 1, Individual Hazardous Substance Sites¹. Each of the previously identified

¹ The definition and acknowledgement of these units as hazardous substance sites is a result of documentation submitted in: Appendix I, 3004(u) Waste Management Units, of the RCRA Part B Permit Application, Rev. No. 1, U.S.D.O.E. - Rocky Flats Plant,

sites described in Table 1 has been grouped into one of ten OUs, as described in Table 2 of this Attachment.

I.B.3. Notification. DOE shall notify EPA and the State of any newly identified or suspected releases or threats of release from any or all of the sites, including the presence of soil gas; air emissions; contaminated ground water, surface water, or soil; or any spills which may threaten human health or the environment. This notification shall be in accordance with all applicable laws including the notification requirements of RCRA, CERCLA, and the Emergency Planning and Community Right to Know Act. DOE shall amend the Historical Release Report identified in I.B.5. below every three months to include the newly identified or suspected releases for which DOE has notified EPA and the State during the previous 3 months. Whenever a newly identified or suspected release of hazardous substance occurs or is discovered, it may be added to one of the ten existing OUs or it may become another OU, as agreed to by the Parties to the Agreement. RFI/RI Workplans shall be submitted or amended to reflect the incorporation of a newly identified release or suspected release into the Site investigation.

I.B.4. Review and Comment on Draft and Final Reports. Whenever DOE prepares a document for submittal in accordance with the terms of this Agreement, the document shall be submitted to both EPA and the State. DOE shall complete and transmit each draft and final primary and secondary document to EPA and the State on or before the corresponding deadline established within this Agreement for issuance of each report. The Lead Regulatory Agency (LRA), or both EPA and the State in the case of joint lead OUs, shall consolidate all regulatory agency comments and shall submit them to DOE in accordance with paragraph 144 of the Agreement. Review of any document by the Lead Regulatory Agency (LRA) and Support Regulatory Agency (SRA), or EPA and the State in the case of joint lead OUs, may concern all aspects of the document including completeness, and should include, but is not limited to, technical evaluation of any aspect of the document, and consistency with RCRA, CERCLA, the NCP, and any

dated December 15, 1987 (Table 2 was revised by the Facility (Rev. No. 2) and is dated April 13, 1988); Appendix I, 3004(u) Waste Management Units, of the Transuranic Mixed Wastes RCRA Part B Permit Application, dated July 1, 1988; and the Comprehensive Environmental Assessment and Response Program, Phase I.

applicable regulations, pertinent guidance or written policy. Comments shall be provided with adequate specificity so that DOE can make the 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.

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

Within 60 days of receiving written comments from the LRA, or EPA and the State in the case of joint lead OUs, DOE shall update the document and/or respond formally to the comments, through a written response or updated document. The updated document or response by DOE shall address all written comments. Upon receiving the updated document or responses to the comments, the LRA or EPA and the State in the case of a joint lead OU, shall evaluate the updated document and/or the response, and notify DOE of approval or disapproval of the updated document or response, and whether DOE is in compliance with the terms of the Agreement. All reviews, comments, and determinations made by EPA and the State shall be in writing and shall be directed to the person identified in Part 35 of the Agreement to receive the notification.

If the LRA, or EPA and the State in the case of a joint lead OU, determines that the response by DOE to the written documents and/or the updated document is complete, or only minor modifications are necessary, DOE shall be notified in writing. If the LRA, or EPA and the State in the case of a joint lead OU, determines that the response by DOE to the written documents and/or the updated document is incomplete or inadequate, DOE shall be notified in writing. If such updated document or response is a final primary document, the decision is subject to dispute resolution. Decisions regarding secondary documents are not subject to dispute resolution, but deficiencies in secondary documents must be corrected prior to incorporating the secondary document into a primary Submittal.

Table 4 of this Attachment lists the primary and secondary documents to be submitted in accordance with

this Agreement. Only Final Reports or final revisions of the primary documents identified within Table 4 shall be subject to dispute resolution. DOE shall complete and submit all primary documents in accordance with the schedules within Table 6 of this Attachment.

I.B.5. Historical Release Report. DOE shall submit a Historical Release Report within 365 days of the effective date of this Agreement. This report shall provide a complete listing of all spills, releases and/or incidents involving hazardous substances occurring since the inception of the Rocky Flats Plant in 1951 and all spills, releases, and/or incidents requiring implementation of the contingency plan, the notification requirements of 40 CFR 265.56, 6CCR 1007-3, 265.56, or as required by the Community Right to Know Act. The listing shall be accompanied by complete documentation of the events including the description of the events, complete physical and chemical description of the constituents released, responses to the events and the fate of the constituents released into the environment. This information will be utilized by EPA and the State to determine if any of these sites are individual hazardous substance sites and to evaluate the need for initiating RCRA Facility Investigations/Remedial Investigations (RFI/RI) for any and/or all of the events. After review of the initial Historical Release Report and any subsequent amendments provided through the process described in I.B.3. above, EPA and the State shall notify DOE of the requirement to initiate the RFI/RI(s). If EPA and the State decide that an RFI/RI is required for a newly identified site, DOE shall be required to submit a Phase I RFI/RI Workplan for that site in accordance with Section VI.A. of this Attachment, or amend an existing OU RFI/RI Workplan to address the newly identified site. DOE shall also identify any additional sites meeting the definition of an individual hazardous substance site, herein referred to as "site", not identified above.

I.B.6. As discussed in paragraph 141 of the Agreement, EPA and the State shall designate Lead and Support Regulatory Agencies for purposes of increased efficiency in the oversight of response activities covered by this Agreement. In some cases, where agreed upon by EPA and the State, both agencies may jointly serve as Lead Regulatory Agency. In these instances, it shall also be agreed between EPA and the State, which agency shall serve as the final decision maker for the purposes of resolving disputes. The designation for the currently known releases is described in Table 3.

I.B.7. For each OU as provided in more detail below, DOE shall characterize the area associated with each OU, and determine the nature and extent of contamination, pursuant to a Workplan submitted to and approved by EPA and the State. The characterization and determination of nature and extent of contamination shall become part of a RCRA Facility Investigation/Remedial Investigation (RFI/RI). DOE shall complete and submit Baseline Risk Assessments (RA) and shall also conduct Treatability Studies, and Corrective Measures/Feasibility Studies (CMS/FS) as required by EPA and/or the State. In accordance with the provisions of this Agreement, the State and/or EPA, in consultation with DOE, shall select the appropriate Corrective and Remedial Actions.

I.B.8. Project Scoping. Prior to the development and submittal of the RFI/RI Workplans for each OU, DOE may request a meeting to be held between EPA, the State and DOE in order to preliminarily coordinate the requirements of the RCRA Facility Investigation guidance documents with those requirements specified within the Remedial Investigation guidance. The purpose of the meeting is to discuss the requirements and agree on the content of the RFI/RI Workplans to be submitted for each OU. At the meeting, EPA and the State shall inform DOE of the specific requirements to be addressed within the RFI/RI Workplans. Following notification, DOE shall develop and submit as a chapter of the RFI/RI Workplans, potential remedial action objectives, preliminary applicable or relevant and appropriate requirements (ARARs), and potential data quality objectives.

I.B.9. Investigatory Phase Documentation. It is intended that each OU shall proceed through serial phases of investigation dependent on the information gathered to characterize each OU. OU 1 has progressed through two phases of investigation prior to the finalization of this Agreement. OU 2 has progressed through one phase of investigation prior to the finalization of this Agreement. Pursuant to this Agreement, OUs 3 - 10 have not undergone Phase I field investigation.

For OUs 3 - 10, DOE shall submit draft Phase I RFI/RI Workplans in accordance with the requirements for RFI/RI Workplans specified below. For OUs 1 and 2, DOE shall submit draft Phase III and draft Phase II RFI/RI Workplans, respectively, in accordance with the requirements for RFI/RI Workplans specified below and to address the comments provided to DOE by EPA and the State regarding the previous RFI/RI submittals for these OUs.

The draft RFI/RI Workplans for all OUs shall be submitted to EPA and the State for review and comment. DOE shall revise the draft RFI/RI Workplans to address all comments submitted by EPA and the State, and resubmit the RFI/RI Workplans to EPA and the State for review and joint written approval. DOE shall not commence any work or response activity prior to receiving the appropriate approvals from EPA and the State. The EPA and the State approved RFI/RI Workplans shall be submitted in accordance with the schedules within Table 6 of this Attachment. The approved RFI/RI Workplans shall, at a minimum, implement the activities required in Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites. The work performed as a result of the approval of the RFI/RI Workplans shall be completed, documented and submitted in accordance with the schedule requirements stipulated within Table 6 of this Attachment.

The results of the Phase I RFI/RI work, for OUs 3 - 10, shall be documented within draft Phase I RFI/RI Reports. The results of the Phase III and Phase II RFI/RI work, for OUs 1 and 2, shall be documented within draft Phase III and draft Phase II RFI/RI Reports, respectively. For each OU, the draft RFI/RI Reports shall include a Preliminary Site Characterization, containing information, which is, at a minimum, in accordance with section VII.A. below. Subsequent phases of RFI/RI Workplans for all OUs shall be reviewed and approved consistent with the process identified above for Phase I RFI/RI Workplans.

The draft Phase I RFI/RI Reports for OUs 3 - 10 shall also recommend work to be performed for each Phase II investigation. EPA and the State shall review these draft Phase I RFI/RI Reports for OUs 3 - 10 in accordance with the provisions of paragraphs 144 and 145 of the Agreement. DOE shall revise the draft Phase I RFI/RI Reports for OUs 3 - 10 to address the comments received from EPA and/or the State, and resubmit Final Phase I RFI/RI Reports for EPA and/or the State review and approval. DOE shall not commence the next investigatory phase prior to receiving approval of the Final Phase I Reports for OUs 3 - 10 and approval of Phase II RFI/RI Workplans. The Phase II RFI/RI investigations for the sites within OU 3 shall be conducted in accordance with the schedules within Table 6 of this Attachment and in accordance with section I.B.11.b. of this Attachment. The Phase II RFI/RI investigations for OUs 4 - 10 shall be prioritized, scheduled and conducted after evaluation of the Final

Phase I RFI/RI Reports for OUs 4 - 10, as specified within section VII.B. of this Attachment. If EPA and/or the State determine that no further investigatory work is required for each OU within OUs 4 - 10 after the Phase I investigation is complete, EPA and/or the State shall approve the Final Phase I RFI/RI Report as a Final RFI/RI Report for that specific OU. The investigatory phase for each OU within OUs 3 - 10 shall be considered complete after approval of a Final RFI/RI Report.

The draft Phase III and Phase II RFI/RI Reports for OUs 1 and 2 respectively shall be submitted for EPA and State review and comment. If EPA and the State determine that no further investigatory work is required, DOE shall revise the reports to address the comments received and shall submit the Final Phase III and Phase II RFI/RI Reports to EPA and the State for review and approval as Final RFI/RI Reports. If EPA and the State determine that further investigatory work is required, DOE shall not commence the next investigatory phase prior to receiving EPA and State comments concerning the draft Phase III and draft Phase II RFI/RI Reports for OUs 1 and 2, respectively, and receipt of approval for the next phase of the RFI/RI Workplans for OUs 1 and 2. The investigatory phases for OUs 1 and 2 shall be considered complete after approval of Final RFI/RI Reports for OU 1 and for OU 2.

Alternatives Analysis Documentation. For each OU, DOE shall submit a draft Corrective Measures Study/Feasibility Study (CMS/FS) Report in accordance with the schedule requirements stipulated within Table 6 of this Attachment, or within 60 days of EPA and/or State approval of the Final RFI/RI for each OU, in the event the submittal date is not specified within Table 6 of this Attachment. The reports shall contain all information as outlined in section IX. below. The draft CMS/FS Report for each OU shall be submitted for review and comment by EPA and/or the State. DOE shall revise the draft reports for each OU to address the comments received and shall resubmit Final CMS/FS Reports for EPA and/or State review and approval. The alternative analysis phase of each investigation shall not be complete prior to approval of a Final CMS/FS Report.

Remedy Selection Documentation. In accordance with the schedules within Table 6 of this Attachment, or within 90 days of EPA and/or State approval of the Final CMS/FS, for OUs 4 - 10, DOE shall submit a draft Proposed Plan (PP) for EPA and/or the State review and

comment. After receiving and addressing comments from EPA and/or the State on the draft Proposed Plan, DOE shall submit the Final Proposed Plan for EPA and State review and approval and, public comment. The Final Proposed Plan shall be submitted in accordance with the schedules within Table 6 of this Attachment, or within 60 days of receipt of comments from EPA and the State on the draft Proposed Plan, for OUs 4 - 10. DOE shall submit a Responsiveness Summary for each OU, in accordance with the schedules within Table 6 of this Attachment or within 30 days of the end of the public comment period, for OUs 4 - 10, for EPA and/or State review and comment. DOE shall submit a draft Corrective Action Decision/Record of Decision (CAD/ROD) for EPA and State approval in accordance with the schedules within Table 6 of this Attachment or within 180 days of receipt of EPA and/or State comments on the Responsiveness Summary. The draft CAD/ROD when approved shall initiate implementation of Corrective Action/Remedial Action (CA/RA) for each OU.

I.B.10. Interim Measures/Interim Remedial Actions. For emergency removals that require response activities to begin onsite within several hours of discovery, DOE shall notify EPA and the State as soon as possible, but no later than 12 hours after discovery of the release or threat of release requiring emergency response.

All other removals contemplated by DOE shall be addressed as Interim Measures/Interim Remedial Actions (IM/IRAs) pursuant to paragraphs 15 and 150 of this Agreement, and in accordance with Engineering Evaluation and Cost Analysis (EE/CA) Guidance, dated June 3, 1987, or as amended. IM/IRAs shall, to the greatest extent practicable, be consistent with and contribute to the efficient performance of final response actions consistent with sections 104 and 121 of CERCLA. DOE shall prepare and submit a draft Proposed IM/IRA Decision Document for EPA and the State review and approval. As a chapter of the draft Proposed IM/IRA Decision Document, DOE shall provide to EPA and the State a draft ARAR Analysis. After EPA and State review and approval of the draft Proposed IM/IRA Decision Document, DOE shall submit a Proposed IM/IRA Decision Document for EPA, State and public comment. The comment period on the Proposed IM/IRA Decision Document shall be at least 60 days. DOE shall hold a public hearing on each Proposed IM/IRA Decision Document, if requested to do so by the public, EPA or the State. The Proposed IM/IRA Decision Document shall be a concise document that (a) indicates the objective of the IM/IRA; (b) discusses alternatives, if any, that

were considered; (c) provides the rationale for the alternative selected; (d) presents EPA approved ARAR analyses and; (e) discusses how the interim remedy selected will be consistent with the final remedy for the OU. After receipt of EPA, State and/or public comments concerning the Proposed IM/IRA Decision Document, DOE shall prepare a Final IM/IRA Decision Document which shall be consistent with the purpose and requirements of the EPA and/or State approved draft Proposed IM/IRA Decision Document, as determined by EPA and/or the State, and includes a response to all comments received.

The Final Decision Document for each IM/IRA shall include deadlines for implementation of the IM/IRA and shall be supported by the Administrative Record. The supporting Administrative Record shall be consistent with CERCLA and shall include, but not be limited to, significant facts and studies supporting the initial decision to conduct the IM/IRA, all comments received concerning the final decision on the action, EPA and State comments concerning the IM/IRA, and the DOE response to those comments.

Following completion of the design work specified in an IM/IRA Decision Document, DOE shall issue an IM/IRA Implementation Document, that shall include the appropriate drawings and specifications and the appropriate design analysis and cost estimate for implementation of the IM/IRA. The IM/IRA Implementation Document shall provide design documents consistent with the purpose and requirements of the Final IM/IRA Decision Document. If either EPA or the State believes that any IM/IRA is being designed or implemented in a way that will not meet the objectives for the IM/IRA set forth in the Final IM/IRA Decision Document, EPA and the State shall recommend how the IM/IRA should be properly designed and implemented or shall invoke dispute resolution.

DOE shall keep EPA and the State apprised of the progress of the activities required for implementation of the IM/IRA, through inclusion in the monthly progress reports to be submitted to EPA and the State, pursuant to Part 34 of the Agreement.

If EPA and the State determine that an IM/IRA will not fully address the threat posed by a release and further response is required, DOE shall ensure an orderly transition from the IM/IRA to final response actions. At the time of implementation of the final response

action(s), IM/IRAs shall either end or be incorporated as part of the final response action.

I.B.11. Administrative Process for CHWA/RCRA Interim Status Closures.

I.B.11.a. Interim status units within buildings which have not released hazardous substances to the environment external to the building shall proceed through the CHWA/RCRA closure process. These units shall continue with interim status closure in accordance with the requirements of the State of Colorado. All interim status closure units which have not released hazardous substances to the environment external to the building containing the unit shall be closed in a manner eliminating the post closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, hazardous waste decomposition products, or hazardous substances. DOE shall submit Phase I RFI/RI Workplans to EPA and the State for review and joint approval, designed to characterize the source of each of these units in accordance with the requirements of the State of Colorado. Phase I RFI/RI Reports shall be submitted to the State for review and approval, as required by the State, in consultation with DOE. Administratively, for the purposes of this Agreement, the closure of these units shall be conducted as an Interim Measure/Interim Remedial Action as set forth in I.B.10. above, and shall be submitted for public comment and implemented as described in I.B.10. above. Any threat from contamination not addressed at the OU through the closure process shall be addressed through the RFI/RI and CMS/FS process for that OU. If there is no post closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, hazardous waste decomposition products or hazardous substances from the inside-the-building-closures, then no further action will be required for that site.

I.B.11.b. Interim status closure units external to buildings shall be addressed in two phases.

Phase I. For those interim status closures for which DOE has submitted Closure Plans, DOE shall resubmit or amend the source characterization plans of the Closure Plans as individual Chapters of a draft Phase I RFI/RI Workplan for review and comment by EPA and the State. The draft Phase I

RFI/RI Workplan shall also include plans for conducting field work necessary to characterize the sources of those sites for which DOE has not submitted interim status Closure Plans. DOE shall revise the draft Phase I RFI/RI Workplan to reflect comments submitted to DOE by the State, and shall resubmit the Phase I RFI/RI Workplan for joint approval by EPA and the State in accordance with the schedule set forth within Table 6 of this Attachment. The work required in the approved Phase I RFI/RI Workplan shall be completed in accordance with schedules within Table 6 of this Attachment. The approved Phase I RFI/RI Workplan shall implement field work designed to characterize the sources/soils of each interim status unit, which shall provide the information necessary to determine the risk associated with the source of contamination at each interim status closure. A draft Phase I RFI/RI Report shall be submitted to EPA and the State for review and comment, within the scheduled times stipulated within Table 6 of this Attachment. The draft Phase I RFI/RI Report shall be used by the State to identify additional work to be performed and shall provide information to support the draft Baseline Risk Assessment to be submitted as a chapter of the draft Phase I RFI/RI Report. After revising the draft Phase I RFI/RI Reports to address all comments, DOE shall submit a Phase I RFI/RI Report to the State for review and approval.

DOE shall submit a draft Phase I CMS/FS for review and comment by EPA and the State. The draft Phase I CMS/FS shall be performed in accordance with the EE/CA Guidance. The draft Phase I CMS/FS shall provide the information required to recommend an alternative and shall be submitted as a draft Proposed IM/IRA Decision Document for EPA and State review and approval. The draft Proposed IM/IRA Decision Document shall address all hazardous substance source areas with risk levels greater than 10^{-6} evaluated at the source, and shall require the cleanup of all source areas exhibiting risk levels greater than 10^{-6} . Following EPA and State review and approval of the draft Proposed IM/IRA Decision document, DOE shall submit a Proposed IM/IRA Decision document for EPA, State and public comment. The comment period on the Proposed IM/IRA Decision document shall be at least 60 days. DOE shall hold a public hearing on each Proposed IM/IRA Decision document, if

requested to do so by the public, EPA or the State. The Proposed IM/IRA Decision document shall be a concise document that (a) indicates the objective of the IM/IRA; (b) discusses alternatives, if any, that were considered; (c) provides the rationale for the alternative selected and; (d) presents EPA approved ARAR analyses and; (e) discusses how the interim remedy selected will be consistent with the final remedy for the OU. After receipt of EPA, State and/or public comments concerning the Proposed IM/IRA Decision document, DOE shall submit a Final IM/IRA Decision Document which shall be consistent with the purpose and requirements of the EPA and State approved draft Proposed IM/IRA Decision Document, as determined by EPA and the State, and includes a response to all comments received.

Phase II. In accordance with the schedules provided within Table 6 of this Attachment, DOE shall submit a draft Phase II RFI/RI Workplan to EPA and the State for review and comment, to evaluate the nature and extent of contamination resulting from the release of hazardous substances from the interim status units. DOE shall revise the draft Phase II RFI/RI Workplan in accordance with the comments received from EPA and the State, and shall resubmit the Phase II RFI/RI Workplan for EPA and the State review and approval in accordance with the schedules within Table 6 of this Attachment. The approved Phase II RFI/RI Workplan shall implement field work designed to evaluate the impact of each interim status unit on surface water, ground water, air, the environment and biota.

If the State, in consultation with EPA and DOE, determines that the Phase II investigation for a specific interim status closure would be expedited or more efficiently conducted through incorporation into an investigation for another OU, then the State shall inform EPA and DOE that the Phase II investigation for the specific unit will be conducted through amending the affected OU Workplan. The CAD/ROD for OU 3 will reflect that the specific unit has been incorporated into another OU.

The draft Phase II RFI/RI Report shall re-evaluate the IM/IRA implemented at each source, as appropriate, and shall include a draft comprehensive Baseline Risk Assessment. The draft

comprehensive Baseline Risk Assessment shall evaluate risk associated with both the sources and the resultant environmental contamination. The draft Phase II RFI/RI shall be used by the State to evaluate the need for conducting further field work and shall provide the information to be used to support the draft Phase II CMS/FS Report. If no further work is required by EPA or the State, the State shall approve the draft Phase II RFI/RI Report as a Final Phase II RFI/RI Report for those sites within OU 3.

In accordance with the schedules within Table 6 of this Attachment, DOE shall submit the draft Phase II CMS/FS Report for EPA and State review and comment. The draft Phase II CMS/FS shall evaluate corrective/remedial measures to address both the sources and contamination resulting from the sources. DOE shall revise and submit the Phase II CMS/FS for EPA and State review and approval in accordance with the schedules within Table 6 of this Attachment after addressing the comments received. If no further work or revision is required by EPA and the State, the Phase II CMS/FS shall be approved as the Final CMS/FS for that site within OU 3. Remedy Selection subsequent to the completion of the CMS/FS for closures external to buildings shall proceed in accordance with the schedules within Table 6 of this Attachment and in accordance with the process specified in I.B.9. above.

- II. Community Relations Plan (CRP). DOE shall submit a draft CRP according to the schedules within Table 6 of this Attachment to EPA and the State for review and joint approval. The CRP shall document the community relations history and issues of community concern. The CRP shall describe the techniques and procedures which shall be utilized by DOE to address community concerns and incorporate community involvement. The CRP preparation methods, elements, and a recommended format are included in Community Relations in Superfund: A Handbook (U.S. EPA, Interim, June 1988). All DOE involvement in community relations shall be subject to oversight by the State and EPA.

II.A. Community Relations Activities

DOE shall develop and implement a community relations plan responding to public concerns and interests as identified through community outreach and/or community interviews. The activities to be conducted under this plan, at a

minimum, shall be those mandated in CERCLA, and the NCP.

II.A.1. Public Repositories

Information shall be made readily available to the public to ensure meaningful participation. One mechanism for accomplishing this goal is the establishment of public information repositories. Locations of the repositories shall be as follows:

US/EPA Region VIII Library
999 18th St., Suite 215
Denver, CO 80202-2405
(303) 293-1444

Colorado Department of Health
4210 East 11th Avenue, Room 351
Denver, CO 80220
(303) 331-4850

U.S. Department of Energy, Rocky Flats
Public Reading Room
Building 060 - Training Center
Rocky Flats Plant, CO 80401
(303) 966-5482

Rocky Flats Environmental Monitoring Council
1536 Cole Blvd. Suite 150
Golden, CO 80401
(303) 232-1966

Front Range Community College Library
3645 West 112th Avenue
Westminster, CO 80030
(303) 466-8811, ext. 504

All primary documents as listed in Table 4 of this attachment shall be sent by DOE to the repositories at the time of document release. In addition, copies of documents when submitted for public comment shall be placed in repositories. Any additional information or documents shall be placed in repositories by DOE in a timely manner as deemed necessary by EPA, the State, and DOE. In addition to review of documents at the repositories, the public may also review the Administrative Record kept by DOE at the Rocky Flats Plant, during normal working hours.

II.A.2. Mailing Lists and Newsletter

DOE shall maintain a Rocky Flats mailing list. EPA, the State, or DOE may periodically distribute

information in the form of a direct mailing to those persons on the DOE Rocky Flats mailing list. Any person may be placed on the Rocky Flats mailing list by contacting the community relations personnel for DOE.

A direct mailing will usually be in the form of a news release, fact sheet, or public information update. The update is a summary of the status of completed, ongoing, or upcoming activities. In some instances, fact sheets or updates will be used in conjunction with a public notice (newspaper or radio) to announce an event such as a public meeting, a public hearing, or a formal comment period on a certain document.

II.A.3. News Releases

Any party issuing a formal news release to the media regarding any of the work required by this Agreement shall advise the other parties of such news release and the contents thereof at least 48 hours before the issuance of such a news release, except in the case of emergency actions initiated by the facilities emergency response procedures.

II.A.4. Public Meetings

II.A.4.a. Regular Public Information Meetings

EPA, the State, and DOE shall conduct regular, at least quarterly, public information meetings. The format for these meetings will be established by EPA, the State and DOE. The meetings will update the public on significant CERCLA/RCRA permitting and cleanup activities. The meetings will also provide a forum for advising the public of anticipated upcoming events.

II.A.4.b. Other Public Meetings

Additional public meetings relating to progress and compliance with the Agreement will be scheduled on an as-needed basis, as determined by EPA or the State. Situations involving complex issues or a high level of public interest may require a separate public meeting.

At least one public meeting shall be held during the public comment period for each draft Proposed Plan and concomitant draft Permit (or permit modification). All public comments received on these documents, including those of the LRA and SRA, will be placed in the Administrative Record

and will be sent to the public information repositories.

II.A.5.

Public Notification, Location, and Records

DOE, at the request of EPA and/or the State, or as required by this Agreement, shall arrange for all public meetings and shall place a public notice display advertisement announcing the meeting in a newspaper of general circulation and a major radio station in the area where the meeting is to be held. DOE shall also distribute a direct mail notice to all persons on the Rocky Flats mailing list. All such notices shall be made at least 2 to 3 weeks prior to the date of the public meetings.

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

DOE shall provide an individual to accurately record the events and dialogue at each public meeting. This individual shall provide a written record of the public meeting for review to EPA, State, and DOE project coordinators, and the community relations contacts within 14 days following the meeting. The meeting record will then be distributed to each of the public information repositories. Any individual may obtain a copy of the meeting record by submitting a request, in writing, to the DOE community relations contact.

II.A.6.

Public Comment Opportunities

DOE, EPA and/or the State will make the documents as listed below available for public comment. These documents will be placed in the public information repositories.

- Draft Colorado Hazardous Waste Act/RCRA Permits for Treatment, Storage and, Disposal Units.
- Draft Hazardous and Solid Waste Amendment Act Permits for Corrective Action at Solid Waste Management Units.
- Closure Plans.

- Interim Measures and Interim Remedial Actions.
- Community Relations Plan.
- Draft Proposed Plans.
- Plan for the Prevention of Contaminant Dispersion.
- Workplan Designed to Implement Discharge Limits for Radionuclides.

Copies of all public comments received and the agencies' responses to comments shall become part of the Administrative Record and shall be sent to the public information repositories listed above. Additionally, copies of all public comments and agency responses shall be made available to any person upon written request to any of the community relations contacts within EPA, the State, or DOE. Copy charges may be required of persons interested in obtaining additional copies.

The public notice for availability of these documents for comment shall be published by DOE in a display advertisement 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.

II.A.7.

Public Hearing Opportunities

Pursuant to State law, draft RCRA permits are subject to public hearings upon determination of a significant degree of public interest, receipt of a written notice of opposition, and a request for a public hearing, or as necessary to clarify permit decision issues in accordance with 6 CCR 1007-3, 100.508. Public notice for a public hearing shall be made at least 30 days before the hearing. Modifications to State RCRA Permits under 6 CCR 1007-3, 100.63 require public meetings to be held for class 2 or class 3 modifications. Public meetings must be held no earlier than 15 days after the opening of the public comment period and no later than 15 days before the end of the public comment period. Notice of the time, date and place of the public meeting will be included in the notice of public comment.

DOE shall, upon request, assist EPA and the State with public hearings in the same manner as with

public meetings, as previously described. Transcripts of the public hearing shall 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 the Community Relations Office for DOE. DOE shall be responsible for providing the transcript copies.

A public hearing shall be held at a location convenient to the nearest population centers, and determined by the State. Public meetings shall be held in the vicinity of the facility.

II.A.8. Technical Assistance Grants

The provision for Technical Assistance Grants (TAG) is found in Section 117(e) of CERCLA. The TAG is a mechanism by which the Federal government 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. As of the date of execution of this Agreement, a TAG has been awarded to the Rocky Flats Clean-up Commission. DOE shall cooperate with the Rocky Flats Clean-up Commission by providing the information requested by that group as long as the information is not classified as identified in Part 47 of the Agreement.

III. Health and Safety Plan (HSP). DOE shall submit a HSP which will document specific health and safety procedures to be followed ensuring the health and safety of the investigative team and others (including the general public) during all phases of response actions.

The HSP shall be submitted by DOE to EPA and the State for review and comment, within 90 days of the effective date of this Agreement. The plan shall support field efforts, conform to DOE's health and safety program(s) and be in compliance with OSHA. Specific information required in a Site HSP is listed in 29 CFR 1910.120 and shall at a minimum include: the names of key personnel responsible for Site safety and health; health and safety risk analyses for existing Site conditions, and for each type of Site task and operation; employee training assignments; descriptions of personnel protective equipment to be used by employees for each type of Site task and operation to be conducted; medical surveillance requirements; descriptions of the types and frequency of air monitoring, personnel monitoring and

environmental sampling techniques and instrumentation to be used for each type of task and/or operation to be conducted; Site control measures; decontamination procedures; standard operating procedures for the Site; a contingency plan that meets the requirements of 29 CFR 1910.120(1)(1) and (1)(2); and entry procedures for confined spaces.

- IV. Sampling and Analysis Plan (SAP). The SAP shall be submitted by DOE to EPA and the State for review and approval within 120 days of the effective date of this Agreement. The SAP shall consist of two parts: a quality assurance project plan (QAPP) that describes the policy, organization, functional activities, and quality assurance protocols necessary to achieve the data quality objectives dictated by the intended use of the data for each OU; and standard operating procedures (SOP) which detail the field techniques to be utilized during the investigation of the Site, and provide guidance for the performance of all fieldwork. The SOP shall be written by DOE to reflect EPA guidance to ensure that work required by this Attachment is performed in accordance with EPA approved methods. The SOP shall provide a mechanism for planning and approving field activities.
- IV.A. The QAPP shall consist of at least the following elements: project description; project organization and responsibilities; data quality objectives (DQOs); sampling procedures; detection limits; sample custody; calibration procedures; analytical procedures; data reduction, validation and reporting procedures; internal quality control and quality assurance procedures; performance and system audits; preventative maintenance requirements; data assessment procedures; corrective actions; and quality assurance reports (see Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA, Interim Final, October, 1988, and Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans, QAM-005/80, U.S. EPA, 1983).
- IV.B. The SOP shall describe in detail, specific sampling techniques for a given objective, sampling equipment and procedures and general sample handling and analysis procedures. The SOP shall incorporate the sampling objectives of the Workplan for each OU as required by this Attachment and Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites, and shall anticipate investigations beyond the work specified in this Attachment.
- V. Plan for the Prevention of Contaminant Dispersion. In order to minimize the potential for windblown dispersion of dusts

containing hazardous substances or other harmful materials from all sites, DOE shall within 180 days of the effective date of this Agreement, prepare and submit a plan to EPA and the State for joint approval. The Plan for the Prevention of Contaminant Dispersion shall provide for the management of wastes associated with sites in such a manner as to prevent windblowing of hazardous or dangerous materials through techniques such as soil cover over hazardous and dangerous materials and/or use of appropriate wetting techniques during high wind conditions. High wind conditions are defined as winds blowing in excess of 40 mph or where visible particulate emissions leave the respective site(s).

DOE shall also include as part of the Plan, a proposal to evaluate the potential for and risk of windblown inorganic, radioactive and organic hazardous constituents released from sites at the Rocky Flats Plant. EPA and the State may require the installation of air monitoring systems for evaluating windblown releases from the sites, or require further corrective measures.

VI. RFI/RI Workplans. DOE shall prepare RFI/RI Workplans for each OU that assure that each site identified in Table 1 is fully characterized and that a Baseline Risk Assessment is performed, as set forth below. The Workplans shall implement as initial steps the measures provided for in Table 5 of this Attachment. The RFI/RI Workplans shall be submitted to EPA and the State in accordance with schedules within Table 6 of this Attachment. The RFI/RI Workplans required by this Agreement shall meet the requirements as outlined in Section VI.B. of this Attachment and shall be implemented immediately upon joint approval by EPA and the State.

VI.A. DOE shall prepare or amend RFI/RI Workplans to ensure that each spill and/or release described within the Historical Release Report, and within any amendments to the Historical Release Report, and identified by EPA and the State as requiring an RFI/RI, is investigated to establish site characteristics and nature and extent of contamination as set forth below. EPA and the State shall review the Historical Release Report as required in paragraph I.B.5. above and shall notify DOE in writing that an RFI/RI Workplan is required. DOE shall submit the RFI/RI Workplan(s) to EPA and the State for review and approval as required by EPA and the State. The RFI/RI Workplan(s) required by this condition shall meet the requirements as outlined in section VI.B. of this Attachment and shall be implemented as required through the written approval by EPA and the State.

VI.B.

DOE shall develop RFI/RI Workplans for those sites as specified in Sections VI. and VI.A. above. The Workplans shall include a summary of the existing data in terms of physical and chemical characteristics of the contaminants identified, and their distribution among the environmental media at each site. The plans shall also include a conceptual "model" describing the contaminant sources, and potential migration and exposure pathways and receptors. In addition, the plans will include a description of each site investigation and management strategy developed by DOE during scoping; a preliminary identification of remedial alternatives and data needs for evaluation of remedial alternatives. The plans will reflect coordination with the treatability study requirements as outlined in this Attachment, and any additional treatability studies required through the CMS/FS process. The plans shall include processes, schedules for, and manner of, identifying Federal and State requirements (chemical-specific, location-specific, and action specific applicable or relevant and appropriate requirements) (ARARs).

The Workplans shall include detailed descriptions of the tasks to be performed, information needed for each task (e.g., for health and environmental risk evaluation), information to be produced during and at the conclusion of each task, and a description of the work products that will be submitted to EPA and the State. The RFI/RI Workplans shall include a Field Sampling Plan (FSP) which shall describe in detail, specific OU background information, sampling objectives for each site within each OU, sample location, and minimum frequency for each task and/or operation for a given objective, sample designation procedures, sampling equipment and procedures and sample handling and analysis protocol. The FSP shall incorporate the sampling objectives of Table 5, and shall anticipate investigations beyond the work specified in this Attachment. DOE will refer to Appendix B of the October 1988 Interim Final RI/FS Guidance for a comprehensive description of the contents of the required Workplans.

Because of the unknown nature of many of the sites and the iterative nature of the RFI/RI and CMS/FS, additional data requirements and analyses may be identified throughout the process. DOE shall submit technical memorandums to EPA and the State documenting the need for additional data, and identifying the data quality objectives (DQOs) whenever such requirements are identified. These technical memorandums shall be attached as an amendment to the approved Workplans for

each OU after approval by EPA and the State. In any event, DOE is responsible for fulfilling additional data and analysis needs identified by EPA and the State, consistent with the general scope and objectives of each RFI/RI and CMS/FS. The Workplans shall provide for the activities in subparagraphs VI.B.1.- VI.B.5.b. below.

- VI.B.1. Investigate and define site physical characteristics. DOE shall collect data on the physical characteristics of each site and its surrounding areas including the physiography, geology, and hydrology, and specific physical characteristics identified in the Workplans. This information will be ascertained through a combination of physical measurements, observations, and sampling efforts and shall be utilized to define potential transport pathways and receptor populations. In defining each site's physical characteristics, DOE shall also obtain sufficient engineering data (such as pumping characteristics) for the projection of contaminant fate and transport, and the development and screening of corrective/remedial action alternatives, including information to assess treatment technologies.
- VI.B.2. Define sources of contamination. DOE shall locate each source of contamination. For each location, the areal extent and depth of contamination shall be determined by sampling at incremental depths of a sampling grid. The physical characteristics and chemical constituents and their concentrations shall be determined for all known and discovered sources of contamination. DOE shall conduct sufficient sampling to define the boundaries of the contaminant sources to the level established in the QA/QC plan and DQOs. Defining the source of contamination shall include analyzing the potential for contaminant releases (e.g., long term leaching from soil), contaminant mobility and persistence, and characteristics important for evaluating corrective/remedial actions, including information to assess treatment technologies.
- VI.B.3. Describe the nature and extent of contamination. DOE shall gather information to describe the nature and extent of contamination as a final step during the field investigation. To describe the nature and extent of contamination, DOE shall utilize the information on each site's physical characteristics and sources of contamination to give a preliminary estimate of the contaminants that may have migrated. DOE shall then implement an iterative monitoring program and any study program identified in the Workplan or SAP such that by using analytical techniques sufficient to detect and

quantify the concentration of contaminants, the migration of contaminants through the various media at each site can be determined. In addition, DOE shall gather data for calculations of contaminant fate and transport. This process is continued until the area and depth of contamination are known to the level of contamination established in the QA/QC plan and DQOs. Information on the nature and extent of contamination shall be utilized to determine the level of risk presented by each site and shall help to determine aspects of the appropriate remedial action alternatives to be evaluated.

VI.B.4. Evaluate site characteristics. DOE shall analyze and evaluate the data to describe: 1) each site's physical characteristics, 2) contaminant source characteristics and, 3) nature and extent of contamination, and 4) contaminant fate and transport. Results of each site's physical characteristics, source characteristics, and nature and extent of contamination analyses are utilized in the analysis of contaminant fate and transport. The evaluations shall include the actual and potential magnitude of releases from the sources, and horizontal and vertical spread of contamination as well as mobility and persistence of contaminants. Where modeling is appropriate, such models shall be identified to EPA and the State in a technical memorandum prior to their use. All data and programming, including any proprietary programs, shall be made available to EPA and the State together with a sensitivity analysis. Also, this evaluation shall provide any information relevant to each site's characteristics necessary for evaluation of the need for Corrective/Remedial Action in the Baseline Risk Assessment and for the development and evaluation of remedial alternatives. Analyses of data collected for each site's characterization shall meet the DQOs developed in the QA/QC plan stated in the SAP (or revised during the RFI/RI).

VI.B.5. Data Management Procedures. DOE shall consistently document the quality and validity of field and laboratory data compiled during the RFI/RI.

VI.B.5.a. Document field activities. Information gathered during each characterization shall be consistently documented and adequately recorded by DOE in well maintained field logs and laboratory reports. The method(s) of documentation shall be specified in the Workplans and/or the SAP. Field logs shall be utilized to document observations, measurements, and significant events that have occurred during

field activities. Laboratory reports shall document sample custody, analytical responsibility, analytical results, adherence to prescribed protocols, nonconformity events, corrective measures, and/or data deficiencies.

VI.B.5.b. Maintain sample management and tracking. DOE shall maintain field reports, sample shipment records, analytical results, and QA/QC reports to ensure that only validated analytical data are reported and utilized in the development and evaluation of corrective/remedial alternatives. Analytical results developed under the Workplans shall not be included in any characterization reports unless accompanied by or cross-referenced to a corresponding QA/QC report which shall be submitted. In addition, DOE shall establish a data security system to safeguard chain-of-custody forms and other project records to prevent loss, damage, or alteration of project documentation.

VII. OU Characterization Deliverables. DOE shall prepare and submit Phase I RFI/RI Reports for OUs 3-10, including the Preliminary Site Characterization (PSC), the Phase III RFI/RI Report for OU 1, and the Phase II RFI/RI Report for OU 2, as required by the schedules within Table 6 of this Attachment. If further characterization of an OU is required by EPA and/or the State, additional phases of investigation shall be conducted by DOE. Once the Baseline Risk Assessment is completed for each OU and each OU has been characterized as approved, the Final RFI/RI Report for each OU shall be approved.

VII.A. Preliminary Site Characterization Summary. The Phase I RFI/RI Report(s) required for OUs 3-10 shall include a "Preliminary Site Characterization Summary" (PSC) as a chapter of the Phase I RFI/RI Reports. These PSC summaries shall present the investigative activities which have taken place, and describe and display OU data documenting the location and characteristics of surface and subsurface features and contamination at each site within each OU including the affected media, location of contaminants, types of contaminants, physical state of contaminants, concentration of contaminants and quantity of contaminants. In addition, the location, dimensions, physical condition and varying concentrations of each contaminant throughout each source and the extent of contaminant migration through each of the affected media shall be documented. The data developed for the PSC summary(s) shall be used by DOE to develop the Baseline Risk Assessment for each OU. The PSC summaries shall

provide EPA and the State with a preliminary reference for evaluating the Baseline Risk Assessment for each OU, evaluating the development and screening of corrective/remedial alternatives and the determination and evaluation of ARARs. EPA and the State will evaluate these documents for adequacy, to direct DOE to conduct further investigation and to evaluate the Baseline Risk Assessments for each OU. The PSC summaries will also be used by EPA and the State to initiate parallel Corrective Measures Studies/Feasibility Studies (CMS/FS) to be conducted by DOE and/or to effect Corrective/Remedial Action, including Interim Measures/Interim Remedial Actions, by DOE at each site or OU as EPA and the State deem appropriate. The initial investigations and submittals required by Table 5 and implemented through the Phase I RFI/RI Workplans to be submitted and approved are considered preliminary and shall not limit the EPA or the State from requiring DOE to conduct further activities pursuant to this Agreement. Such additional investigation or reporting shall not be considered a modification to this Agreement, but shall be considered part of the original requirements of this Agreement.

VII.B. Prioritization of OUs 4 - 10. After DOE has completed all work stipulated within Table 5 as implemented through the EPA and the State approved Phase I Workplans, for OUs 4-10, EPA and the State, in consultation with DOE, shall identify and prioritize the remaining work to be performed for the Site characterization. After EPA and the State have agreed upon priority for further investigation of OUs 4 - 10, EPA and the State shall notify DOE of the Site characterization priorities within OUs 4 - 10. Upon receipt of this notification, DOE shall have 30 days to submit a proposal for implementation of the EPA and the State determined priorities. EPA and the State shall review the proposal and determine adequacy. If the proposal by DOE is determined to be acceptable, EPA and the State shall approve the proposal. Within 60 days of approval of the DOE proposal by EPA and the State, DOE shall submit draft Phase II RFI/RI Workplans for each affected OU, incorporating fieldwork and schedule requirements as approved by EPA and the State. The work required of DOE by EPA and the State, documented within the draft Phase II Workplans, shall be completed within the timeframes stipulated within the draft Phase II RFI/RI Workplans.

DOE shall submit draft Phase II RFI/RI Reports upon completion of the required work to reflect the EPA and the State requirements, for review and comment. EPA

and the State shall continue to require DOE to submit subsequent phase Workplans to reflect EPA and State requirements, as appropriate, until DOE has collected sufficient information pursuant to the RFI/RI Workplans to prepare the Final RFI/RI Reports for approval.

VII.C. RCRA Facility Investigation/Remedial Investigation (RFI/RI) Reports. DOE shall prepare and submit draft RFI/RI Reports to EPA and the State for review and comment, after completion of the required investigatory work, and in accordance with the schedules within Table 6 of this Attachment. The draft RFI/RI Reports shall include the draft Baseline Risk Assessments. These reports shall summarize results of field activities to characterize the sites, characterize sources of contamination, define the nature and extent of contamination, define the fate and transport of contaminants, characterize the environmental setting, identify areas threatened by releases from each site, determine the short and long-term threats to human health and the environment, and present the results of the draft Baseline Risk Assessments. DOE shall use the RCRA Facility Investigation Guidance, (Interim Final), May 1989 [or as amended], and the Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA, Interim Final, October 1988, for an outline of the report format and contents. Following comment by EPA and the State, and completion of all work required by EPA and/or the State, DOE shall prepare Final RFI/RI Reports, which address all comments.

VII.D. Baseline Risk Assessment. Baseline Risk Assessments shall be performed for each OU and shall identify and characterize the toxicity and levels of all hazardous substances present, contaminant fate and transport, the potential for human and/or environmental exposure, and the risk of potential impacts or threats on human health and the environment. The Baseline Risk Assessments shall provide the basis for determining whether or not Corrective/Remedial Action is necessary, and a justification for performing Corrective/Remedial Actions. DOE shall use the procedures in EPA's Superfund Public Health Evaluation Manual (SPHEM), or superceding EPA documents to perform a Baseline Risk Assessment for human health and the environment. These procedures are outlined below and must be followed by DOE. Other resources to be used when performing the Baseline Risk Assessment include: EPA's Superfund Exposure Assessment Manual (SEAM), the Integrated Risk Information System (IRIS), the Public Health Risk Evaluation Database (PHRED), the Interim Final Risk

Assessment Guidance for Superfund - Environmental Evaluation Manual, and the Federal Register, Volume 52, Number 53, Thursday, March 19, 1987, pp. 8704 - 8709.

In the event EPA and the State determine that a Comprehensive Risk Assessment of the Site is required, as provided for in paragraph 154 of the Agreement, DOE shall submit the Comprehensive Risk Assessment for EPA and State review and approval, in accordance with submittal schedules agreed to by EPA, the State and DOE.

- VII.D.1. Human Health and Risk Assessment Components. The health risk assessment process is divided into the four components listed below. During the scoping of the Baseline Risk Assessment, DOE shall discuss with EPA and the State the format of the Baseline Risk Assessment report as well as the references to be utilized during the Baseline Risk Assessment.
- VII.D.1.a. Contaminant identification and documentation. DOE shall review the information that is available on the hazardous substances present at each site within an OU and shall identify the contaminants of concern. The indicator chemicals, or contaminants of concern, are not chosen solely on the basis of chemical-specific requirements. Rather, they are selected based on quantity, the concentration of contaminants at each site within an OU as compared to levels that pose a risk, or critical exposure pathways, such as drinking water. When selecting the indicator chemicals, DOE shall also consider the additive and synergistic effect of risks, to the extent possible. DOE shall submit to EPA and the State for review and approval a technical memorandum listing the hazardous substances present at each site or OU and the indicator chemicals to be evaluated with the known corresponding ambient concentrations of these contaminants. This memorandum shall be submitted prior to the required submittal of the Baseline Risk Assessment for each OU. Chemical-specific requirements shall also be identified at this time.
- VII.D.1.b. Exposure assessment and documentation. Using the information in the SEAM, DOE shall identify actual and potential exposure points and pathways. Exposure assumptions must be supported with validated data and must be consistent with EPA and State policy. Data utilized shall be validated.

For each exposure point, the release source, the transport media (e.g., ground water, surface water, air) and the exposure route (oral, inhalation, dermal) shall be clearly delineated. The current number of people at each exposure point shall be estimated, and both sensitive and potentially exposed populations shall be characterized. Both present and future potential risks at each site and OU shall be considered, and both current and maximum reasonable use scenarios shall be considered, including evaluation of risk at the source. DOE shall submit for review and approval, a technical memorandum describing the present, future, potential and reasonable use exposure scenarios with a description of the assumptions made and the use of data. This memorandum shall be submitted prior to the required submittal of the Baseline Risk Assessment for each OU. In addition, DOE shall submit for review and approval a description of the fate and transport models that will be utilized, including a summary of the data that will be used with these models. Representative data shall be utilized and the limitations, assumptions and uncertainties associated with the models shall be documented.

VII.D.1.c.

Toxicity assessment and documentation. DOE shall utilize the information in IRIS to provide a toxicity assessment of the indicator chemicals. This assessment shall include the types of adverse health and/or environmental effects associated with chemical exposures (including potential carcinogenicity), the relationships between magnitude of exposures and adverse effects, and the related uncertainties for contaminant toxicity (e.g., the weight of evidence for a chemical's carcinogenicity). For those substances lacking an EPA toxicity value for which DOE wishes to develop its own toxicity value, DOE shall submit for review and approval a technical memorandum listing the toxicological and epidemiological studies that will be utilized to perform the toxicity assessment. This memorandum shall be submitted prior to the required submittal of the Baseline Risk Assessment. All data utilized in the toxicity assessment must be validated and go through EPA and the State review.

VII.D.1.d.

Risk Characterization. DOE shall integrate the ambient concentrations and reasonable worst case assumptions with the information developed during the exposure and toxicity assessments, to

characterize the current and potential risk to human health and the environment posed by each site or OU. This risk characterization must identify any uncertainties associated with contaminants, toxicities, and/or exposure assumptions.

VIII. Baseline Risk Assessment Deliverables. DOE shall prepare the individual technical memoranda listed in paragraph VII.D.1.a., and VII.D.1.c., or one consolidated technical memorandum addressing all components listed above, which shall be incorporated into this Agreement by reference when approved. The Baseline Risk Assessment reports shall be submitted with the RFI/RI reports, as required above.

VIII.A. Baseline Risk Assessment Chapter of the RFI/RI Report. The draft reports shall include a comprehensive description of the four components of the risk assessment and shall follow the principles established in the SPHEM. A discussion of sources of uncertainty, data gaps, incomplete toxicity information, and modeling characteristics, limitations and assumptions must be included. DOE shall refer to the SPHEM for an outline of the report format.

VIII.B. Environmental Evaluation and Deliverables. In addition to the human health risk assessment, the risks to the environment from exposure to the contaminants shall be addressed.

VIII.C. Environmental Evaluation Plan. DOE shall submit a plan for the evaluation of the environmental risk, within each OU RFI/RI Workplan. This plan shall specify the objectives of the evaluation and the information necessary to adequately characterize the nature and extent of environmental risk or threat resulting from each site and OU. At a minimum, this plan shall demonstrate how the environmental evaluation will address: 1) any critical habitats affected by site contamination; and 2) any endangered species or habitats of endangered species affected by the contamination. DOE shall utilize the Interim Final Risk Assessment Guidance for Superfund - Environmental Evaluation Manual in preparing this plan.

VIII.D. Environmental Evaluation Report. An environmental evaluation report shall be submitted to EPA and the State, as a chapter of the Baseline Risk Assessment for each OU. This evaluation shall be included in the draft Baseline Risk Assessment reports as a chapter separate from the human health risk assessment. At a minimum, the environmental evaluation report shall

include an assessment of any critical habitats, and any endangered species or habitats of endangered species affected by the contamination.

IX. Development and Screening of Corrective/Remedial Alternatives (CMS/FS). DOE shall submit a draft CMS/FS for each OU, in accordance with the schedules provided within Table 6 of this Attachment, or within 60 days of approval of the Final RFI/RI, for OUs 4 - 10. The studies shall include the analyses identified below and shall be submitted to EPA and the State for review and comment. The draft CMS/FS Report(s) shall identify the ARARs which will be utilized to evaluate and select the Corrective/Remedial Action at each OU and/or site within an OU. The draft CMS/FS shall also contain projected time schedules for implementation and completion of actions and for interim milestone activities, if these timetables are not already specified. If the time necessary for implementation exceeds one [1] year the schedule shall specify interim dates for submission of interim deliverables. A draft CMS/FS may be submitted with the Final RFI/RI Reports for each OU in order to expedite the review of the CMS/FS Reports.

IX.A. For each OU, or as approved, an individual site within an OU, that is required to be the subject of a CMS/FS, DOE shall perform the activities in this section IX.A. through IX.D., as required by paragraph 153 of this Agreement. The development and screening of corrective/remedial alternatives shall consider an appropriate range of Corrective/Remedial Action options to evaluate. The range of alternatives shall include, at a minimum: options in which treatment is used to reduce the toxicity, mobility, or volume of wastes, but which vary in the types of treatment, the amount of wastes treated, and the manner in which long-term residuals or untreated wastes are managed; options involving containment with little or no treatment; options involving both treatment and containment; and a no-action alternative. DOE shall develop and evaluate a range of appropriate Corrective/Remedial Action options that, at a minimum, ensures protection of human health and the environment. The following activities shall be performed by DOE as a function of the development and screening of corrective/remedial alternatives.

IX.A.1. Refine and Document Corrective/Remedial Action Objectives. DOE shall propose and, if necessary, refine the specific Corrective/Remedial Action objectives. The revised Corrective/Remedial

Action objectives shall be documented in a technical memorandum to be submitted to EPA and/or the State for review. These objectives shall specify the contaminants and media of interest, exposure pathways and receptors, and EPA and State accepted levels or ranges of levels for each exposure route.

- IX.A.2. Develop General Response Actions. DOE shall develop general response actions for each medium of interest defining containment, treatment, excavation, pumping or other actions, singly or in combination, to satisfy the Corrective/Remedial Action objectives.
- IX.A.3. Identify Areas or Volumes of Media. DOE shall identify areas or volumes of media to which general response actions may apply, taking into account requirements for protectiveness as identified in the Corrective/Remedial Action objectives. The chemical and physical characterization of each site and OU shall also be taken into account.
- IX.A.4. Identify, Screen, and Document Corrective/Remedial Technologies. DOE shall identify and evaluate technologies applicable to each general response action to eliminate those that cannot be implemented at each site or OU. General response actions shall be refined to specify corrective/remedial technology types. Technology process options for each of the technology types shall be identified either concurrent with the identification of technology types, or following the screening of the considered technology types. Studies in Section XI. shall be taken into account. Process options shall be evaluated on the basis of effectiveness, implementability, and cost factors to select and retain one or, if necessary, more representative processes for each technology type. The technology types and process options shall be summarized for inclusion in a technical memorandum to be submitted to EPA and/or the State. The reasons for eliminating alternatives must be specified.
- IX.A.5. Assemble and Document Alternatives. DOE shall assemble selected representative technologies into alternatives for each affected medium or OU. Together, all of the alternatives shall represent a range of treatment and containment combinations that will address either each site or an OU as a

whole. A summary of the assembled alternatives and their related action-specific ARARs shall be prepared by DOE for inclusion in a technical memorandum to be submitted to EPA and/or the State for review. The reasons for eliminating alternatives during the preliminary screening process must be specified.

IX.A.6. Refine Alternatives. DOE shall refine the corrective/remedial alternatives to identify the contaminant volume addressed by the proposed process and the sizing of critical unit operations, as necessary. Sufficient information shall be collected for an adequate comparison of alternatives. Corrective/Remedial Action objectives for each medium shall also be refined, as necessary, to incorporate any new risk assessment information being generated from the Corrective/Remedial investigation. Additionally, action-specified ARARs shall be updated as the corrective/remedial alternatives are refined.

IX.A.7. Conduct and Document Screening Evaluation of Each Alternative. DOE may perform a final screening process based on short and long term aspects of effectiveness, implementability, and relative cost. Generally, this screening process is only necessary when there are many feasible alternatives available for detailed analysis. If necessary, the screening of alternatives shall be conducted to assure that only the alternatives with the most favorable composite evaluation of all factors are retained for further analysis.

As appropriate, the screening shall preserve the range of treatment and containment alternatives that was initially developed. The range of remaining alternatives shall include options that use treatment technologies and permanent solutions to the maximum extent practicable. DOE shall prepare a technical memorandum to be submitted to EPA and/or the State for review, summarizing the results and reasoning employed in screening, arraying alternatives that remain after screening, and proposing the action-specific ARARs for the alternatives that remain after screening.

IX.B. Alternatives Development and Screening Deliverables. The technical memoranda required in sections IX.A.1. - IX.A.7. above may be submitted to EPA and the State as individual memoranda or as one consolidated memorandum, prior to the required submittal date of each OU

specific CMS/FS Report. DOE shall prepare these memoranda to summarize the work performed in and the results of each task above, including an alternatives array summary. These shall be modified by DOE, if required by EPA or State comments, to assure identification of a complete and appropriate range of viable alternatives which are considered in the detailed analysis. This deliverable shall document the methods, rationale, and results of the alternatives screening process.

IX.C. Detailed Analysis of Remedial Alternatives (CMS/FS). The detailed analysis shall be conducted by DOE to provide EPA and the State with the information needed to allow for the selection of a remedy. This analysis is the final task to be performed by DOE during the CMS/FS.

IX.C.1. Detailed Analysis of Alternatives. DOE shall conduct a detailed analysis of alternatives which will consist of an analysis of each option against a set of nine evaluation criteria and a comparative analysis of all options using the same evaluation criteria as a basis for comparison.

IX.C.2. Apply Nine Criteria and Document Analysis. DOE shall apply nine evaluation criteria to the assembled corrective/remedial alternatives to ensure that the selected remedial alternative will be protective of human health and the environment; will be in compliance with ARARs; will be cost-effective; will utilize permanent solutions and alternative treatment technologies, of resource recovery technologies, to the maximum extent practicable; and will address the preference for treatment as a principal element. The nine evaluation criteria to be used are: 1) overall protection of human health and the environment, taking into account relevant and appropriate requirements of CERCLA and RCRA and other federal and State health and environmental laws, rules, regulations and criteria; 2) compliance with other ARARs; 3) long-term effectiveness and permanence; 4) reduction of toxicity, mobility, or volume; 5) short-term effectiveness; 6) implementability; 7) cost; 8) State (or support agency) acceptance; and 9) community acceptance. (Note: criteria 9 is considered after the RFI/RI, CMS/FS reports have been released to the general public.) For each alternative, DOE shall provide: 1) a description of the alternative that outlines the waste management strategy involved and identifies the

key ARARs associated with each alternative, and 2) a discussion of the individual criterion assessment. Cost effectiveness shall not be a limiting factor in remedy selection until alternatives under consideration are determined to be equally protective.

IX.C.3. Compare Alternatives Against Each Other and Document the Comparison of Alternatives. DOE shall perform a comparative analysis between the corrective/remedial alternatives. That is, each alternative shall be compared against the others using the evaluation criteria as a basis of comparison. The preferred alternative shall be selected according to the procedures in Part 23 of the Agreement.

IX.D. Detailed Analysis Deliverables. DOE shall submit draft CMS/FS Reports for each OU to EPA and the State for review and comment. Once EPA and the State comments have been addressed by DOE, to the satisfaction of the LRA, or EPA and the State in the event of a joint lead OU, the Final CMS/FS Report shall be submitted for review and approval.

IX.D.1. Corrective Measures Study/Feasibility Study Report (CMS/FS). DOE shall prepare draft CMS/FS Reports for each OU for review, comment, and approval. These reports, as ultimately adopted or amended, provide a basis for remedy selection by EPA and/or the State and document the development and analysis of corrective/remedial alternatives. DOE shall refer to Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA, Interim Final, October 1988 [or as amended] for an outline of the report format and the required report content. DOE shall prepare Final CMS/FS Reports which incorporate and address EPA and/or State comments in a manner satisfactory to EPA and/or the State.

X. Background Study. The Background Study Plan submitted January, 1989, shall be reviewed and approved by EPA and the State. As the Background Study is presently ongoing, the Background Study shall be modified, if necessary, after joint approval of the Background Study Plan by EPA and the State. The Background Study shall be used by EPA, the State and DOE to evaluate contaminant release. DOE shall submit the Background Study Reports detailing the preliminary results of the approved background study in accordance with the schedules within Table 6 of this Attachment.

XI. Treatability Study. Within 150 days of the effective date of this Agreement, DOE shall submit a Treatability Study Plan for joint approval by EPA and the State, detailing the study of methods potentially available for use in Corrective/Remedial action for each type of waste/waste matrix in sites at the Rocky Flats Plant. The Treatability Study Plan shall identify candidate technologies for evaluation in a treatability studies program and shall cover the range of technologies required for alternative analysis during the CMS/FS. In the event site characteristics require the evaluation of additional treatability studies, DOE shall perform the EPA and the State required treatability studies in addition to the work defined within the Treatability Study Plan required by this paragraph. Within the Treatability Study Plan, DOE shall submit information on performance, relative costs, applicability, removal efficiencies, operation and maintenance requirements, and implementability of candidate technologies in addressing the below listed general types of wastes. If practical candidate technologies have not been sufficiently demonstrated, or cannot be adequately evaluated by EPA and the State on the basis of existing information, the Treatability Study Plan shall propose a Treatability Study for the candidate technology(s). To this end, the Treatability Study Plan will propose a statement of work for the specific Treatability Study(s) to be performed. The Treatability Study Plan will outline the steps and data necessary to evaluate and initiate the treatability testing program, test objectives, data quality objectives, experimental procedures, treatability conditions to be tested, measurements of performance, analytical methods, data management and analysis, health and safety, and residual waste management. If the quality assurance project plan (QAPP) and/or the field sampling plan (FSP) required in Attachment condition VI.B. do not adequately define or address the investigations to be conducted during the Treatability Study, then the Treatability Study Plan will incorporate an amended QAPP and FSP specific to the Treatability Study. The treatability study program shall not be initiated until EPA and the State have reviewed and jointly approved, in writing, the Treatability Study Plan.

The Treatability Study shall be initiated within 30 days of joint approval by EPA and the State. This study shall evaluate applicable technologies for the general types of wastes anticipated at the Rocky Flats Plant. The general types of wastes/waste matrices to be included in the study include: volatile and semi-volatile contaminated wastes, soils, surface water and ground water; metal contaminated wastes, soils, surface water and ground water; radioactive wastes, soils, surface water and ground water and; any combination of the above listed general types of wastes.

The Treatability Study shall be completed and the results shall be submitted to EPA and the State within 36 months of the approval of the Treatability Study Plan by EPA and the State. Additional Treatability Studies may be proposed by DOE, or required by EPA and the State if, at any time it is determined that additional studies are required. Additional studies shall be initiated by submission of amendments to the Treatability Study Plan, for EPA and State review and approval.

XII. Discharge Limits for Radionuclides. DOE shall prepare and submit a Workplan designed to implement discharge limits for radionuclides as specified herein. The Workplan shall require DOE to sample all A, B, and C series ponds prior to discharging and prior to spray irrigating from any A series, B series, or C series pond. The Workplan shall require DOE to not discharge water from any A series, B series, or C series ponds to the waters of the State of Colorado if the analyses determine that the water contains gross alpha levels exceeding 15 pCi/l or gross beta levels exceeding 40 pCi/l. The Workplan shall require that if gross alpha or gross beta levels exceed the above standards, DOE shall analyze for radium 226, radium 228, americium 241, curium 244, neptunium 237, plutonium 241, plutonium 242, uranium (total of all isotopes), cesium 134, plutonium 238, 239, and 240, strontium 90, thorium 230 and 232, and tritium. The Workplan shall require DOE to treat water from the A, B, and C series ponds when the following contaminant levels are exceeded:

<u>Parameter</u>	<u>Standard</u>
Gross Alpha	15 pCi/l
Gross Beta	40 pCi/l
Americium 241	30 pCi/l
Curium 244	60 pCi/l
Neptunium 237	30 pCi/l
Plutonium 241	1,000 pCi/l
Plutonium 242	30 pCi/l
Uranium (total of all isotopes)	40 pCi/l
Cesium 134	80 pCi/l
Plutonium 238,239, and 240	15 pCi/l
Radium 226, and 228	5 pCi/l
Strontium 90	8 pCi/l
Thorium 230, and 232	60 pCi/l
Tritium	20,000 pCi/l

The Workplan shall require DOE to utilize methods delineated in 40 CFR 141.25, or as approved by EPA and the State, for the evaluation of the above contaminants. For contaminants not addressed in 40 CFR 141.25, DOE shall propose methods to

EPA and the State for review and joint approval. The Workplan shall require DOE to report the results of the sampling and analyses for the above required contaminants to EPA and the State prior to discharging and/or spray irrigating water from the A series, B series, or C series ponds. The Workplan shall be submitted within 6 months of the effective date of this Agreement.

The Parties recognize that the Colorado Water Quality Commission is currently considering revisions to state water quality standards for radionuclides that could result in the adoption of standards different than those listed in this section. For purposes of this Agreement, changes in those standards shall be addressed through the provisions in paragraph 9 of this Agreement.

XIII. Corrective and Remedial Action Proposed Plan (PP) and Corrective Action Decision/Record of Decision (CAD/ROD).

DOE shall submit a draft Proposed Plan (PP) for EPA and State review and comment in accordance with the schedules within Table 6 of this Attachment or within 270 days of the approval by EPA and/or the State of the Final CMS/FS Report for OUs 4 - 10 where this submittal date is not specified. After receiving and addressing the comments from EPA and the State, DOE shall submit the Final Proposed Plan for EPA and State review and approval, and public comment. The public comment period on the Final Proposed Plan shall be at least 60 days and shall meet all public comment requirements for proposed HSWA permit modifications, including timeframes and notice provisions. In conjunction with submitting the PP, DOE shall comply with all applicable public participation requirements, including CERCLA Section 117, 40 CFR Part 124, and 6 CCR 1007-3, Part 100. In accordance with the schedules within Table 6 of this Attachment or within 30 days of conclusion of the public comment period for OUs 4 - 10, DOE shall prepare and transmit a Responsiveness Summary to EPA and the State for review and comment, and shall make this a part of the Administrative Record. After receiving EPA and/or State comments concerning the Responsiveness Summary for each OU, DOE shall submit a draft CAD/ROD for EPA and State review and approval in accordance with the schedules within Table 6 of this Attachment or within 180 days of the receipt of EPA and/or State comments on the Responsiveness Summary for OUs 4 - 10.

The draft CAD/ROD shall be accompanied by a discussion of any significant changes in the PP due to public comment, and a response to each of the significant comments received during the public comment period. Upon approval of the CAD/ROD by EPA and the State in accordance with the terms of the Agreement, DOE shall publish notice of the remedy

selected in the CAD/ROD, including any significant changes made to the PP based on any comments received.

DOE shall implement the CAD/ROD immediately upon approval of the CAD/ROD in accordance with the schedules within Table 6 of this Attachment and as required by EPA and the State after publication of the CAD/ROD.

- XIV. Implementation of the Corrective Action Decision/Record of Decision. In accordance with the decision of EPA and the State as embodied in the CAD/ROD, DOE shall implement the required action in accordance with the schedules within Table 6 of this Attachment or as specified within the CAD/ROD for OUs 4 - 10. All plans, designs and schedules shall be subject to approval by EPA and the State in accordance with the terms of the Agreement, prior to implementation.
- XIV.1. DOE shall implement the CAD/ROD required by this Attachment upon modification of the permit if EPA and/or the State determine that a major modification of the permit is necessary for implementing the plan and after approval of the Corrective Action Decision/Record of Decision.
- XIV.2. In accordance with the schedules within this Agreement or within 90 days of approval of the draft CAD/ROD for OUs 4 - 10, DOE shall submit the Corrective/Remedial Design Plans (CD/RD) required to implement the CAD/ROD to EPA and the State for review and approval in accordance with the terms of this Agreement. The CD/RD shall include provisions for the long term operation and maintenance of the remedy as required by CERCLA. Within 30 days of approval of the CD/RD, DOE shall begin Corrective/Remedial Action.
- XIV.3. Within 60 days of completion of Corrective/Remedial Action for a site or OU, DOE shall submit to EPA and the State by registered mail, a certification of completion of Corrective/Remedial Action for the site or OU.

XV. Units requiring permits pursuant to the CHWA. All units at the facility which treat, store, or dispose of hazardous and/or mixed waste generated by facility operations are subject to the substantive and procedural requirements of the CHWA including permitting requirements.

XV.1. The following units require permits under the CHWA:

XV.1.A. EXISTING UNITS:

Unit 1	Unit 23	Unit 49
Unit 10	Unit 24	Unit 55
Unit 11	Unit 27	Unit 56
Unit 12	Unit 30	Unit 57
Unit 13	Unit 39	Unit 59
Unit 15 Partial	Unit 40	Unit 61
Unit 17	Unit 41	Unit 62
Unit 19	Unit 42	Unit 63
Unit 20	Unit 43	Unit 69
	Unit 44	Unit 73

Permit applications have been submitted for these units. They have not in all cases been reviewed by the Colorado Department of Health. Any additional information, requirements and schedules for submittal will be specified in subsequent correspondence to the Department of Energy.

XV.1.B. NEW UNITS

Unit 74
Unit 75
Unit 76

Requests for changes to Interim Status have been submitted for these units, and permit applications will be submitted by April 30, 1990. Any additional information, requirements and schedules for submittal will be specified in subsequent correspondence to DOE after review of the permit applications.

XV.2. Any new units identified as a result of characterization studies being conducted pursuant to the Agreement in Principle of May 28, 1989, Federal Facility Compliance Agreement and Compliance Order on Consent No. (3008) VIII-89-25, Settlement Agreement and Compliance Order on Consent No. 89-10-30-01, or any other future determinations are also subject to the CHWA. Permit applications or modification requests must be submitted pursuant to the requirements of 6 CCR 1007-3, Part 100.

Table 1:
INDIVIDUAL HAZARDOUS SUBSTANCE SITES

<u>REF. NO.</u>	<u>SITE NAME</u>
101	207 SOLAR EVAPORATION PONDS
102	OIL SLUDGE PIT
103	CHEMICAL BURIAL
104	LIQUID DUMPING
105	OUT-OF-SERVICE FUEL TANKS 105.1 - WESTERNMOST TANK 105.2 - EASTERNMOST TANK
106	OUTFALL
107	HILLSIDE OIL LEAK
108	TRENCH T-1
109	TRENCH T-2
110	TRENCH T-3
111	TRENCHES T-4 TO T-11 111.1 : TRENCH T-4 111.2 : TRENCH T-5 111.3 : TRENCH T-6 111.4 : TRENCH T-7 111.5 : TRENCH T-8 111.6 : TRENCH T-9 111.7 : TRENCH T-10 111.8 : TRENCH T-11
112	903 DRUM STORAGE AREA
113	MOUND AREA
114	PRESENT LANDFILL
115	ORIGINAL LANDFILL
116	MULTIPLE SOLVENT SPILLS 116.1 : WEST LOADING DOCK AREA 116.2 : SOUTH LOADING DOCK AREA

Note: This information is based on the administrative record including the information submitted in the hazardous and low-level mixed waste Part B application dated November 1, 1985, as modified by the subsequent revision dated November 28, 1986, as modified by the subsequent revision dated December 15, 1987, and the transuranic mixed waste Part B application submitted July 1, 1988, [hereafter referred to as the applications]. This information is also based on independent review of historical aerial photographs of the facility and independent review of facility submittals.

Table 1:
INDIVIDUAL HAZARDOUS SUBSTANCE SITES

<u>REF. NO.</u>	<u>SITE NAME</u>
117	CHEMICAL STORAGE 117.1 : NORTH SITE 117.2 : MIDDLE SITE 117.3 : SOUTH SITE
118	MULTIPLE SOLVENT SPILLS 118.1 : WEST OF BUILDING 730 118.2 : SOUTH END OF BUILDING 776
119	MULTIPLE SOLVENT SPILLS 119.1 : WEST AREA 119.2 : EAST AREA
120	FIBERGLASSING AREAS 120.1 : NORTH OF BUILDING 664 120.2 : WEST OF BUILDING 664
121	ORIGINAL PROCESS WASTE LINES
122	UNDERGROUND CONCRETE TANK
123	VALVE VAULT 7 123.1 : VALVE VAULT 7 123.2 : VALVE VAULT WEST OF BUILDING 707
124	RADIOACTIVE LIQUID WASTE STORAGE TANK 124.1 : 30,000 GALLON TANK (#68) 124.2 : 14,000 GALLON TANK (#66) 124.3 : 14,000 GALLON TANK (#67)
125	HOLDING TANK
126	OUT-OF-SERVICE PROCESS WASTE TANKS 126.1 : WESTERNMOST TANK 126.2 : EASTERNMOST TANK
127	LOW-LEVEL RADIOACTIVE WASTE LEAK
128	OIL BURN PIT NO. 1
129	OIL LEAK
130	RADIOACTIVE SITE - 800 AREA SITE #1
131	RADIOACTIVE SITE - 700 AREA SITE #1
132	RADIOACTIVE SITE - 700 AREA SITE #4
133	ASH PITS 133.1 : ASH PIT 1-1 133.2 : ASH PIT 1-2 133.3 : ASH PIT 1-3 133.4 : ASH PIT 1-4 133.5 : INCINERATOR 133.6 : CONCRETE WASH PAD
134	LITHIUM METAL DESTRUCTION SITE
135	COOLING TOWER BLOWDOWN

Table 1:
INDIVIDUAL HAZARDOUS SUBSTANCE SITES

<u>REF. NO.</u>	<u>SITE NAME</u>
136	COOLING TOWER PONDS 136.1 : NORTHEAST CORNER OF BUILDING 460 136.2 : WEST OF BUILDING 460 136.3 : S. OF BLDG. 460, W. OF BLDG. 444
137	COOLING TOWER BLOWDOWN - BLDG. 774
138	COOLING TOWER BLOWDOWN - BLDG. 779
139	CAUSTIC/ACID SPILLS 139.1 : HYDROXIDE TANK AREA 139.2 : HYDROFLUORIC ACID TANKS
140	REACTIVE METAL DESTRUCTION SITE
141	SLUDGE DISPERSAL
142	RETENTION PONDS (A,B,C-SERIES) 142.1 : A-1 POND 142.2 : A-2 POND 142.3 : A-3 POND 142.4 : A-4 POND 142.5 : B-1 POND 142.6 : B-2 POND 142.7 : B-3 POND 142.8 : B-4 POND 142.9 : B-5 POND 142.10: C-1 POND 142.11: C-2 POND 142.12 NEWLY IDENTIFIED A-5 POND
143	OLD OUTFALL
144	SEWER LINE BREAK
145	SANITARY WASTE LINE LEAK
146	CONCRETE PROCESS WASTE TANKS 146.1 : 7,500 GALLON TANK (#31) 146.2 : 7,500 GALLON TANK (#32) 146.3 : 7,500 GALLON TANK (#34W) 146.4 : 7,500 GALLON TANK (#34E) 146.5 : 3,750 GALLON TANK (#30) 146.6 : 3,750 GALLON TANK (#33)
147	PROCESS WASTE LEAKS 147.1 : MAAS AREA 147.2 : OWEN AREA
148	WASTE SPILLS
149	EFFLUENT PIPE
150	RADIOACTIVE LIQUID LEAKS (8) 150.1 : NORTH OF BUILDING 771 150.2 : WEST OF BUILDING 771 150.3 : BETWEEN BUILDINGS 771 and 774 150.4 : EAST OF BUILDING 750 150.5 : WEST OF BUILDING 707 150.6 : SOUTH OF BUILDING 779 150.7 : SOUTH OF BUILDING 776

Table 1:
INDIVIDUAL HAZARDOUS SUBSTANCE SITES

<u>REF. NO.</u>	<u>SITE NAME</u>
	150.8 : NORTHEAST OF BUILDING 779
151	FUEL OIL LEAK
152	FUEL OIL TANK
153	OIL BURN PIT NO. 2
154	PALLET BURN SITE
155	903 LIP AREA
156	RADIOACTIVE SOIL BURIAL
	156.1 : BUILDING 334 PARKING LOT
	156.2 : SOIL DUMP AREA
157	RADIOACTIVE SITE
	157.1 : NORTH AREA
	157.2 : SOUTH AREA
158	RADIOACTIVE SITE - BLDG. 551
159	RADIOACTIVE SITE - BLDG. 559
160	RADIOACTIVE SITE - BLDG. 444 PK LOT
161	RADIOACTIVE SITE - BLDG. 664
162	RADIOACTIVE SITE - 700 AREA SITE #2
163	RADIOACTIVE SITE - 700 AREA SITE #3
	163.1 : WASH AREA
	163.2 : BURIED SLAB
164	RADIOACTIVE SITE - 800 AREA SITE #2
	164.1 : CONCRETE SLAB
	164.2 : BUILDING 886 SPILLS
	164.3 : BUILDING 889 STORAGE PAD
165	TRIANGLE AREA
166	TRENCHES
	166.1 : TRENCH A
	166.2 : TRENCH B
	166.3 : TRENCH C
167	SPRAY FIELDS - THREE SITES
	167.1 : NORTH AREA
	167.2 : POND AREA
	167.3 : SOUTH AREA
168	WEST SPRAY FIELD
169	WASTE DRUM PEROXIDE BURIAL
170	P.U.& D. STORAGE YARD - WASTE SPILLS
171	SOLVENT BURNING GROUND
172	CENTRAL AVENUE WASTE SPILL
173	RADIOACTIVE SITE - 900 AREA
174	P.U.&D. CONTAINER STORAGE FACILITIES (2)
175	S&W BLDG. 980 CONTAINER STORAGE FACILITY
176	S&W CONTRACTOR STORAGE YARD
177	BUILDING 885 DRUM STORAGE AREA
178	BUILDING 881 DRUM STORAGE AREA
179	BUILDING 865 DRUM STORAGE AREA
180	BUILDING 883 DRUM STORAGE AREA

Table 1:
INDIVIDUAL HAZARDOUS SUBSTANCE SITES

<u>REF NO.</u>	<u>SITE NAME</u>
181	BUILDING 334 CARGO CONTAINER AREA
182	BUILDING 444/453 DRUM STORAGE AREA
183	GAS DETOXIFICATION AREA
184	BUILDING 991 STEAM CLEANING AREA
185	SOLVENT SPILL
186	VALVE VAULT 12
187	ACID LEAKS (2)
188	ACID LEAK
189	MULTIPLE ACID SPILLS
190	CAUSTIC LEAK
191	HYDROGEN PEROXIDE SPILL
192	ANTIFREEZE DISCHARGE
193	STEAM CONDENSATE LEAK
194	STEAM CONDENSATE LEAK
195	NICKEL CARBONYL DISPOSAL
196	WATER TREATMENT PLANT BACKWASH POND
197	SCRAP METAL SITES
198	VOCs IN GROUND WATER
199	CONTAMINATION OF THE LAND SURFACE
200	GREAT WESTERN RESERVOIR
201	STANDLEY RESERVOIR
202	MOWER RESERVOIR
203	INACTIVE HAZARDOUS WASTE STORAGE AREA
204	ORIGINAL URANIUM CHIP ROASTER
205	BLDG. 460 SUMP #3 ACID SIDE
206	INACTIVE D-836 HAZARDOUS WASTE TANK
207	INACTIVE 444 ACID DUMPSTER
208	INACTIVE 444/447 WASTE STORAGE AREA
209	SURFACE DISTURBANCE SOUTHEAST OF BLDG. 881
210	UNIT 16, BUILDING 980 CARGO CONTAINER
211	UNIT 26, BUILDING 881 DRUM STORAGE
212	UNIT 63, BUILDING 371 DRUM STORAGE
213	UNIT 15, 904 PAD PONDCRETE STORAGE
214	UNIT 25, 750 PAD PONDCRETE AND SALTCRETE STORAGE
215	UNITS 55.13, 55.14, 55.15, 55.16 - TANKS T-40, T-66, T-67, T-68
216	EAST SPRAY FIELDS 216.1 : NORTH AREA 216.2 : CENTER AREA 216.3 : SOUTH AREA
217	UNIT 32, BUILDING 881, CN ⁻ BENCH SCALE TREATMENT

Table 2: Organization of Individual Sites Into Operable Units (OU)

<u>Operable Unit</u>	<u>Individual Sites</u>
1	102, 103, 104, 105.1, 105.2, 106, 107, 119.1, 119.2, 130, 145
2	108, 109, 110, 111.1, 111.2, 111.3, 111.4, 111.5, 111.6, 111.7, 111.8, 112, 113, 140, 153, 154, 155, 183
3	101, 114, 121, 129, 168, 174, 175, 176, 177, 178, 179, 180, 181, 182, 203, 204, 205, 206, 207, 208, 210, 211, 212, 213, 214, 215, 217
4	115, 133.1, 133.2, 133.3, 133.4, 133.5, 133.6, 141, 142.1, 142.2, 142.3, 142.4, 142.5, 142.6, 142.7, 142.8, 142.9, 142.10, 142.11, 142.12, 143, 165, 166.1, 166.2, 166.3, 167.1, 167.2, 167.3, 170, 209, 216.1, 216.2, 216.3
5	118.1, 118.2, 123.1, 123.2, 124.1, 124.2, 124.3, 125, 126.1, 126.2, 127, 132, 135, 137, 138, 139.1, 139.2, 144, 146.1, 146.2, 146.3, 146.4, 146.5, 146.6, 149, 150.1, 150.2, 150.3, 150.4, 150.5, 150.6, 150.7, 150.8, 151, 159, 163.1, 163.2, 172, 173, 184, 188
6	116.1, 116.2, 120.1, 120.2, 136.1, 136.2, 136.3, 147.1, 147.2, 157.2, 187, 189
7	117.1, 117.2, 117.3, 122, 128, 134, 148, 152, 157.1, 158, 169, 171, 186, 190, 191
8	185, 192, 193, 194, 195, 196, 197
9	131, 156.1, 156.2, 160, 161, 162, 164.1, 164.2, 164.3
10	198, 199, 200, 201, 202

Table 3: Lead Regulatory Agency Designation for Each Operable Unit

<u>Operable Unit</u>	<u>Lead Regulatory Designation</u>
1	Joint EPA and CDH (goes through CDH Dispute Resolution process)
2	Joint EPA and CDH (goes through EPA Dispute Resolution process)
3	CDH
4	EPA
5	Joint EPA and CDH (goes through CDH Dispute Resolution process)
6	CDH
7	CDH
8	CDH
9	EPA
10	EPA

Table 4: Listing of Primary
and Secondary Documents

Primary

RFI/RI Workplans (draft and final)
RFI/RI Reports (draft, all phases, and final)
CMS/FS Reports (draft, all phases and final)
Proposed Plan (draft and final)
IM/IRA Decision Documents (draft, proposed, and final)
Responsiveness Summaries
Corrective Action Decisions/ Records of Decisions (draft and final)
Corrective/Remedial Design Plans
Community Relations Plans
Sampling and Analysis Plan
Plan for Prevention of Contaminant Dispersion
Background Study Plan
Treatability Study Plan
Workplan to Implement Discharge Limits for Radionuclides
IM/IRA Implementation Document
Certification of Completion

Secondary

Historical Release Report
Monthly Progress Reports
Health & Safety Plan
Baseline Risk Assessment Technical Memoranda
CMS/FS Technical Memoranda
RFI/RI Workplan Technical Memoranda
Priority Proposal for OUs 4 - 10

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

Operable Unit 1-881 Hillside

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
102	Oil Sludge Pit	1. Continue with 881 Hillside RFI/RI CMS/FS process in progress.	1. Submit an RFI/RI Workplan in accordance with section VI of the Statement of Work. Submit a revised 881 RI/FS (RFI/CMS) in accordance with the schedules within Table 6 of the SOW. The revised RI/FS (RFI/CMS) shall incorporate and address all issues and comments by CDH and EPA in the comment letter sent by EPA and CDH to the facility dated 8/31/88, the comment letter sent by EPA to the facility dated 8/13/87 and the CDH comment letter sent to the facility dated 10/14/87
103	Chemical Burial		
104	Liquid Dumping		
105 1	Western Most Out-of-Service Fuel Tank		
105 2	Eastern Most Out-of-Service Fuel Tank		
106	Outfall		
107	Hillside Oil Leak		
119 1	Multiple Solvent Spills;		
119 2	West and East Areas		
130	Radioactive Site #1 - 800 Area		
145	Sanitary Waste Line Leak		

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

Operable Unit 2-903 Pad, Mound & East Trenches

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
108	Trench T-1	1. Continue with 903 Pad, Mound and East Trenches Areas RI/FS process in progress.	1. Submit an RFI/RI Workplan in accordance with section VI. of the Statement of Work. The RFI/RI Workplan shall incorporate a revised 903 Pad, Mound and East Trenches Phase II Sampling Plan. The revised 903 Pad, Mound and East Trenches RI (RFI) must be submitted in accordance with the schedules in Table 6 of this SOW. The revised Phase II Sampling Plan shall incorporate and address comments made by EPA and CDH concerning the Plan, dated 11/30/88. The revised 903 Pad, Mound and East Trenches RI (RFI) to be submitted shall incorporate and address comments made by EPA and CDH dated 3/1/88 and 3/22/88 respectively
109	Trench T-2		
110	Trench T-3		
111.1	Trench T-4		
111.2	Trench T-5		
111.3	Trench T-6		
111.4	Trench T-7		
111.5	Trench T-8		
111.6	Trench T-9		
111.7	Trench T-10		
111.8	Trench T-11		
112	903 Drum Storage Area		
113	Mound Area		
140	Reactive Metal Destruction		
153	Oil Burn Pit No. 2		
154	Pallet Burn Site		
155	903 Lip Area		
183	Gas Detoxification Area		

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

Operable Unit 3-Closures

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
101	207 Solar Evaporation Ponds	1. Close the regulated units in accordance with this Agreement and the regulations.	1. As required by section I.B.11 of the SOW.
114	Present Landfill		
121	Original Process Waste Lines	2. Submit Phase I and Phase II RFI/RI reports documenting investigations for each site in accordance with the schedules within Table 6 of this Attachment. The Phase I and Phase II reports shall at a minimum contain information to characterize the nature, rate and extent of contamination; define pathways and methods of migration; identify areas threatened by releases from the facility; and determine short and long-term threats to human health and the environment.	2. Submit RFI/RI Workplans in accordance with section I.B.11. and Table 6 of the SOW. Submit the required reports and close the units in accordance with the schedules in Table 6 of the SOW.
129	Oil Leak		
168	West Spray Field		
174	P&UD Container Storage		
175	S&W Bldg. 980 Container		
176	S&W Contractor Storage Yard		
177	Building 885 Drum Storage Area	3. Submit all Phase I and Phase II Closure/Interim Measure/Interim Remedial Action reports as required by section I.B.11. of the SOW, and in accordance with the schedule requirements within Table 6 of the SOW.	
178	Bldg 881 Drum Storage Area		
179	Bldg 865 Drum Storage Area		
180	Bldg 883 Drum Storage Area		
181	Bldg 334 Cargo Container		
182	Bldg 444/453 Drum Storage		
203	Inactive Hazardous Waste Storage Area		
204	Original Uranium Chip Roaster		
205	Bldg 460 Sump #3 Acid Side		
206	Inactive Tank D-836 Hazardous Waste Tank		
207	Inactive 444 Acid Dumpster		
208	Inactive 444/447 Waste Storage Area		

Table 5. Preliminary RFI/RI Workplan for Previously Identified
Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
210	Unit 16, Building 980 Corgo Container		
211	Unit 26, Building 881 Drum Storage		
212	Unit 63, Building 371 Drum Storage		
213	Unit 15, 904 Pad Pondcrete Storage		
214	Unit 25, 750 Pad Pondcrete and Saltcrete Storage		
215	Units 55 13, 55 14, 55.15, and 55 16 - Tanks T-40, T-66, T-67, and T-68		
217	Unit 32, Building 881 Cyanide Bench Scale Treatment		

Table 5. Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

Operable Unit 4-Priority #1 Drainages

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
115	Original Landfill	<ol style="list-style-type: none"> 1. Perform a Radiological Survey over the area of the landfill utilizing a side-shielded field instrument for detection of low energy radiation (FIDLER) and a shielded Geiger-Mueller (G-M) pancake detector. Readings will initially be taken on an offset 100 foot grid. If hotspots are detected the grid will be tightened to pinpoint the radiological source. The results will be plotted on a map and contoured. This investigation shall also be conducted at the solid waste disposal areas located to the east of the identified location of the old landfill as depicted in the 10/15/64, and 8/7/69 aerial photographs. 2. Complete a real time soil gas analysis over the entire area of the landfill on offset 100 foot centers. The soil gas analysis will also be conducted over the area east of the identified location of the landfill as stated in (1) above. The soil gas analysis will utilize a portable GC. The detection limits for the following compounds shall be proposed in the Workplan. The soil gas survey shall analyze for the volatiles 1,1,1 TCA, dichloromethane, benzene, carbon tetrachloride, PCE and TCE. The analysis will note analytical peaks for compounds not calibrated for on the GC. Soil cores will be taken at the location of the soil gas analysis on a random basis after every 50 soil gas surveys to verify the presence or non-presence of volatiles at the specific location. If positive soil gas results are indicated, boreholes will also be placed to transect the plume(s). The soil boring will be drilled at least three feet into weathered bedrock. The boreholes transecting plumes at the site will be completed as groundwater monitoring 	<ol style="list-style-type: none"> 1. Submit an RFI/RI Workplan in accordance with section VI of the Statement of Work. Submit the Phase I RFI/RI Report in accordance with the schedules in Table 6 of the SOW. The Phase I RFI/RI Report will include all data collected as a result of and required by this preliminary workplan for this group of sites

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
115 cont d		<p>wells Composite samples will be collected from every 2 foot interval and analyzed for HSL volatiles and semi-volatiles using calibrated GC/MS Composite samples will also be taken from each six foot interval and analyzed for HSL metals, uranium 233/234, uranium 235, uranium 238, plutonium 239/240, americium 241, cesium 137, strontium 89/90, and beryllium.</p> <p>3. Install three downgradient ground water monitoring points between the landfill and the interceptor ditch. These points must monitor alluvial groundwater quality The geology shall be characterized prior to determining the type of groundwater monitoring point to construct at each location. The first point will be placed between the western leg of the landfill and the interceptor ditch. This first point will collect water from the saturated interval of the alluvial groundwater system. The second point will be placed in the surface drainage north of well 57-86 between the landfill and the interceptor ditch within the area of the old embankment and will intercept groundwater from the saturated thickness of the alluvial groundwater system The third point will be placed between the southeastern corner of the unit boundary and the interceptor ditch, downgradient of the outfall identified on the southeast side of the landfill This point will be screened to intercept groundwater from the saturated thickness of the alluvial groundwater system. The groundwater will be sampled quarterly and analyzed for HSL volatiles, HSI metals, HSL semivolatiles, soluble cesium 137 and strontium 89/90, insoluble beryllium, soluble and insoluble uranium, soluble and insoluble plutonium, and dissolved lead and chromium.</p>	

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
115 cont'd		<ol style="list-style-type: none"> 4. Confirm the piping interconnections and sources of water alluded to in section 3.1.1 of Volume I, Remedial Investigation and Feasibility Study Plans for Low Priority Sites. If water is found to be flowing through the two corrugated pipes protruding from the landfill, sample the effluent and analyse the effluent for the same constituents as outlined in (3) above. The effluent shall be sampled quarterly. 5. Sample the sediments and surface water of the interceptor ditch and Woman Creek immediately downgradient of the original landfill. Analyze the sediments for the same constituents as outlined in (3) above. 	
<p>133.1 133.2 133.3 133.4 133.5 133.6</p>	<p>Ash Pits 1 - 4, Incinerator and Concrete Wash Pad</p>	<ol style="list-style-type: none"> 1. Reevaluate and investigate the extent of the disposal areas for this site in light of the 1953, 1964, 1969, and 1978 through 1988 aerial photographs of the site. These include an area north of the west access road and waste areas beyond the boundaries sites 133.1 and 133.6. 2. Conduct a radiation survey using a G-M shielded pancake detector and side-shielded FIDLER of all areas associated with site 133. The survey shall be conducted using 10 foot grids and will cover all areas affected by site 133. If "hotspots" are detected, the grid must be tightened to locate the source of the radiation. 3. Conduct a soil sampling survey of site 133 utilizing soil borings drilled five feet into weathered bedrock. Boreholes on 25 foot centers will transect each site and will also be placed over hotspots detected during the radiometric survey of the sites. All samples will be 	

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
133 cont'd		<p>composited to represent 2 foot intervals and will be analyzed for total uranium, gross alpha and gross beta. Prior to drilling the boreholes, 2" surface scrape samples will be taken at "hotspots" as indicated by the radiation survey and analyzed for the same constituents as listed above.</p> <p>4. Install three downgradient ground water monitoring points between site 133 and Woman Creek. These points must monitor alluvial groundwater quality. The geology shall be characterized prior to determining the type of groundwater monitoring point to construct at each location. The groundwater monitoring locations will be proposed to EPA and CDH after the geological characterization has been completed. The groundwater points will monitor the saturated interval of the alluvial groundwater system. The groundwater will be sampled quarterly and analyzed for HSL volatiles, HSL metals, HSL semivolatiles, soluble cesium 137 and strontium 89/90, soluble and insoluble beryllium, soluble and insoluble uranium, and soluble and insoluble plutonium.</p>	
141	Sludge Dispersal	<p>1. Conduct a radiation survey using a G-M shielded pancake detector and side-shielded FIDLER of the areas affected by site 141. The survey shall be conducted using 25 foot grids and will cover all areas affected by site 141. If "hotspots" are detected, the grid must be tightened to locate the source of the radiation.</p> <p>2. Conduct a soil sampling survey of site 141 utilizing surface soil scrapings to a depth of 2 inches. The scrapings will be collected using 25 foot grids and will</p>	

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
141 cont'd		<ul style="list-style-type: none"> • also be taken from "hotspots" located during the radiometric survey. The samples will be analyzed for total plutonium, total americium, beryllium, total chromium, HSL metals, total nitrate, uranium 233/234, uranium 235, uranium 238, gross alpha and gross beta. 3. Complete a monitoring well downgradient of site 141. The location shall be proposed to EPA and CDH for review and approval. The well shall monitor alluvial groundwater. Quarterly samples shall be taken and analyzed for HSL volatiles, HSL semi-volatiles, gross alpha and gross beta. Results of these first analyses shall be submitted in the PSC. 	
142	Retention Ponds; A-1, A-2, A-3, A-4, A-5, B-1, B-2, B-3, B-4, B-5, C-1, C-2	<ul style="list-style-type: none"> 1. Submit the Rockwell International, 1986 report, "Trends in the Rocky Flats Surface Water Monitoring". Submit all data pertaining to these ponds and their respective water and sediment quality. 2. Collect five surface water and five sediment samples from five locations in all A, B and C series retention ponds. At least one of the five water samples for each pond shall be taken from the deepest part of each pond. Stratification of the water column shall be identified through temperature or dissolved oxygen measurements. Water samples shall be taken from each vertically stratified zone of the pond, if applicable. One of the five water samples to be taken from each pond shall be taken within 5 feet of the inlet of the pond. One of the five water samples to be taken from each pond shall be taken within five feet of the pond spillway. One of the five sediment samples shall be taken from the bank of each pond presently below waterline. One of the five sediment samples shall be taken from the 	

Table 5. Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
142 cont'd		<p>bank of each pond above high waterline. One of the sediment samples will be taken within five feet of the pond inlet. Two of the sediment samples will be taken from the deepest parts of each pond. All sediment samples shall represent the entire vertical column of sediment present at each specific location within each pond. One sediment sample and one water sample shall be taken within the confines of the pond located between the confluence of North and South Walnut Creek and Indiana Street. All of the sediment samples shall be analyzed for total plutonium 239/240, total americium 241, total uranium 233/234, total uranium 235, total uranium 238, tritium, beryllium, total chromium, total strontium 89/90, total cesium 137, gross alpha, gross beta, HSL metals, HSL volatiles, HSL semi-volatiles, and total nitrate. The aqueous samples shall be analyzed for the same constituents, but will analyze for soluble and insoluble phases for HSL metals and radionuclides.</p> <p>3. Collect sediment samples from seven locations upstream of pond A-1. Collect sediment samples from four locations upstream of pond B-1. The locations for the sediment samples upstream of ponds A-1 and B-1 should be approximately equally spaced and located within the stream channel conducive to the collection of sediment. The upstream sediment samples should be located between the PSZ and pond A-1 and B-1. Collect sediment samples from 10 locations upstream of pond C-1. The locations for the C-1 upstream sediment samples should be approximately equally spaced and located within the stream channel and conducive to the</p>	

Table 5. Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
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142 cont'd

collection of sediment. The sediment samples upstream of pond C-1 shall be located between pond C-1 and site 133.6. Four sediment samples should be taken approximately equally spaced and located between pond C-2 and pond C-1 within the stream channel and conducive to sediment collection. Ten sediment samples shall be taken within the south interceptor ditch, approximately equally spaced between pond C-2 and the southwest corner of the original landfill. One sediment sample shall be collected between each A and B series pond within the channel and conducive to the collection of sediment. All sediment samples shall be analyzed for the same constituents as stated in number (2) above. All samples shall represent the entire vertical column of sediment present at each sampling location. If the sediment depth is greater than two feet, individual two foot composites shall be collected.

4. Collect sediment samples from four locations immediately downstream of ponds A-4 and B-5, prior to the confluence of North and South Walnut Creek. An additional four samples shall be collected approximately equally spaced and located between the plant and Indiana Street within Walnut Creek at locations conducive to the collection of sediment. Collect sediment samples from 4 locations downstream of pond C-2. The locations for the C-2 downstream samples shall be approximately equally spaced and located between the pond and Indiana Street within the channel and conducive to the collection of sediment. These samples shall be analyzed for the same constituents as stated in number (2) above. All sediment samples shall represent the vertical column of sediments present at the location being

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
142 cont'd		<p>sampled. If the sediment depth is greater than two feet, individual two foot composites shall be collected.</p> <p>5 Construct two groundwater wells immediately downgradient of each dam at ponds A-4, B-5, C-2, and C-1. These wells will be constructed within the the original stream channel and will monitor the alluvial groundwater downgradient of each dam/pond. Samples of the groundwater will be collected upon completion of the well and quarterly thereafter. The groundwater samples will be analyzed for constituents as for the aqueous samples in (2) above. Results of the analyses will be presented in the PSC to be submitted in accordance with the schedules as outlined in this Statement of Work</p>	
143	Old Outfall	<p>1 Conduct a radiation survey using a G-M shielded pancake detector and side-shielded FIDLER of the areas affected by site 143. The survey shall be conducted using 10 foot grids and will cover all areas affected by site 143. If "hotspots" are detected, the grid must be tightened to locate the source of the radiation.</p> <p>2. Conduct a soil sampling survey of site 143 utilizing surface soil scrapings to a depth of 2 inches and 2 foot cores composited to represent 2 feet of soil. The surface and core samples will be collected using a 20 foot grid and will also be taken from "hotspots" located during the radiometric survey. The grid will extend along the drainage of the old outfall to the PSZ. The samples will be analyzed for total plutonium, total americium, beryllium, total chromium, tritium, total nitrate.</p>	

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
143 cont d		uranium 233/234, uranium 235, uranium 238, gross alpha, gross beta, and HSL metals.	3
165	Triangle Area	<ol style="list-style-type: none"> <li>1 Reevaluate the extent of the disposal area in light of the 1953, 1964, 1969, and 1971 aerial photographs which indicate that the site extends farther to the north, east and west than is presently acknowledged <li>2 Submit the report(s) documenting the radiometric survey conducted from 1975 - 1983 and any cleanup activities for this site <li>3. Conduct a radiation survey using a G-M shielded pancake detector and side-shielded FIDLER of the areas affected by site 165. The survey shall be conducted using 25 foot grid intervals and will cover all areas affected by this site. If "hotspots" are detected, the grid must be tightened to locate the source of the radiation. <li>4. Complete a real time soil gas analysis over the entire area of site 165 using 50 foot grid intervals. The soil gas analysis will utilize a portable GC. Detection limits for the following compounds shall be proposed in the Workplan. The soil gas survey shall analyze for the volatiles carbon tetrachloride, TCE, methylene chloride, acetone, 2-butanone, PCE, 1,2 DCA, chloroform, and toluene. The analysis will note analytical peaks for compounds not calibrated for on the GC. Soil cores will be taken at the location of the soil gas analysis on a random basis every 25 soil gas surveys to verify the presence or non-presence of volatiles and semi-volatiles at the specific location and to determine the radioactive constituent concentration in the soils at this site. At least three borehole transects will be located to delineate VOC or 	

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
165 cont d		<p>radioactive plume gradient Prior to drilling the boreholes, 2" surface scrapes will be taken and analyzed for total plutonium, uranium 233/234, uranium 235, uranium 238, gross alpha, gross beta and beryllium The soil borings will be drilled three feet into weathered bedrock. Composite samples will be taken from every 2 foot interval and analyzed for HSL volatiles and HSL semivolatiles utilizing calibrated GC/MS Six foot composite samples will be analyzed for total plutonium, uranium 233/234, uranium 235, uranium 238, gross alpha, gross beta, and beryllium.</p>	
		<p>5. Two groundwater monitoring wells shall be completed to monitor the alluvial groundwater within this site. One well shall be located east of the PSZ within the site and one shall be located within the PSZ, within the site. Groundwater shall be sampled immediately upon completion of the wells and quarterly thereafter The groundwater shall be monitored for HSL volatiles, HSL semi-volatiles, HSL metals, gross alpha, and gross beta. Initial results of the groundwater sampling and analysis shall be submitted with the PSC for this group.</p>	
<p>166.1 Trench A 166 2 Trench B 166 3 Trench C</p>		<p>1. Conduct a geophysical survey to locate and determine the extent of the 166 trenches. Reevaluate the location of this site after reviewing the aerial photographs dated 10/15/64 and 8/7/69</p> <p>2. Conduct a soil sampling survey of all areas affected by sites 166 1, 166 2 and 116 3 The investigation shall consist of transecting the trenches with soil boreholes placed every 25' longitudinally along each trench Soil cores shall be drilled to a depth five feet below the bottom of each pit Soil cores shall be</p>	

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE	
166 cont'd		<p>composited to represent 2 feet of soil and analyzed for HSL volatiles. Core samples shall also be composited to represent six feet of soil and analyzed for total plutonium, total americium, uranium 233/234, uranium 235, uranium 238, gross alpha, gross beta, and HSL metals.</p>		
167.1	North Area Spray Field	<ol style="list-style-type: none"> 1. Reevaluate the extent and location of the 167 2 spray field in light of the 1988 aerial photographs. 2. Conduct a soil sampling survey of all areas affected by sites 167.1, 167.2 and 167 3 utilizing surface scrapes representing the top 2" of soil and soil cores drilled to a depth of 4 feet. Composites shall be sampled to represent 2 feet of soil. The core samples will be collected at grid locations 50 feet apart. The samples will be analyzed for total plutonium, total americium, uranium 233/234, uranium 235, uranium 238, gross alpha and gross beta, tritium, and HSL metals. 3. Two alluvial groundwater monitoring wells shall be placed immediately downgradient of sites 167.1 and 167.3 within the surface drainages flowing to North Walnut Creek. These wells shall be screened as near the surface as possible through to weathered bedrock to intercept the saturated thickness of soil within the alluvium. The groundwater will be sampled quarterly and analyzed for HSL volatiles, soluble and insoluble uranium, soluble and insoluble plutonium, HSL metals and tritium. 		
167 2	Pond Area Spray Field			
167.3	South Area Spray Field			
170	PU&D Storage Yard Waste Spills	<ol style="list-style-type: none"> 1. Conduct a visual inspection of the PU&D Storage Yard, identifying soil stains within the yard 2. Evaluate and identify the use of the area 		

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
170 cont d		<p>southwest of site 170 as shown in the 8/17/78 aerial photograph. Also evaluate and identify the nature of the open storage east-northeast of site 170 as shown in the 8/17/78 aerial photograph. The grounds and records of site use shall be reviewed to determine if the site has ever been used for the disposal of batteries. If battery disposal areas are identified, the soils affected will be characterized to determine the impact of the battery disposal on the soils.</p>	
		<p>3. Conduct a radiation survey using a G-M shielded pancake detector and side-shielded FIDLER of the stained areas identified in (1) above. The survey shall be conducted using 10 foot grid intervals and shall cover all areas which are found to be stained during the visual inspection of the site. If radioactive "hotspots" are detected, 2" surface scrapes shall be taken and analyzed for total plutonium, uranium 235, uranium 233/234, uranium 238, tritium, gross alpha and gross beta.</p>	
		<p>4. Complete a real time soil gas analysis over the entire area of site 170 as amended, using 100 foot grid intervals, and where visual stains are identified. The soil gas analysis will utilize a portable GC. Detection limits for the following compounds shall be proposed in the Workplan. The soil gas survey will analyze for the volatiles carbon tetrachloride, TCE, methylene chloride, acetone, 2-butanone, PCE, 1,2 DCA, chloroform, toluene, benzene. The analysis will note analytical peaks for compounds not calibrated for on the GC. Soil cores will be taken at the location of the soil gas analysis, on a random basis, every 25 soil gas survey locations to verify the presence or non-presence of volatiles at the specific location. Soil cores will also</p>	

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITF NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
170 cont d		be placed to transect plumes identified through positive soil gas results. The soil borings shall be drilled three feet into the weathered bedrock. The soil borings placed to transect the volatile plume shall be completed as alluvial groundwater monitoring wells. The soil cores shall be composited to represent two feet of soil and shall be analyzed for HSL volatiles and HSL semi-volatiles utilizing calibrated GC/MS. Groundwater shall be sampled immediately upon completion of the plume transecting wells and shall be analyzed for HSL volatiles, HSL semi-volatiles, HSL metals, gross alpha and gross beta. The initial results of the groundwater investigation shall be submitted with the PSC required for this group.	
209	Surface disturbance Southeast of Bldg 881	1. Determine and submit all historical use information pertaining to this site. Determine the nature of what appear to be trenches in the aerial photograph taken 10/15/64, 8/7/69, and 8/6/71. Determine the nature of what appears to be a pond in the aerial photograph taken 10/5-83.	
216 1 216.2 216 3	East Spray Fields	1. Submit all historical information regarding the use of the east spray fields and all information gathered to date resulting from any field investigation of the site.	

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

Operable Unit 5-700 Area

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRD COMPLETION/SUBMITTAL DATE
118 1 118 2	Multiple Solvent Spills West of Building 730 and in the South End of Building 776	<p>1. Submit the results of the Aerial Radiological Measuring System (ARMS) survey which documented the elevated gamma-radiation exposure rates for sites 118 1 and 118 2</p> <p>2 Complete a real time soil gas analysis over the entire area of site 118.1 and 118.2 using 25 and 30 foot grid intervals, respectively The soil gas analysis shall utilize a portable GC The detection limits for the following compounds shall be proposed in the Workplan The soil gas survey shall analyze for the volatiles 1,1,1 TCA, benzene, carbon tetrachloride, methylethyl ketone, dichloromethane, PCE, and TCE The analysis shall note analytical peaks for compounds not calibrated for on the GC Soil cores shall be taken at the location of the soil gas analysis on a random basis every 25 soil gas survey locations to verify the presence or non-presence of volatiles at the specific location Transects of each site shall also be constructed longitudinally through each site. Four boreholes shall be constructed transecting site 118.1 and two boreholes shall be constructed to transect site 118.2 Prior to drilling each borehole, 2" soil surface scrapes shall be collected and analyzed for total plutonium, tritium, total uranium, gross alpha and gross beta The soil boreholes shall be drilled three feet into weathered bedrock Composite samples shall be taken from each two foot interval and shall be analyzed for HSL volatiles utilizing calibrated GC/MS</p>	<p>1. Submit an RFI/RI Workplan in accordance with section VI. of the Statement of Work. Submit the Phase I RFI/RI Report in accordance with the schedules in Table 6 of the SOW. This RFI/RI Report will include all data collected as a result of and required by this preliminary workplan for this group of sites</p>

Table 5. Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
123.1 123.2	Valve Vault 7 and West of Bldg. 707	1. Submit the report(s) documenting the radiometric survey conducted from 1975 - 1983	
		2. Conduct a radiation survey using a G-M shielded pancake detector and side-shielded FIDLER of sites 123.1 and 123.2. The survey method shall be proposed within the Workplan for this OU. If "hotspots" are detected the grid must be tightened to locate the source of the radiation.	
		3. Conduct a soil sampling survey of the areas affected by site's 123.1 & 123.2. Four soil bores will be placed around each vault associated with site 123, and shall be drilled to a depth 10 feet below the bottom of each vault. Soil samples shall be composited to define each 2 foot interval of soil and analyzed for ESL volatiles. Soil samples shall also be composited to define six foot intervals, and will be analyzed for nitrates, flourides, beryllium, total uranium, total plutonium, gross alpha, and gross beta.	
124.1 124.2 124.3 125	30,000, 14,000 and 14,000 gallon radioactive liquid waste storage tanks and the Holding Tank	1. Submit the report(s) documenting the radiometric survey conducted from 1975 - 1983	
		2. Conduct a radiation survey using a G-M shielded pancake detector and side-shielded FIDLER of sites 124.1, 124.2, 124.3 and 125. If the releases occurred after surfacing was in place, then the survey should be conducted without removing the surfacing. If the surfacing was placed after the spills occurred,	

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
124/125 cont'd		<p>then the top 2" of the soil surface shall be sampled and analyzed for radiation prior to drilling the boreholes. The survey shall be conducted using 10 foot grids and will cover all areas affected by sites 124 and 125. If "hotspots" are detected, the grid must be tightened to locate the source of the radiation</p>	
		<p>3. Conduct a soil sampling survey of the areas affected by sites 124.1, 124.2, 124.3 and 125. Soil bores will be placed around each tank associated with site 124 and will be drilled to a depth 10 feet below the bottom of each tank. The soil samples shall be composited to define each 2 foot interval and will be analyzed for HSL volatiles. In addition, the soils shall be composited to represent six foot intervals and shall be analyzed for nitrates, total americium, beryllium, total uranium, total plutonium, gross alpha and gross beta. In addition to the soil bores, surface scrapes 2 inches deep will be taken at the same location as the soil borings and analyzed for the same constituents as required for the soil boring composites. At least two of the boreholes shall be completed as down-gradient alluvial monitoring wells. The location and number of these wells shall be proposed in the RFI/RI Workplan to be submitted in accordance with section I.B 9. of the Statement of Work. These wells shall be sampled immediately upon completion and quarterly thereafter. Groundwater samples shall be analyzed for total nitrate, HSL volatiles, gross alpha, gross beta, total plutonium, total uranium, tritium and HSL metals.</p>	
126 1 Out-of-Service Process 126 2 Waste Tanks		<p>1. Determine and document the types of wastes stored in these tanks during use</p>	

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
126 cont d		<p>2. Conduct a soil sampling survey of the areas affected by sites 126.1 and 126.2. One soil bore will be placed downgradient of each tank associated with site 126 and will be drilled to a depth 10 feet below the bottom of each tank. The soil samples shall be composited to define each 2 foot interval and will be analyzed for HSL volatiles. In addition, the soils shall be composited to represent six foot intervals and shall be analyzed for nitrates, total americium, beryllium, total uranium, total plutonium, gross alpha and gross beta. In addition to the soil bores, surface scrapes 2 inches deep will be taken at the same location as the soil borings and analyzed for the same constituents as required for the soil boring composites. The most downgradient borehole shall be completed as a down-gradient alluvial monitoring well. The location of this well shall be proposed in the RFI/RI Workplan to be submitted in accordance with section I.B.9. of the Statement of Work. This well shall be sampled immediately upon completion and quarterly thereafter. Groundwater samples shall be analyzed for total nitrate, HSL volatiles, gross alpha, gross beta, total plutonium, total uranium, tritium and HSL metals. Initial results of the groundwater sampling and analysis shall be submitted with the PSC report for this group of sites.</p>	
127	Low Level Radioactive Waste Leak	<p>1. Conduct a radiation survey using a G-M shielded pancake detector and side-shielded FIDLER of site 127. The survey shall be conducted using 10 foot grids and will cover the entire area affected by site 127. If "hotspots" are detected, the grid must be tightened to locate the source of the radiation. If surfacing has been placed over the soils affected</p>	

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
127 cont'd		<p>by releases from this site, 2" surface scrapes will be taken prior to constructing the required boreholes for this site</p> <p>2. Conduct a soil sampling survey of the areas affected by site 127. Place 5 soil borings 20 feet apart within the boundaries of the site. Collect a 2" surface scrape of the soils before constructing the soil borings. The surface scrape sample shall be analyzed for total plutonium, total uranium, gross alpha, gross beta, HSL metals and total nitrate. The soil borings will extend to 10 feet below the pipe invert carrying low level waste between 995 and 774 or three feet into weathered bedrock, whichever is greater. The soil samples will be composited to represent each 2 foot increment of depth and will be analyzed for total plutonium, total uranium, gross alpha, gross beta, and total nitrate</p>	
132	Radioactive Site #4 - 700	<p>1. Conduct a soil sampling survey of the areas affected by site 132. Soil bores will be placed around each tank associated with site 132 and will be drilled to a depth 10 feet below the bottom of each tank or 3 feet into weathered bedrock, whichever is greater. The soil samples shall be composited to define each six foot interval and will be analyzed for total americium, total beryllium, total uranium, total plutonium, total alpha and total beta</p>	
135	Cooling Tower Blowdown	<p>1. Verify the location of site 135 as either north or south of building 374</p> <p>2. Conduct a soil sampling survey of site 135 utilizing soil borings drilled to a depth of 6 feet. Borings will be</p>	

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
135 cont'd		placed on 50 foot centers. Samples will be composited to represent 2 foot intervals and will be analyzed for total chromium. A 2 inch surface scrape will be taken prior to drilling at each grid location and will be analyzed for total chromium.	
137	Cooling Tower Blowdown Building 774	1. Conduct a soil sampling survey of site 137 utilizing soil borings drilled six feet deep. Borings will be placed on 50 foot centers. Samples will be composited to represent 2 foot intervals and will be analyzed for total chromium. A 2 inch surface scrape will be taken prior to drilling at each grid location and will be analyzed for total chromium.	
138	Cooling Tower Blowdown Building 779	1. Conduct a soil sampling survey of site 138 utilizing soil borings drilled to a depth of 6 feet. Borings will be placed on 25 foot centers. Samples will be composited to represent 2 foot intervals and will be analyzed for total chromium. A 2" surface scrape will be taken prior to drilling at each grid location and will be analyzed for total chromium.	
139.1 139 2	Caustic/Acid Spills	1. Collect soil samples from the top six inches of soil at sites 139 1 and 139.2. These samples shall be taken from soils directly surrounding the source tanks and from soils affected by the sites. The soils affected by sites 139 1 and 139 2 will be sampled using 25 foot grids and shall be analyzed for sodium, potassium, and fluoride.	
144	Sewer Line Break	1. Submit the report(s) documenting the radiometric survey conducted from 1975 - 1983 2. Conduct a radiation survey using a G-M	

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
144 cont'd		<p>shielded pancake detector and side-shielded FIDLER of the areas affected by site 144. The survey shall be conducted using 10 foot grids and will cover all areas affected by site 144 including the hillside referred to in the CEARP Phase I. Installation Assessment, Rocky Flats Plant. If "hotspots" are detected, the grid must be tightened to locate the source of the radiation</p> <p>3. Conduct a soil sampling survey of all areas affected by site 144 including the hillside 500 feet north, utilizing surface soil scrapings collected at "hotspot" locations identified through the radiation survey and prior to construction of each borehole. Two boreholes shall be located adjacent to the sewer line and shall be drilled to 5 feet below the invert of the pipe or three feet into weathered bedrock, whichever is deeper. Four boreholes shall be located on the affected hillside and shall be drilled three feet into weathered bedrock. The soil cores shall be composited to represent 2 feet of soil and analyzed for total plutonium, total americium, beryllium, total chromium, tritium, total nitrate, uranium 233/234, uranium 235, uranium 238, gross alpha, gross beta, HSL metals, and total sulfate.</p>	
146.1 146.2 146.3 146.4 146.5 146.6	Concrete Process Waste Tanks	<p>1. Submit the report(s) documenting the radiometric survey conducted from 1975 - 1983</p> <p>2. Verify the location of these tanks</p> <p>3. Conduct a radiation survey using a G-M shielded pancake detector and side-shielded FIDLER of the areas affected by site 146. The survey</p>	

Table 5. Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
146 cont d		<p>shall be conducted using 10 foot grids and will cover all areas affected by site 146 including the road and ground surfaces affected by the overflows of these tanks. If concrete or asphalt surfacing exists over affected soils, the surface soils will be sampled prior to constructing the required boreholes. If "hotspots" are detected, the grid must be tightened to locate the source of the radiation.</p> <p>4. Conduct a soil sampling survey of all areas affected by site 146 including the areas affected by the tank overflows, utilizing surface soil scrapings to a depth of 2 inches and soil cores composited to represent each 2 feet of soil. The boreholes will be drilled to a depth of 10 feet below the tank inverts or to below the bottom of the building, whichever is required to assess the contamination of the soils related to this site. The location of six boreholes shall be proposed in the Workplan after verifying the location of these tanks. For three of the six boreholes, the core samples shall be composited to represent two foot intervals. These two foot composites shall be analyzed for HSL volatiles and HSL semi-volatiles. For all six boreholes the soils shall be composited to represent six foot intervals. The borehole composites and surface scrapes shall be analyzed for total plutonium, total americium, beryllium, total chromium, tritium, total nitrate, uranium 233/234, uranium 235, uranium 238, gross alpha, gross beta, total sodium, total sulfate and HSL metals</p>	
149	Effluent Pipe	<p>1 Submit the report(s) documenting the radiometric survey conducted from 1975 - 1983 and any cleanup activities</p>	

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
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149 cont'd

for this site.

2. Submit all soil survey information pertinent to this site acquired during the investigations of the solar ponds.
3. Conduct a radiation survey using a G-M shielded pancake detector and side-shielded FIDLER of the areas affected by site 149. The survey shall be conducted using 10 foot grids and will cover all areas affected by site 149 including the ground surfaces affected by the leakages of this line. If concrete or asphalt surfacing exists over affected soils, the surface soils shall be sampled prior to constructing the boreholes required for this site. If "hotspots" are detected, the grid must be tightened to locate the source of the radiation.
4. Conduct a soil sampling survey of the soils affected by site 149 utilizing cores drilled to a depth of 5 feet below the invert of the waste line(s) which resulted in the release at this site or three feet into weathered bedrock, whichever is greater. Eleven boreholes shall be located on 50' centers along the downgradient side of the effluent pipe. The soil core samples shall be composited to represent 2 feet of soil. The two foot composite core samples will be analyzed for HSL volatiles. The soil cores shall also be composited to represent six foot intervals. The six foot cores and the surface scrapes shall be analyzed for total plutonium, total americium, beryllium, total chromium, tritium, total nitrate, uranium 233/234, uranium 235, uranium 238, gross alpha, gross beta, and HSL metals.

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
150	Radioactive Liquid Leaks	1. Submit the report(s) documenting the radiometric survey conducted from 1975 - 1983 and any cleanup activities for these sites.	
150 1	North of Bldg. 771, West		
150 2	of Bldg 771, Between Bldgs		
150.3	771 and 774, East of Bldg.		
150 4	750, West of Bldg 707,		
150 5	South of Bldg 779, South		
150 6	of Bldg 776, Northeast of	2 Conduct a radiation survey using a G-M shielded pancake detector and side-shielded FIDLER of the areas affected by site 150 The survey shall be conducted using 25 foot grids and will cover all areas affected by site 150 including the ground surfaces affected by runoff and spillage. If surfacing exists over affected soils, surface samples shall be taken prior to constructing the boreholes required for this site. If "hotspots" are detected, the grid must be tightened to locate the source of the radiation.	
150 7	Bldg 779		
150 8		3 Conduct a soil sampling survey of all areas affected by site 150 utilizing surface soil scrapings to a depth of 2" and soil cores drilled three feet into weathered bedrock. Soil cores shall be composited to represent two foot intervals and shall be analyzed for HSL volatiles. Soil cores shall also be composited to represent six foot intervals. The six foot soil core composites and the 2" surface scrapes for all boreholes shall be analyzed for total plutonium, total americium, beryllium, total chromium, tritium, total nitrate, uranium 233/234, uranium 235, uranium 238, gross alpha, gross beta, total sodium, total sulfate and HSL metals. Nine boreholes constructed on 50' centers shall be located to transect site 150 1. Twenty boreholes constructed on 50' centers shall be located to transect site 150.2. Two rows of three boreholes shall be constructed to characterize site 150 3.	

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
150 cont'd		<p>Two rows of four boreholes shall be constructed to characterize site 150.4 Ten boreholes constructed on 75' centers shall be located to transect site 150.5. Two rows of four boreholes shall be constructed to characterize site 150.6. Ten boreholes constructed on 50' centers shall be located to transect site 150.7 Three boreholes constructed on 40 centers shall be located to transect site 150.8 The surface and core samples will also be collected from "hotspots" located during the radiometric survey</p>	
151	Fuel Oil Leak	<p>1. Complete a real time soil gas analysis over the entire area of site 151 using 10 foot grid intervals. The soil gas analysis will utilize a portable GC The detection limits for the following compounds shall be proposed in the Workplan. The soil gas survey will analyze for the volatiles benzene, toluene and xylene The analysis will note analytical peaks for compounds not calibrated for on the GC. Four boreholes shall be constructed to characterize the soils on all sides of the fuel oil tank The boreholes shall be drilled to a depth five feet below the bottom of the tank or three into weathered bedrock, whichever is deeper Composite samples shall be taken from every 2 foot interval and analyzed for HSL volatiles utilizing calibrated GC/MS.</p>	
159	Radioactive Site-Bldg 559	<p>1. Submit the report(s) documenting the radiometric survey conducted from 1975 - 1983 and any cleanup activities for this site</p> <p>2 Conduct a radiation survey using a G-M shielded pancake detector and side-shielded FIDLER of the areas affected by site 159 The survey shall be conducted using 10 foot grids and will cover all the areas affected by site 159</p>	

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
159 cont'd		If "hotspots" are detected, the grid must be tightened to located the source of the radiation.	
		<p>3. Conduct a soil sampling survey of the soils affected by site 159 utilizing cores drilled to a depth of 5 feet below the invert of the waste line(s) or three feet into weathered bedrock, whichever is deeper. Borehole core samples will be composited to represent 2 feet of soil. The two foot composites shall be analyzed for HSL volatiles. Borehole core samples shall also be composited to represent six foot intervals of soil. The 2" surface scrapes and the six foot composites shall be analyzed for total plutonium, total americium, beryllium, total chromium, tritium, total nitrate, uranium 233/234, uranium 235, uranium 238, gross alpha, gross beta, and HSL metals. Two inch surface scrapes shall be sampled prior to constructing all boreholes and where surfacing exists to prevent the radiation survey.</p>	
163 1	Radioactive Sites #3:	1. Submit the report(s) documenting the radiometric survey conducted from 1975 - 1983 and any cleanup activities	
163.2	Wash Area and Buried Slab	2. Investigate and determine the nature of the soil/soil mounds north of 163.1 and east of 163.2 which are identified in the 1969 and 1971 aerial photographs	
		3. Conduct a radiation survey using a G-M shielded pancake detector and side-shielded FIDLER of the areas affected by site 163 1. The survey shall be conducted using 25 foot grids and shall cover all areas affected by site 163 1. If surfacing exists over affected soils, the 2" surface samples shall be taken prior to construction of the required boreholes. If "hotspots"	

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE	SITE NAME	REQUIRED ACTION	REQUIRED
NUMBER	SITE NAME	REQUIRED ACTION	COMPLETION/SUBMITTAL DATE
163 cont'd		are detected, the grid must be tightened to locate the source of the radiation.	
		<p>4 Conduct a soil sampling survey of all areas affected by site 163.1 utilizing surface soil scrapings to a depth of 2 inches and boreholes drilled four feet deep. The borehole soil cores shall be composited to represent each 2 foot interval of soil. The surface and core samples will be collected at locations indicated as radioactive after conducting the radioactive survey. The samples will be analyzed for total plutonium, total americium, uranium 233/234, uranium 235, uranium 238, gross alpha and gross beta.</p>	
172	Central Avenue Waste Spill	<p>1. Conduct a radiation survey using a G-M shielded pancake detector and side-shielded FIDLER of the areas affected by site 172. The survey shall be conducted along the Central Avenue and 6th Street roadsides and all other roadsides utilized to transport the wastes from the 903 Pad Area to Bldg. 771. The survey shall also examine the surface water drainages next to the north and westbound lanes of the roads utilized. Both the roadside and surface water drainage surveys shall utilize 50 foot grid intervals. If "hotspots" are detected, the grid must be tightened to locate the source of the radiation. The survey shall utilize 5 foot grid intervals within 50 feet of stopping and unloading points.</p> <p>2 Conduct a soil and asphalt sampling survey. Soil and asphalt sampling shall be conducted at locations indicated as radioactive during the radiometric survey and at stopping and unloading points along the route. The soil samples shall be analyzed for RSL metals.</p>	

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
172 cont'd		<p>carbon tetrachloride, bis(2-ethylhexyl) phthalate, total plutonium, uranium 233/234, uranium 235, uranium 238, beryllium, gross alpha and gross beta. The asphalt samples shall be taken at areas indicated as radioactive during the radiometric survey and on 5 foot grid intervals within 50 feet of stopping and unloading points along the route. These asphalt samples shall be analyzed for the same constituents as for the soil samples, with the exception of the carbon tetrachloride and bis(2-ethylhexyl) phthalate</p>	
173	Radioactive Site-900 Area	<ol style="list-style-type: none"> <li>1. Submit information substantiating the characterization of this unit as a SWMU subject to HSWA corrective action <li>2. Submit the results of the Aerial Radiological Measuring System (ARMS) survey which documented the elevated gamma-radiation exposure rates for site 173. Submit the results of the routine radiation surveys conducted in Bldg 991 <li>3. Conduct radiation surveys using a C-M shielded pancake detector and a side-shielded FIDLER, device of all areas affected by site 173. The survey shall be conducted using 25 foot grid intervals and will cover all areas external to Bldg. 991. At radiation survey sites indicating radioactive contamination, soil samples, surfacing (i.e. asphalt or concrete) samples or surface wipes will be taken to determine the radioactive constituents responsible for the positive radiation reading. The type of sample taken will be dependent on whether the radiation survey site is located on the soil, or on surfacing. Soils shall be grab sampled. Asphalt, concrete and/or structural surfaces shall be wipe samples. All samples will be analyzed for total plutonium, total uranium, 	

Table 5. Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
173 cont'd		total americium, total cesium, total strontium, beryllium, tritium, gross alpha and gross beta.	
184	Bldg 991 Steam Cleaning	<ol style="list-style-type: none"> 1. Submit the report(s) documenting the radiometric survey(s) conducted which indicate that the radioactivity is not above background for this site. 2. Investigate the spillage identified as emanating from site 184 in the 8/6/71 aerial photograph. 3. Incorporate the investigation of site 184 into the radiometric investigation to be conducted at site 173. 	
188	Acid Leak	<ol style="list-style-type: none"> 1. Submit documentation describing the nature of the acid leak (i.e. describe whether the acid mixture is a waste acid, and whether it contained any other metals or dissolved constituents, etc.?). 2. Document any cleanup activity which took place at the time of the incident or after the incident to minimize environmental degradation. 	

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

Operable Unit 6-400/800 Area

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
116 1	Multiple Solvent Spills at	1. Submit the results of the Aerial Radiological Measuring System (ARMS) survey which documented the elevated gamma-radiation exposure rates for sites 116 1 and 116 2	1. Submit an RFI/RI Workplan in accordance with section VI. of the Statement of Work. Submit the Phase I RFI/RI Report in accordance with the schedules within Table 6 of the SOW This agreement This report shall include all data collected as a result of and required by this preliminary workplan for this group of sites.
116 2	West and South Loading Dock Areas	2. Conduct a radiation survey using a G-M shielded pancake detector and side-shielded FIDLER of sites 116.1 and 116.2 The survey must be conducted using 25 foot grid intervals and will cover the entire areas of sites 116.1 and 116 2 If surfacing exists over affected soils, 2" surface scrapes shall be collected prior to construction of the boreholes required for this site The 2" inch surface scrapes shall be analyzed for total uranium, gross alpha and gross beta. Submit all previously collected radiation data pertinent to this site	
		3. Complete a real time soil gas analysis over the entire area of both sites using 25 foot grid intervals. The soil gas analysis will utilize a portable GC. The detection limits for the following compounds shall be proposed in the Workplan. The soil gas survey will analyze for the volatiles 1,1,1 TCA, benzene, carbon tetrachloride, PCE, and TCE The analysis will note analytical peaks for compounds not calibrated for on the GC. Boreholes will be constructed to transect any plume defined during the soil gas analysis. These boreholes shall be completed as groundwater monitoring wells constructed to collect alluvial groundwater. These alluvial groundwater monitoring wells shall be sampled immediately upon completion and analyzed for HSL volatiles, gross alpha and gross beta. The groundwater shall continue to be sampled and analyzed for the above constituents	

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
116 cont'd		<p>on a quarterly basis. Boreholes shall also be constructed on a random basis after every 20 soil gas surveys to verify the presence or non-presence of HSL volatiles and HSL semi-volatiles at the specific location. The soil borings shall be drilled three feet into weathered bedrock. 2" surface scrapes shall be collected prior to constructing the boreholes and analyzed for total uranium, gross alpha and gross beta. Composite samples shall be collected from every 2 foot interval and analyzed for HSL volatiles and HSL semi-volatiles utilizing calibrated GC/MS. The uppermost two foot composite shall be analyzed for total uranium, gross alpha and gross beta.</p>	
120.1 Building 664 Fiberglassing 120.2 Areas		<ol style="list-style-type: none"> <li>1. Submit the results of the Aerial Radiological Measuring System (ARMS) survey which documented the elevated gamma-radiation exposure rates for sites 120.1 and 120.2. <li>2. Conduct a radiation survey using a G-M shielded pancake detector and side-shielded FIDLER of sites 120.1 and 120.2. The survey must be conducted utilizing 25 foot grid intervals. If the affected soils have been covered by asphalt or concrete, 2" surface scrapes shall be taken at borehole locations required to be constructed by this workplan. 2" surface scrapes shall also be taken at all radiation survey locations indicating a positive radiation finding. The 2" surface scrapes shall be analyzed for total plutonium, total uranium, gross alpha and gross beta. If "hotspots" are detected, the grid must be tightened to locate the source of the radiation. 	

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
120 cont'd		<p>3. Complete a real time soil gas analysis over the entire area of sites 120.1 and 120.2 using 25 foot grid intervals. The soil gas analysis will utilize a portable GC. The detection limits for the following compounds shall be proposed in the Workplan. The soil gas survey will analyze for benzene, carbon tetrachloride, methylethyl ketone peroxide, styrene and TCE. The analysis will note analytical peaks for compounds not calibrated for on the GC. Boreholes shall be constructed to transect plumes identified by the soil gas analysis and on a random basis every 25 soil gas surveys to verify the presence or non-presence of volatiles at the specific location. The boreholes shall be drilled three feet into the weathered bedrock. Composite samples shall be taken from every 2 foot interval and analyzed for HSL volatiles and HSL semi-volatiles utilizing calibrated GC/MS.</p>	
136 1 136 2 136.3	Cooling Tower Ponds Northeast, South and West of Building 460	<p>1. Submit the results of the aerial radiological survey conducted in August 1981 and documented by E,C&G, 1982.</p> <p>2. Conduct a radiation survey using a G-M shielded pancake detector and side-shielded FIDLER of the areas associated with sites 136 1, 136.2 and 136.3. If these sites are presently covered by an asphalt or concrete surfacing, 2" surface scrapes must be collected prior to constructing the required boreholes for these sites. The survey must be conducted using 10 foot grids and will cover the entire area affected by sites 136.1, 136.2, and 136 3. If "hotspots" are detected, the grid must be tightened to locate the source of the radiation.</p> <p>3. Conduct a soil sampling survey of sites 136 1, 136 2 & 136 3 utilizing soil borings drilled three feet into weathered bedrock. The borings shall be</p>	

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
136 cont d		located as close to the unit sources as possible Borings shall be placed on 20 foot centers and shall be composited to represent 2 foot intervals. 2" surface scrapes shall be collected prior to constructing the boreholes. The borehole composites and the 2" surface scrapes shall be analyzed for total chromium, total uranium, total lithium, gross alpha, and gross beta	
147.1 Process Waste Leaks; 147 2 Maas and Owen Areas		<ol style="list-style-type: none"> 1. Submit the report(s) documenting the radiometric survey conducted from 1975 - 1983 and any cleanup activities for these sites. 2. Investigate and report the nature of the seeping to the ditch identified in the 1978 aerial photograph shown east of site 147 1 at the road entering the PSZ. This seep shall be investigated as for item (3) below Clarify what "conversion" processes were conducted at site 147.2 3. Conduct a soil sampling survey of the soils affected by site 147.1 utilizing cores drilled to a depth of 5 feet below the invert of the waste line(s) which resulted in the release at this site or three feet into weathered bedrock, whichever is deeper. Prior to constructing the boreholes, 2" surface scrapes shall be collected and analyzed for total plutonium, beryllium, uranium 233/234, uranium 235, uranium 238, gross alpha, gross beta and HSI metals Ten boreholes shall be located immediately downgradient of the pipeline within the site boundary, spaced on 20 centers Three boreholes shall be located within the spill area identified in the 1978 aerial photograph The boreholes samples shall be composited to represent 2 feet of soil. The two foot composites shall be analyzed for 	

Table 5. Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
147 cont'd		<p>HSL volatiles The borehole cores shall also be composited to represent six foot intervals. The six foot composites shall be analyzed for total plutonium, total americium, beryllium, total chromium, tritium, total nitrate, uranium 233/234, uranium 235, uranium 238, gross alpha, gross beta, and HSL metals.</p>	
157 2	Radioactive Site South Area	<ol style="list-style-type: none"> <li>1. Submit the report(s) documenting the radioactive survey conducted from 1975 - 1983 and any cleanup activities for these sites. <li>2. Conduct a radiation survey using a G-M shielded pancake detector and side-shielded FIDLER of the areas affected by site 157.2 The survey shall be conducted using 25 foot grids and will cover all areas affected by site 157.2. If surfacing exists over affected soils, 2" surface scrapes shall be collected prior to constructing the boreholes required for this site. If "hotspots" are detected, the grid must be tightened to locate the source of the radiation <li>3. Conduct a soil sampling survey of all areas affected by site 157 2 utilizing surface soil scrapings to a depth of 2 inches and boreholes drilled three feet into weathered bedrock Boreholes and surface scrapes shall be located at "hotspots" located during the radiometric survey of this site. The workplan to be submitted for this group of sites shall also propose locations for boreholes to be located near loading docks and storage areas previously and presently used at this site. The boreholes shall be composited to represent 2 feet of soil The two foot composites shall be analyzed for HSL volatiles The boreholes shall also be 	

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
157.2 cont d		<p>composited to represent six foot intervals The six foot composite samples and 2" surface scrapes shall be analyzed for total plutonium, beryllium, uranium 233/234, uranium 235, uranium 238, gross alpha, gross beta and bis(2-ethylhexyl) pthalate</p>	
187	Acid Leaks (2)	<p>1. Submit documentation describing the nature of the acid leaks (identify whether these were waste acids, product acids, and whether they contained any other metals or dissolved constituents, etc.?).</p>	
189	Multiple Acid Spills	<p>1. Submit documentation describing the nature of the acid spills (identify whether these waste acids, product acids, and whether they contained any other metals or dissolved constituents, etc ?).</p>	

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

Operable Unit 7-100 Area

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
117.1 117.3	Chemical Storage, North and South Sites	1. Provide information documenting the kinds of material/chemicals stored at these two sites. Provide the information utilized to preliminarily determine whether these sites require further investigation	1. Submit an RFI/RI Workplan in accordance with section VI. of the Statement of Work. Submit the Phase I RFI/RI Report in accordance with the schedules within Table 6 of the SOW. This Phase I RFI/RI report shall include all data collected as a result of and required by this workplan for this group of sites
117.1 117.2 117.3	Chemical Storage, North Middle and South Sites	1. Complete a real time soil gas analysis over the entire area of the 117 sites using 100' offset grid intervals. The soil gas analysis will utilize a portable GC. The detection limits for the following compounds shall be proposed in the Workplan. The soil gas survey shall analyze for TCA, benzene, carbon tetrachloride, dichloromethane, PCE and TCE. The analysis will note analytical peaks for compounds not calibrated for on the GC. Boreholes shall be constructed to transect the plumes identified during the soil gas analysis. The transecting boreholes shall be completed as alluvial ground water monitoring wells. The alluvial groundwater shall be sampled immediately upon completion and quarterly thereafter, and analyzed for HSL volatiles and HSL semi-volatiles, as well as gross alpha and gross beta. Boreholes shall be constructed at the location of the soil gas analysis on a random basis after every 25 soil gas surveys to verify the presence or non-presence of HSL volatiles and HSL semi-volatiles at the specific location. All soil borings shall be drilled three feet into weathered bedrock. Borehole composite samples shall be taken from every 2 foot interval and analyzed for HSL volatiles	1. Submit an RFI/RI Workplan in accordance with section VI. of the Statement of Work. Submit the Phase I RFI/RI Report in accordance with the schedules within Table 6 of the SOW. This Phase I RFI/RI report shall include all data collected as a result of and required by this workplan for this group of sites

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
117 cont d		and HSL semi-volatiles utilizing calibrated GC/MS The 2 foot composites shall also be analyzed for gross alpha and gross beta.	
122	Underground Concrete Tank(s)	<p>1. Locate and describe all underground tanks associated with site 122, including the specific waste streams handled by these tanks</p> <p>2. Conduct a radiation survey using a G-M shielded pancake detector and side-shielded FIDLER of site 122 The survey shall be conducted using 10 foot grids and shall cover the entire area of site 122. If "hotspots" are detected, the grid must be tightened to locate the source of the radiation If the affected soils are covered with surfacing, 2" surface scrapes shall be collected prior to constructing the boreholes required for this site</p> <p>3 Conduct a soil sampling survey after locating the underground tanks. Four boreholes shall be placed around each tank associated with site 122 and shall be drilled to a depth 10 feet below the bottom of each tank or three feet into weathered bedrock, whichever is deeper. The soil samples shall be composited to define each 2 foot interval and shall be analyzed for HSL volatiles and nitrates. The soil samples shall also be composited to represent six foot intervals The 2" surface scrapes and six foot composites shall be analyzed for total uranium, total plutonium, gross alpha and gross beta</p>	
128	Oil Burn Pit No. 1 Waste Leak	<p>1 Reevaluate the location of site 128 in light of the 7/2/55 aerial photograph of the facility</p> <p>2 Conduct a radiation survey using a G-M shielded pancake detector and side-</p>	

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
128 cont'd		<p>shielded FIDLER of site 128 The survey shall be conducted using 10 foot grids and shall cover the entire area affected by site 128. If "hotspots" are detected, the grid must be tightened to locate the source of the radiation</p>	
		<p>3. Complete a real time soil gas analysis over the entire area of site 128 using 25 foot grid intervals The soil gas analysis will utilize a portable GC The detection limits for the following compounds will be proposed in the Workplan. The soil gas survey shall analyze for the volatiles benzene, toluene, and xylene The analysis will note analytical peaks for compounds not calibrated for on the GC. Boreholes shall be constructed to transect plumes identified by the soil gas analysis or the radiation survey At least three boreholes shall be constructed to verify the presence or non-presence of volatiles or radioactive materials at specific locations within the site. The boreholes shall be drilled three feet into the weathered bedrock. Composite samples shall be collected from every 2 foot interval and analyzed for HSL volatiles and HSL semi-volatiles utilizing calibrated GC/MS. The two foot composite samples shall also be analyzed for total uranium and total lithium.</p>	
134	Lithium Metal Destruction Site	1 To be investigated in same manner as for site 128 above	
148	Waste Spills	<p>1. Submit the report(s) documenting the radiometric survey(s) conducted which have found radioactivity levels to be consistent with background levels</p> <p>2 Conduct a radiation survey using a G-M shielded pancake detector and side-shielded FIDLER of site 148 The survey shall be conducted using 10 foot spacing</p>	

Table 5. Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
148 cont d		<p>around building 123 and will cover the entire area affected by site 148. If "hotspots" are detected, the grid must be tightened to locate the source of the radiation. If surfacing exists over grid locations, 2" surface scrapes shall be collected prior to constructing the boreholes required for this site.</p> <p>3. Conduct a soil sampling survey of site 148 utilizing soil borings drilled to a depth of 2 feet. The soil borings shall be drilled at locations proposed in the workplan for this group and at sites found to be radioactive after completion of the radiation survey. Soil cores shall be composited to represent 6" of soil. The 2" surface scrapes and the 6" composites shall be analyzed for total plutonium, total americium, uranium 238, uranium 235, uranium 233/234, gross alpha and gross beta.</p>	
152	Fuel Oil Tank	<p>1. Complete a real time soil gas survey over the entire area of site 152 using 20 foot spacing around the fuel oil tank. The soil gas analysis will utilize a portable GC. The detection limits for the following compounds shall be proposed in the Workplan. The survey shall analyze for benzene, toluene and xylene. The analysis will note analytical peaks for compounds not calibrated for on the GC.</p> <p>2. Conduct a soil sampling survey of the area affected by site 152 utilizing 6 foot cores composited to represent 6 feet of soil. Three boreholes shall be located around the fuel oil storage tank to characterize the source soils and to determine the downgradient release of contaminants from this site. The samples will be analyzed by GC/MS for HSL volatiles. The report will note analytical peaks found which were not calibrated for on the GC/MS.</p>	

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
157 1	Radioactive Site North Area	<ol style="list-style-type: none"> 1. Submit the report(s) documenting the radiometric survey conducted from 1975 - 1983 and any cleanup activities for this site 2. Conduct a radiation survey using a G-M shielded pancake detector and side-shielded FIDLER of the areas affected by site 157.1. The survey shall be conducted using 25 foot grids and shall cover the areas affected by site 157.1. If surfacing exists over the affected soils, 2" surface scrapes shall be collected prior to constructing the boreholes required for this site. If "hotspots" are detected, the grid must be tightened to locate the source of contamination. 3. Conduct a soil sampling survey of all areas affected by site 157.1 utilizing surface soil scrapings to a depth of 2 inches and 6 foot boreholes. The boreholes shall be composited to represent the entire six foot interval and three two foot intervals. The surface scrape and borehole locations shall be proposed in the workplan for this group. Boreholes and surface scrapes shall also be constructed and collected at "hotspots" located during the radiometric survey. The 2' foot composites shall be analyzed for HSL volatiles. The six foot composite shall be analyzed for total plutonium, beryllium, uranium 238, uranium 235, uranium 233/234, gross alpha, gross beta 	
158	Radioactive Site-Bldg 551	<ol style="list-style-type: none"> 1. Conduct a radiation survey using a G-M shielded pancake detector and side-shielded FIDLER of the areas affected by site 158. The survey shall be conducted using 25 foot grids and shall cover all areas affected by site 158. If surfacing exists over 	

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
158 cont'd		<p>affected soils, 2" surface scrapes shall be collected prior to construction of boreholes required at this site. If "hotspots" are detected, the grid must be tightened to locate the source of the radiation</p>	
		<p>2 Complete a real time soil gas analysis over the entire area of site 158 using 25 foot grid intervals. The soil gas analysis will utilize a portable GC The detection limits for the following compounds shall be proposed in the Workplan. The soil gas survey shall analyze for the volatiles 1,1,1 TCA, PCE, carbon tetrachloride, acetone, toluene and benzene. The analysis shall note analytical peaks for compounds not calibrated for on the GC Boreholes shall be constructed to transect plumes identified by the soil gas analysis or the radiation survey. At least three boreholes shall be constructed to verify the presence or non-presence of volatiles or radioactive materials at specific locations within the site as determined by the radiation and soil gas surveys of the site The boreholes shall be drilled three feet into the weathered bedrock. Composite samples shall be collected from every 2 foot interval and analyzed for HSL volatiles and HSL semi-volatiles utilizing calibrated GC/MS. Prior to constructing the boreholes, 2" surface scrapes shall be collected and analyzed for total uranium, total plutonium, gross alpha and gross beta</p>	
169	Waste Peroxide Drum Burial	<p>1. Locate the drum containing waste peroxide</p>	
171	Solvent Burning Ground	<p>1. This site shall be investigated in the same manner as for sites 128 and 134. The soil gas survey shall also include capability to detect PCE, 1,2 DCA, chloroform, carbon tetrachloride, TCE,</p>	

Table 5. Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE	SITE NAME	REQUIRED ACTION	REQUIRED
NUMBER	SITE NAME	REQUIRED ACTION	COMPLETION/SUBMITTAL DATE
171 cont'd		and methylene chloride One borehole shall be located within this site to verify the presence or non-presence of solvents and radioactive constituents at this site.	
186	Valve Vault 12	<ol style="list-style-type: none"> 1. Submit documentation describing the cleanup operations completed and those described as continuing in Appendix I, 3004(u) Waste Management Units, Volume I. 2. Conduct a soil sampling survey of all areas affected by site 186 utilizing soil cores drilled to 5 feet below the invert of the waste line(s) which leaked, or three feet into weathered bedrock, whichever is deeper. The core samples shall be composited to represent 2 feet of soil and shall be analyzed for HSL volatiles. The boreholes shall also be composited to represent six foot intervals shall be analyzed for total plutonium, total americium, uranium 233/234, uranium 235, uranium 238, gross alpha, gross beta and HSL metals The boreholes shall be located using 25 foot spacing 	
190	Caustic Leak	<ol style="list-style-type: none"> 1. Submit documentation describing the nature of the caustic leaks (i.e. describe whether these were waste or product solutions, and whether they contained any other metals or dissolved constituents) 	
191	Hydrogen Peroxide Spill	<ol style="list-style-type: none"> 1. Submit documentation describing the nature of the hydrogen peroxide (i.e. describe whether the peroxide was waste or product solution, and whether it contained any other dissolved constituents) 	

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

Operable Unit 8-Low Priority Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
185	Solvent Spill	1. Submit documentation required to substantiate the cleanup of this site and justify whether further action is required for this site.	1. Submit the documentation and data required to justify whether further action is required for the sites within this site group. If the data submitted does not allow a no further action determination to be made, then further action shall be required by EPA and CDH. The documentation must be submitted in accordance with the schedules in Table 6 of the SOW.
192	Antifreeze Discharge	1. Submit documentation justifying whether further action is appropriate for this site	
193 194	Steam Condensate Leaks	1. Submit documentation justifying whether further action is appropriate for this site	
195	Nickel Carbonyl Disposal	1. Submit documentation justifying whether further action is appropriate for this site.	
196	Water Treatment Plant Backwash Pond	1. Submit documentation justifying whether further action is appropriate for this site.	
197	Scrap Metal Sites	1. Submit documentation justifying whether further action is appropriate for this site.	

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

Operable Unit 9-Radioactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
131	Radioactive Site #1 700 Area	<ol style="list-style-type: none"> 1. Submit the results of the Aerial Radiological Measuring System (ARMS) survey which documented the elevated gamma-radiation exposure rates for site 131 2. Investigate and document the location of this site CEARP phase I and II locate this area north of building 776, while the RI/FS Plans for Low Priority Sites suggests that the area to be investigated is north and west of building 776. 3. Conduct a soil sampling survey of site 131 utilizing soil borings drilled two feet below the natural surface on 25 foot centers. Borehole samples shall be composited to represent the two foot interval. 2" surface scrapes shall be collected prior to constructing the boreholes required for this site. The surface scrapes and borehole composites shall be analyzed for total plutonium, total americium, uranium 238, uranium 235, uranium 233/234, gross alpha and gross beta. If the natural soils are covered by an artificial surface, a 2" surface scrape of the soil below the artificial surfacing will also be collected and analyzed for the same constituents as are required above for the soil borings at this site 	<ol style="list-style-type: none"> 1. Submit an RFI/RI Workplan in accordance with section VI of the Statement of Work. Submit the Phase I RFI/RI Report in accordance with the schedules in Table 6 of the SOW This Phase I RFI/RI report shall include all data collected as a result of and required by this workplan for this group of sites.
156 156.1 156.2	Radioactive Soil Burial Bldg. 334 Parking Lot Soil Dump Area	<ol style="list-style-type: none"> 1. Conduct a radiation survey using a G-M shielded pancake detector and side-shielded FIDLER of the areas affected by site 156.2 The survey shall be conducted using 25 foot grids and will cover the all areas affected by site 156.2. Site 156.1 shall be surveyed for radiation during the soil sampling survey If "hotspots" are 	

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
156 cont'd		<p>detected, the grid must be tightened to locate the source of the radiation.</p> <p>2 Conduct a soil sampling survey of all areas affected by site 156.1 utilizing undisturbed surface soil scrapings to a depth of 2" Conduct a soil sampling survey of site 156 2 utilizing surface scrapings of undisturbed soil to a depth of 2" and boreholes drilled three feet into the undisturbed soils beneath the waste piles of the soil dump area The soil cores shall be composited to represent 2 feet of soil The surface scrapes for site 156 1 shall be collected using 50 foot grids The surface scrapes and boreholes for site 156.2 shall be located on 50' centers around the perimeter of the site where dumping has occurred The boreholes and surface scrapes for site 156 2 shall also be taken from "hot-spots" located during the radiometric survey. All samples will be analyzed for total plutonium, total americium, uranium 233/234, uranium 235, uranium 238, gross alpha and, gross beta.</p>	
160	Bldg 444 Parking Lot	1. Submit the report(s) documenting the radiometric survey conducted from 1975 - 1983 and any cleanup activities for these sites	
161	Bldg 664	<p>2 Submit the results of the Aerial Radiological Measuring System (ARMS) survey which documented the elevated gamma-radiation exposure rates for site 161</p> <p>3 Complete a real time soil gas analysis over the entire areas of sites 160 and 161 using 50 offset grid intervals The soil gas analysis will utilize a portable GC. The detection limits for the following compounds shall be proposed in the Workplan. The soil gas survey shall analyze for the volatiles</p>	

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
160/161 cont'd		<p>1,1,1 TCA, PCE, carbon tetrachloride, acetone, toluene and benzene The analysis shall note analytical peaks for compounds not calibrated for on the GC. Boreholes shall be constructed to transect plumes identified by the soil gas analysis Boreholes shall be constructed, on a random basis, to investigate one of every 25 soil gas survey locations to verify the presence or non-presence of volatiles or radioactive materials at specific locations within the site Boreholes shall also be constructed to transect any plume identified after conducting the soil gas survey All boreholes shall be drilled three feet into the weathered bedrock. Composite samples shall be collected from every 2 foot interval and analyzed for HSL volatiles and HSL semi-volatiles utilizing calibrated GC/MS A six foot composite shall also be collected from the uppermost interval of soil Prior to constructing the boreholes, 2" surface scrapes shall be collected The upper six feet and the 2" surface scrape shall be analyzed for total uranium, total plutonium, gross alpha and gross beta. The transecting boreholes shall be completed as alluvial groundwater monitoring wells. The wells shall be sampled and analyzed immediately upon completion and quarterly thereafter The groundwater samples shall be analyzed for HSL volatiles, HSL semi-volatiles, HSL metals, total plutonium, total uranium, gross alpha and gross beta.</p> <p>4 Determine and verify the destination of the soils excavated during the removal activities described as occurring in the early 1970s</p>	
162	Radioactive Site 700 Area Site #2	<p>1. Submit all documentation identifying where the radioactive areas are and what</p>	

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
162 cont d		was done to 8th street.	
		2. Locate, sample and mark the radioactive portions of 8th Street which were covered by road surfacing	
164	Radioactive Sites-800 Area	1. Submit the results of the Aerial Radiological Measuring System (ARMS) survey which documented the elevated gamma-radiation exposure rates for site 164 1	
164 1	Concrete Slab		
164.2	Bldg 886 Spills		
164 3	Bldg 889 Storage Pad		
		2. Conduct a radiation survey using a G-M shielded pancake detector and side-shielded FIDLER of the areas affected by sites 164.1, 164.2 and 164.3. The survey shall be conducted using 25 foot grids and will cover the all areas affected by these sites. If surfacing exists over affected soils, 2" surface scrapes shall be collected prior to constructing boreholes required for this site. If the surfacing has been affected the surfacing shall be sampled and analyzed for radioactive constituents. If "hotspots" are detected, the grid must be tightened to locate the source of the radiation	
		3. Conduct a soil sampling survey of all areas affected by sites 164.1, 164 2 and 164.3 utilizing surface soil scrapings to a depth of 2 inches and 6 foot boreholes composited to represent 2 feet of soil and six feet of soil. The surface and borehole composite samples shall be collected at locations indicated as radioactive after conducting the radioactive survey. The workplan to be submitted for this group of sites shall propose borehole locations for those radiation survey grid locations which are presently covered with surfacing. The six foot borehole composite and surface scrape samples shall be analyzed	

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
164 cont,d		for total plutonium, total americium, uranium 233/234, uranium 235, uranium 238, gross alpha, and gross beta. The two foot composites shall be analyzed for HSL volatiles and HSL semi-volatiles.	

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

Operable Unit 10-Releases from Non-Discernible Units

SITE	SITE NAME	REQUIRED ACTION	REQUIRED
NUMBER	SITE NAME	REQUIRED ACTION	COMPLETION/SUBMITTAL DATE
198	VOC's in the Groundwater	1. Based on the investigations required as a result of this agreement and continuing CERCLA investigations, groundwater contamination remediation plans will be submitted for the site groups as required of the facility, reviewed and approved by CDH and EPA and implemented by the facility as required by CDH and EPA	1. As required by through specific remedial actions conducted through out the site
199	Contamination of the Land's Surface	1. Submit a report detailing the history of the remedy ordered by the U.S. District Court pursuant to the land owner's suit settled July 10, 1985, the implementation of the remedy, and the effectiveness of the remedy. Within this report include a health assessment identifying the public health risk associated with potential exposure to the public prior to completing any site remediation, during implementation of the remedy, and after completion of the Settlement Agreement imposed remedy. This report must detail the effectiveness of the remedy and the risks associated with a no action alternative as well as detailing the risks associated with plausible exposure during implementation of the remedy and after completion of the remedy.	1. Submit the required report in accordance with the schedules in Table 6 of the SOW.
200	Great Western Reservoir	1. Submit all known and accumulated data describing, detailing or defining contamination within the reservoir and tributarys of the reservoir including surface and groundwater sources. 2. Submit a health risk assessment documenting the risks derived from all potential exposures associated with a no action alternative for remediation of the contamination.	1. Submit the required reports in accordance with the schedules in Table 6 of the SOW

Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites

SITE NUMBER	SITE NAME	REQUIRED ACTION	REQUIRED COMPLETION/SUBMITTAL DATE
201	Standley Reservoir	<ol style="list-style-type: none"> 1. Submit all known and accumulated data describing, detailing or defining contamination within the reservoir and tributarys of the reservoir including surface and groundwater sources. 2. Submit a health risk assessment documenting the risks derived from all potential exposures associated with a no action alternative for remediation of the contamination 	<ol style="list-style-type: none"> 1. Submit the required reports in accordance with the schedules in Table 6 of the SOW.
202	Mower Reservoir	<ol style="list-style-type: none"> 1. Submit all known and accumulated data describing, detailing or defining contamination within the reservoir and tributarys of the reservoir including surface and groundwater sources. 2. Submit a health risk assessment documenting the risks derived from all potential exposures associated with a no action alternative for remediation of the contamination. 	<ol style="list-style-type: none"> 1. Submit the required reports in accordance with the schedules in Table 6 of the SOW.

12-11-11

Table 6:
FEDERAL FACILITY AGREEMENT AND
CONSENT ORDER MILESTONE SCHEDULE

SITE WIDE ACTIVITIES

BACKGROUND STUDY

- Submit Draft Background Study Report (Water) - December 15, 1989
- Submit Draft Background Study Report (Soils) - January 2, 1990

COMMUNITY RELATIONS

- Submit Draft Community Survey Plan - January 23, 1990
- Submit Final Community Survey Plan - March 22, 1990
- Submit Draft Community Relations Plan - September 18, 1990
- Submit Final Community Relations Plan - November 15, 1990
- Submit Community Relations Plan Responsiveness Summary - April 5, 1991

HISTORICAL RELEASE REPORT

- Submit Draft Historical Release Report - April 29, 1991
- Submit Final Historical Release Report - September 24, 1991

HEALTH AND SAFETY PLAN

- Submit Draft Health and Safety Plan - June 27, 1990
- Submit Final Health and Safety Plan - November 21, 1990

PLAN FOR PREVENTION OF CONTAMINANT DISPERSION

- Submit Draft Plan for Prevention of Contaminant Dispersion - July 26, 1990
- Submit Final Plan for Prevention of Contaminant Dispersion - January 2, 1991
- Submit Responsiveness Summary on Plan for Prevention of Contaminant Dispersion - May 24, 1991

QA PROGRAM

- Submit Draft Quality Assurance Program - July 26, 1990
- Submit Final Quality Assurance Program - January 2, 1991

DISCHARGE LIMITS FOR RADIONUCLIDES (WORKPLAN)

- Submit Draft Workplan for Discharge Limits for Radionuclides - August 24, 1990
- Submit Final Workplan for Discharge Limits for Radionuclides - January 29, 1991

Table 6:
FEDERAL FACILITY AGREEMENT AND
CONSENT ORDER MILESTONE SCHEDULE
SITE WIDE ACTIVITIES

SAMPLING AND ANALYSIS PLAN

- Submit Draft Quality Assurance Project Plan - July 26, 1990
- Submit Final Quality Assurance Project Plan - January 2, 1991
- Submit Draft Standard Operating Procedures - July 26, 1990
- Submit Final Standard Operating Procedures - January 2, 1991

TREATABILITY STUDY

- Submit Draft Treatability Study Plan - July 26, 1990
- Submit Final Treatability Study Plan - November 21, 1990
- Submit Draft Treatability Study Report - February 26, 1993
- Submit Final Treatability Study Report - July 26, 1993

Table 6:
FEDERAL FACILITY AGREEMENT AND
CONSENT ORDER MILESTONE SCHEDULE

OU 1
881 HILLSIDE

OU 1 PHASE III RCRA FACILITY INVESTIGATION/REMEDIAL INVESTIGATION (RFI/RI)

- Submit Draft Phase III RFI/RI Workplan - February 6, 1990
- Submit Final Phase III RFI/RI Workplan - July 2, 1990
- Submit Draft Phase III RFI/RI Report - September 10, 1991
- Submit Final Phase III RFI/RI Report - January 14, 1992

OU 1 CORRECTIVE MEASURES STUDY/FEASIBILITY STUDY (CMS/FS) AND TITLE I DESIGN

- Submit Draft CMS/FS Report - January 14, 1992
- Submit Final CMS/FS Report - May 8, 1992

OU 1 CORRECTIVE AND REMEDIAL ACTION PROPOSED PLAN (PP)

- Submit Draft PP - August 7, 1992
- Submit Final PP - October 7, 1992
- Submit Responsiveness Summary - March 11, 1993

OU 1 CORRECTIVE ACTION DECISION AND RECORD OF DECISION (CAD/ROD)

- Submit Draft CAD/ROD - September 8, 1993
- Submit Final CAD/ROD - November 5, 1993

OU 1 CORRECTIVE/REMEDIAL DESIGN (CD/RD)

- Submit Draft CD/RD Plans - October 5, 1993
- Submit Final CD/RD Plans - January 12, 1994

Table 6:
FEDERAL FACILITY AGREEMENT AND
CONSENT ORDER MILESTONE SCHEDULE

OU 1
881 HILLSIDE

OU 1 CORRECTIVE ACTION/REMEDIAL ACTION (CA/RA)

- **Begin CA/RA Construction - July 11, 1994**
- **End CA/RA Construction - July 11, 1995**
- **Submit Performance Assessment Report - October 9, 1995**

OU 1 INTERIM MEASURE/INTERIM REMEDIAL ACTION (IM/IRA)

- **Submit Draft Proposed IM/IRA Decision Document - September 18, 1989**
- **Submit Proposed IM/IRA Decision Document - October 6, 1989**
- **Submit Final IM/IRA Decision Document - January 5, 1990**
- **Submit IM/IRA Implementation Document - June 22, 1990**
- **Begin Phase I IM/IRA Construction - January 15, 1989**
- **Begin Phase IB IM/IRA Construction - May 7, 1990**
- **Begin Phase IIA IM/IRA Construction - August 24, 1990**
- **Begin Phase IIB IM/IRA Construction - January 2, 1991**
- **Complete IM/IRA Construction - April 26, 1991**
- **Begin IM/IRA Testing - December 18, 1990**

Table 6:
FEDERAL FACILITY AGREEMENT AND
CONSENT ORDER MILESTONE SCHEDULE

OU 2
MEDIUM PRIORITY SITES

OU 2 PHASE II RCRA FACILITY INVESTIGATION/REMEDIAL INVESTIGATION (RFI/RI)

- Submit Draft Phase II RFI/RI Workplan (Alluvial) - December 21, 1989
- Submit Final Phase II RFI/RI Workplan (Alluvial) - May 17, 1990
- Submit Draft Phase II RFI/RI Workplan (Bedrock) - November 13, 1990
- Submit Final Phase II RFI/RI Workplan (Bedrock) - April 18, 1991
- Submit Draft Phase II RFI/RI Report - August 21, 1992
- Submit Final Phase II RFI/RI Report - January 26, 1993

OU 2 CORRECTIVE MEASURES STUDY/FEASIBILITY STUDY (CMS/FS) AND TITLE I DESIGN

- Submit Draft CMS/FS Report - December 18, 1992
- Submit Final CMS/FS Report - May 21, 1993

OU 2 CORRECTIVE AND REMEDIAL ACTION PROPOSED PLAN (PP)

- Submit Draft PP - August 20, 1993
- Submit Final PP - October 20, 1993
- Submit Responsiveness Summary - March 24, 1994

OU 2 CORRECTIVE ACTION DECISION/RECORD OF DECISION (CAD/ROD)

- Submit Draft CAD/ROD - September 21, 1994
- Submit Final CAD/ROD - December 20, 1994

OU 2 CORRECTIVE DESIGN/REMEDIAL DESIGN (CD/RD)

- Submit Draft CD/RD Plans - October 18, 1994
- Submit Final CD/RD Plans - January 25, 1995

OU 2 CORRECTIVE ACTION/REMEDIAL ACTION (CA/RA)

- Begin CA/RA Construction - June 22, 1995
- Complete CA/RA Construction - June 21, 1996
- Submit Performance Assessment Report - September 19, 1996

**Table 6:
FEDERAL FACILITY AGREEMENT AND
CONSENT ORDER MILESTONE SCHEDULE**

**OU 2
MEDIUM PRIORITY SITES**

OU 2 INTERIM MEASURE/INTERIM REMEDIAL ACTION (IM/IRA)

- **Submit Draft Proposed IM/IRA Decision Document - December 1, 1989**
- **Submit Proposed IM/IRA Decision Document - February 6, 1990**
- **Submit Final IM/IRA Decision Document - April 4, 1990**
- **Submit IM/IRA Implementation Document - September 19, 1990**
- **Begin Phase I IM/IRA Construction - November 15, 1990**
- **Complete Phase I IM/IRA Construction - March 26, 1991**
- **Begin IM/IRA Testing - March 26, 1991**

**Table 6:
FEDERAL FACILITY AGREEMENT AND
CONSENT ORDER MILESTONE SCHEDULE**

**OU 3
SOLAR PONDS (SWMU 101)
PRESENT LANDFILL (SWMU 114)
WEST SPRAY FIELD (SWMU 168)
ORIGINAL PROCESS WASTE LINES (SWMU 121)
OTHER OUTSIDE CLOSURES (SWMUs 124, 129, 174,
175, 176, 177, 181, 182, 205, 206, 207, 208, 213, and 214)**

OU 3 SOLAR PONDS PHASE I RCRA FACILITY INVESTIGATION/REMEDIAL INVESTIGATION (RFI/RI)

- Submit Draft Phase I RFI/RI Workplan - April 26, 1990
- Submit Final Phase I RFI/RI Workplan - August 23, 1990
- Submit Draft Phase I RFI/RI Report - January 2, 1992
- Submit Final Phase I RFI/RI Report - May 28, 1992

OU 3 SOLAR PONDS PHASE I INTERIM MEASURE/INTERIM REMEDIAL ACTION (IM/IRA)

- Submit Draft Phase I Proposed IM/IRA Decision Document - April 28, 1992
- Submit Phase I Proposed IM/IRA Decision Document - October 22, 1992
- Submit Phase I Final IM/IRA Decision Document - February 25, 1993
- Submit Phase I IM/IRA Implementation Document - September 23, 1993
- Begin Phase I IM/IRA Construction - March 28, 1994
- Complete Phase I IM/IRA Construction - June 24, 1994
- Submit Performance Assessment Report - July 26, 1994

OU 3 SOLAR PONDS PHASE II RFI/RI

- Submit Draft Phase II RFI/RI Workplan - August 25, 1992
- Submit Final Phase II RFI/RI Workplan - January 2, 1993
- Submit Draft Phase II RFI/RI Report - July 21, 1994
- Submit Final Phase II RFI/RI Report - January 2, 1995

OU 3 SOLAR PONDS PHASE II CORRECTIVE MEASURES STUDY/FEASIBILITY STUDY (CMS/FS)

- Submit Draft Phase II CMS/FS Report - November 15, 1994
- Submit Final Phase II CMS/FS Report - March 21, 1995

OU 3 SOLAR PONDS PHASE II CORRECTIVE AND REMEDIAL ACTION PROPOSED PLAN (PP)

- Submit Draft Phase II PP - September 18, 1995
- Submit Final Phase II PP - February 20, 1996
- Submit Phase II Responsiveness Summary - July 17, 1996

**Table 6:
FEDERAL FACILITY AGREEMENT AND
CONSENT ORDER MILESTONE SCHEDULE**

**OU 3
SOLAR PONDS (SWMU 101)
PRESENT LANDFILL (SWMU 114)
WEST SPRAY FIELD (SWMU 168)
ORIGINAL PROCESS WASTE LINES (SWMU 121)
OTHER OUTSIDE CLOSURES (SWMUs 124, 129, 174,
175, 176, 177, 181, 182, 205, 206, 207, 208, 213 and 214)**

**OU 3 SOLAR PONDS PHASE II CORRECTIVE ACTION DECISION/RECORD OF DECISION
(CAD/ROD)**

- Submit Draft Phase II CAD/ROD - January 21, 1997
- Submit Final Phase II CAD/ROD - March 20, 1997

OU 3 SOLAR PONDS PHASE II CORRECTIVE/REMEDIAL DESIGN (CD/RD)

- Submit Draft CD/RD Plans - October 14, 1997
- Submit Final CD/RD Plans - January 21, 1998

OU 3 SOLAR PONDS PHASE II CORRECTIVE/REMEDIAL ACTION (CA/RA)

- Begin CA/RA Construction - July 20, 1998
- Complete CA/RA Construction - July 20, 1999
- Submit Performance Assessment Report - October 15, 1999

Table 6:
FEDERAL FACILITY AGREEMENT AND
CONSENT ORDER MILESTONE SCHEDULE

OU 3
SOLAR PONDS (SWMU 101)
PRESENT LANDFILL (SWMU 114)
WEST SPRAY FIELD (SWMU 168)
ORIGINAL PROCESS WASTE LINES (SWMU 121)
OTHER OUTSIDE CLOSURES (SWMUs 124, 129, 174,
175, 176, 177, 181, 182, 205, 206, 207, 208, 213 and 214)

OU 3 PRESENT LANDFILL PHASE I RFI/RI

- Submit Draft Phase I RFI/RI Workplan - May 7, 1990
- Submit Final Phase I RFI/RI Workplan - September 4, 1990
- Submit Draft Phase I RFI/RI Report - May 14, 1992
- Submit Final Phase I RFI/RI Report - October 9, 1992

OU 3 PRESENT LANDFILL PHASE I IM/IRA

- Submit Draft Phase I Proposed IM/IRA Decision Document - June 5, 1992
- Submit Phase I Proposed IM/IRA Decision Document - November 20, 1992
- Submit Phase I Final IM/IRA Decision Document - March 29, 1993
- Submit Phase I IM/IRA Implementation Document - September 22, 1993
- Begin Phase I IM/IRA Construction - March 29, 1994
- Complete Phase I IM/IRA Construction - June 27, 1994
- Submit Performance Assessment Report - July 27, 1994

OU 3 PRESENT LANDFILL PHASE II RFI/RI

- Submit Draft Phase II RFI/RI Workplan - May 12, 1993
- Submit Final Phase II RFI/RI Workplan - September 8, 1993
- Submit Draft Phase II RFI/RI Report - April 7, 1995
- Submit Final Phase II RFI/RI Report - September 5, 1995

OU 3 PRESENT LANDFILL PHASE II CMS/FS

- Submit Draft Phase II CMS/FS Report - May 8, 1995
- Submit Final Phase II CMS/FS Report - September 1, 1995

OU 3 PRESENT LANDFILL PHASE II CORRECTIVE AND REMEDIAL ACTION PP

- Submit Draft Phase II PP - March 7, 1996
- Submit Final Phase II PP - August 2, 1996
- Submit Phase II Responsiveness Summary - January 7, 1997

**Table 6:
FEDERAL FACILITY AGREEMENT AND
CONSENT ORDER MILESTONE SCHEDULE**

OU 3
SOLAR PONDS (SWMU 101)
PRESENT LANDFILL SWMU (114)
WEST SPRAY FIELD (SWMU 168)
ORIGINAL PROCESS WASTE LINES (SWMU 121)
**OTHER OUTSIDE CLOSURES (SWMUs 124, 129, 174,
175, 176, 177, 181, 182, 205, 206, 207, 208, 213 and 214)**

OU 3 PRESENT LANDFILL PHASE II CAD/ROD

- Submit Draft Phase II CAD/ROD - July 3, 1997
- Submit Final Phase II CAD/ROD - September 3, 1997

OU 3 PRESENT LANDFILL PHASE II CD/RD

- Submit Draft CD/RD Plans - April 6, 1998
- Submit Final CD/RD Plans - July 3, 1998

OU 3 PRESENT LANDFILL PHASE II CA/RA

- Begin CA/RA Construction - January 8, 1999
- Complete CA/RA Construction - January 10, 2000
- Submit Performance Assessment Report - April 7, 2000

Table 6:
FEDERAL FACILITY AGREEMENT AND
CONSENT ORDER MILESTONE SCHEDULE

OU 3
SOLAR PONDS (SWMU 101)
PRESENT LANDFILL (SWMU 114)
WEST SPRAY FIELD (SWMU 168)
ORIGINAL PROCESS WASTE LINES (SWMU 121)
OTHER OUTSIDE CLOSURES (SWMUs 124, 129, 174,
175, 176, 177, 181, 182, 205, 206, 207, 208, 213 and 214)

OU 3 WEST SPRAY FIELD PHASE I RFI/RI

- Submit Draft Phase I RFI/RI Workplan - April 26, 1990
- Submit Final Phase I RFI/RI Workplan - August 23, 1990
- Submit Draft Phase I RFI/RI Report - September 27, 1991
- Submit Final Phase I RFI/RI Report - March 2, 1992

OU 3 WEST SPRAY FIELD PHASE I IM/IRA

- Submit Draft Phase I Proposed IM/IRA Decision Document - January 31, 1992
- Submit Phase I Proposed IM/IRA Decision Document - June 26, 1992
- Submit Phase I Final IM/IRA Decision Document - October 22, 1992
- Submit Phase I IM/IRA Implementation Document - April 26, 1993
- Begin Phase I IM/IRA Construction - October 22, 1993
- Complete Phase I IM/IRA Construction - January 28, 1994
- Submit Performance Assessment Report - February 28, 1994

OU 3 WEST SPRAY FIELD PHASE II RFI/RI

- Submit Draft Phase II RFI/RI Workplan - May 29, 1992
- Submit Final Phase II RFI/RI Workplan - September 25, 1992
- Submit Draft Phase II RFI/RI Report - April 25, 1994
- Submit Final Phase II RFI/RI Report - September 20, 1994

OU 3 WEST SPRAY FIELD PHASE II CMS/FS

- Submit Draft Phase II CMS/FS Report - May 23, 1994
- Submit Final Phase II CMS/FS Report - January 24, 1995

OU 3 WEST SPRAY FIELD PHASE II CORRECTIVE AND REMEDIAL ACTION PP

- Submit Draft Phase II PP - July 21, 1995
- Submit Final Phase II PP - January 2, 1996
- Submit Phase II Responsiveness Summary - May 20, 1996

Table 6:
FEDERAL FACILITY AGREEMENT AND
CONSENT ORDER MILESTONE SCHEDULE

OU 3
SOLAR PONDS (SWMU 101)
PRESENT LANDFILL (SWMU 114)
WEST SPRAY FIELD (SWMU 168)
ORIGINAL PROCESS WASTE LINES (SWMU 121)
OTHER OUTSIDE CLOSURES (SWMUs 124, 129, 174,
175, 176, 177, 181, 182, 205, 206, 207, 208, 213 and 214)

OU 3 WEST SPRAY FIELD PHASE II CAD/ROD

- Submit Draft Phase II CAD/ROD - November 14, 1996
- Submit Final Phase II CAD/ROD - January 23, 1997

OU 3 WEST SPRAY FIELD PHASE II CD/RD

- Submit Draft CD/RD Plans - August 18, 1997
- Submit Final CD/RD Plans - November 14, 1997

OU 3 WEST SPRAY FIELD PHASE II CA/RA

- Begin CA/RA Construction - May 21, 1998
- Complete CA/RA Construction - May 21, 1999
- Submit Performance Assessment Report - August 19, 1999

**Table 6:
FEDERAL FACILITY AGREEMENT AND
CONSENT ORDER MILESTONE SCHEDULE**

**OU 3
SOLAR PONDS (SWMU 101)
PRESENT LANDFILL (SWMU 114)
WEST SPRAY FIELD (SWMU 168)
ORIGINAL PROCESS WASTE LINES (SWMU 121)
OTHER OUTSIDE CLOSURES (SWMUs 124, 129, 174,
175, 176, 177, 181, 182, 205, 206, 207, 208, 213 and 214)**

OU 3 ORIGINAL PROCESS WASTE LINES PHASE I RFI/RI

- Submit Draft Phase I RFI/RI Workplan - April 26, 1990
- Submit Final Phase I RFI/RI Workplan - August 23, 1990
- Submit Draft Phase I RFI/RI Report - December 10, 1991
- Submit Final Phase I RFI/RI Report - May 12, 1992

OU 3 ORIGINAL PROCESS WASTE LINES PHASE I IM/IRA

- Submit Draft Phase I Proposed IM/IRA Decision Document - May 12, 1992
- Submit Phase I Proposed IM/IRA Decision Document - October 23, 1992
- Submit Final Phase I IM/IRA Decision Document - February 26, 1993
- Submit Phase I IM/IRA Implementation Document - August 23, 1993
- Begin Phase I IM/IRA Construction - February 28, 1994
- Complete Phase I IM/IRA Construction - May 26, 1994
- Submit Performance Assessment Report - June 27, 1994

**(PHASE II TO BE INCORPORATED INTO OTHER OUTSIDE CLOSURE PHASE II
ACTIVITIES)**

**Table 6:
FEDERAL FACILITY AGREEMENT AND
CONSENT ORDER MILESTONE SCHEDULE**

OU 3
SOLAR PONDS (SWMU 101)
PRESENT LANDFILL (SWMU 114)
WEST SPRAY FIELD (SWMU 168)
ORIGINAL PROCESS WASTE LINES (SWMU 121)
OTHER OUTSIDE CLOSURES SWMUs 124, 129, 174,
175, 176, 177, 181, 182, 205, 206, 207, 208, 213 and 214)

OU 3 OTHER OUTSIDE CLOSURES PHASE I RFI/RI

- Submit Draft Phase I RFI/RI Workplan - July 5, 1990
- Submit Final Phase I RFI/RI Workplan - October 31, 1990
- Submit Draft Phase I RFI/RI Report - October 26, 1992
- Submit Final Phase I RFI/RI Report - March 2, 1993

OU 3 OTHER OUTSIDE CLOSURES PHASE I IM/IRA

- Submit Draft Phase I Proposed IM/IRA Decision Document - November 5, 1992
- Submit Phase I Proposed IM/IRA Decision Document - July 28, 1993
- Submit Final Phase I IM/IRA Decision Document - November 22, 1993
- Submit Phase I IM/IRA Implementation Document - May 25, 1994
- Begin Phase I IM/IRA Construction - December 22, 1994
- Complete Phase I IM/IRA Construction - March 28, 1995
- Submit Performance Assessment Report - April 27, 1995

**Table 6:
FEDERAL FACILITY AGREEMENT AND
CONSENT ORDER MILESTONE SCHEDULE**

**OU 3
SOLAR PONDS (SWMU 101)
PRESENT LANDFILL (SWMU 114)
WEST SPRAY FIELD (SWMU 168)
ORIGINAL PROCESS WASTE LINES (SWMU 121)
OTHER OUTSIDE CLOSURES SWMUs 124, 129, 174,
75, 176, 177, 181, 182, 205, 206, 207, 208, 213 and 214)**

**OU 3 OTHER OUTSIDE CLOSURES (AND ORIGINAL PROCESS WASTE LINES) PHASE II
RFI/RI**

- Submit Draft Phase II RFI/RI Workplan - May 31, 1993
- Submit Final Phase II RFI/RI Workplan - November 18, 1993
- Submit Draft Phase II RFI/RI Report - June 19, 1995
- Submit Final Phase II RFI/RI Report - November 13, 1995

**OU 3 OTHER OUTSIDE CLOSURES (AND ORIGINAL PROCESS WASTE LINES) PHASE II
CMS/FS**

- Submit Draft Phase II CMS/FS Report - July 18, 1995
- Submit Final Phase II CMS/FS Report - March 18, 1996

**OU 3 OTHER OUTSIDE CLOSURES (AND ORIGINAL PROCESS WASTE LINES) PHASE II
CORRECTIVE AND REMEDIAL ACTION PP**

- Submit Draft Phase II PP - September 13, 1996
- Submit Final Phase II PP - February 17, 1997
- Submit Phase II Responsiveness Summary - June 16, 1997

**OU 3 OTHER OUTSIDE CLOSURES (AND ORIGINAL PROCESS WASTE LINES) PHASE II
CAD/ROD**

- Submit Draft Phase II CAD/ROD - December 12, 1997
- Submit Final Phase II CAD/ROD - February 18, 1998

**Table 6: (CONT.)
FEDERAL FACILITY AGREEMENT AND
CONSENT ORDER MILESTONE SCHEDULE**

OU 3
SOLAR PONDS (SWMU 101)
PRESENT LANDFILL (SWMU 114)
WEST SPRAY FIELD (SWMU 168)
ORIGINAL PROCESS WASTE LINES (SWMU 121)
**OTHER OUTSIDE CLOSURES SWMUs 124, 129, 174,
175, 176, 177, 181, 182, 205, 206, 207, 208, 213 and 214)**

**OU 3 OTHER OUTSIDE CLOSURES (AND ORIGINAL PROCESS WASTE LINES) PHASE II
CD/RD**

- Submit Draft CD/RD Plans - September 14, 1998
- Submit Final CD/RD Plans - January 2, 1999

**OU 3 OTHER OUTSIDE CLOSURES (AND ORIGINAL PROCESS WASTES LINES) PHASE II
CA/RA**

- Begin CA/RA Construction - June 17, 1999
- Complete CA/RA Construction - June 16, 2000
- Submit Performance Assessment Report - September 14, 2000

Table 6:
FEDERAL FACILITY AGREEMENT AND
CONSENT ORDER MILESTONE SCHEDULE

OU 4
PRIORITY DRAINAGES

OU 4 PHASE I RCRA FACILITY INVESTIGATION/REMEDIAL INVESTIGATION (RFI/RI)

- **Submit Draft Phase I RFI/RI Workplan - September 24, 1990**
- **Submit Final Phase I RFI/RI Workplan - February 26, 1991**
- **Submit Draft Phase I RFI/RI Report - January 19, 1993**
- **Submit Final Phase I RFI/RI Report - June 15, 1993**

Table 6:
FEDERAL FACILITY AGREEMENT AND
CONSENT ORDER MILESTONE SCHEDULE

OU 5
700 AREA

OU 5 PHASE I RCRA FACILITY INVESTIGATION/REMEDIAL INVESTIGATION (RFI/RI)

- **Submit Draft Phase I RFI/RI Workplan - September 24, 1990**
- **Submit Final Phase I RFI/RI Workplan - February 26, 1991**
- **Submit Draft Phase I RFI/RI Report - January 27, 1993**
- **Submit Final Phase I RFI/RI Report - July 23, 1993**

Table 6:
FEDERAL FACILITY AGREEMENT AND
CONSENT ORDER MILESTONE SCHEDULE

OU 6
400/800 AREA

OU 6 PHASE I RCRA FACILITY INVESTIGATION/REMEDIAL INVESTIGATION (RFI/RI)

- **Submit Draft Phase I RFI/RI Workplan - December 3, 1990**
- **Submit Final Phase I RFI/RI Workplan - May 6, 1991**
- **Submit Draft Phase I RFI/RI Report - October 30, 1992**
- **Submit Final Phase I RFI/RI Report - April 5, 1993**

Table 6:
FEDERAL FACILITY AGREEMENT AND
CONSENT ORDER MILESTONE SCHEDULE

OU 7
100 AREA

OU 7 PHASE I RCRA FACILITY INVESTIGATION/REMEDIAL INVESTIGATION (RFI/RI)

- **Submit Draft Phase I RFI/RI Workplan - December 21, 1990**
- **Submit Final Phase I RFI/RI Workplan - April 26, 1991**
- **Submit Draft Phase I RFI/RI Report - November 30, 1992**
- **Submit Final Phase I RFI/RI Report - August 26, 1993**

Table 6:
FEDERAL FACILITY AGREEMENT AND
CONSENT ORDER MILESTONE SCHEDULE

OU 8
LOW PRIORITY SITES

OU 8 NO FURTHER ACTION JUSTIFICATION

- **Submit Draft No Further Action Justification Document - October 23, 1990**
- **Submit Final No Further Action Justification Document - March 27, 1991**

Table 6:
FEDERAL FACILITY AGREEMENT AND
CONSENT ORDER MILESTONE SCHEDULE

OU 9
RADIOACTIVE SITES

OU 9 PHASE I RCRA FACILITY INVESTIGATION/REMEDIAL INVESTIGATION (RFI/RI)

- **Submit Draft Phase I RFI/RI Workplan - February 19, 1991**
- **Submit Final Phase I RFI/RI Workplan - July 17, 1991**
- **Submit Draft Phase I RFI/RI Report - January 27, 1994**
- **Submit Final Phase I RFI/RI Report - June 23, 1994**

**Table 6:
FEDERAL FACILITY AGREEMENT AND
CONSENT ORDER MILESTONE SCHEDULE**

**OU 10
OFF-SITE RELEASES**

OU 10 HISTORICAL INFORMATION AND PRELIMINARY HEALTH RISK ASSESSMENT

- **Submit Draft Historical Information and Preliminary Health Risk Assessment Report - October 23, 1990**
- **Submit Final Historical Information and Preliminary Health Risk Assessment Report - February 27, 1991**

OU 10 PHASE I RCRA FACILITY INVESTIGATION/REMEDIAL INVESTIGATION (RFI/RI)

- **Submit Draft Phase I RFI/RI Workplan - October 23, 1991**
- **Submit Final Phase I RFI/RI Workplan - March 31, 1992**
- **Submit Draft Phase I RFI/RI Report - December 6, 1993**
- **Submit Final Phase I RFI/RI Report - May 9, 1994**

ATTACHMENT 4 - HAZARDOUS SUBSTANCE LIST

The materials listed below have been released at the Facility, or pose a threat of release to the environment at the Facility. This list is based on information gathered prior to the effective date of this Agreement and is subject to change dependent on the information gathered after the effective date of this Agreement.

Radionuclides:

- Plutonium 239, 240
- Americium 241
- Uranium 233, 234, 235, and 238
- Tritium
- Gross alpha
- Gross beta

Metals:

- Aluminum
- Beryllium
- Calcium
- Cadmium
- Cobalt
- Chromium
- Barium
- Lead
- Magnesium
- Selenium
- Sodium
- Silver
- Strontium
- Thallium
- Zinc
- Mercury
- Nickel
- Lithium

Inorganics:

- Sulfuric Acid
- Nitric Acid
- Hydrofluoric Acid
- Sodium Hydroxide
- Hydrochloric Acid
- Nitrate
- Sulfate
- Hydroxide

Volatile Organics:

1,1,1-Trichloroethylene
Chloroform
1,1,1-Trichloroethane
Carbon Tetrachloride
1,2-Dichloroethane
Acetone
Perchloroethane
Benzene
Toluene
Methylethyl Ketone Peroxide
Dichloromethane
Xylene
2-Butanone
Methylene Chloride
Methyl Ethyl Ketone

Semi-Volatile Organics:

bis(2-ethylhexyl)phthalate
ethylene glycol

Miscellaneous:

Diesel Fuel
Fuel Oil
Peroxide
Asbestos
Oil Sludge
Polyester Resin
Still Bottom Sands