EM U.S. Department of Energy
Office Of Environmental Management

Lawrence Livermore National Laboratory (Main Site) Federal Facility Agreement Under CERCLA Section 120, November 1, 1988

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AND
THE UNITED STATES DEPARTMENT OF ENERGY
AND THE
CALIFORNIA DEPARTMENT OF HEALTH SERVICES
AND THE
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

IN THE MATTER OF	)	Federal Facility
	)	Agreement Under
	)	CERCLA Section 120
United States Department	)	
Of Energy's Lawrence Livermore	)	Administrative
National Laboratory, Livermore	)	Docket Number:
California and Impacted Environs	)	

Based on the information available to the Parties on the effective date of this Federal Facility Agreement (Agreement), and without trial or adjudication of any issues of fact or law, the Parties agree as follows:

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I. Jurisdiction

Each Party is entering into this Agreement pursuant to the following authorities:

(i) The U.S. Environmental Protection Agency (EPA), Region IX, 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, 42 U.S.C. § 9620(e)(1), as amended by the Superfund Amendments and Reauthorization Act of 1986, Pub. L. 99499 (hereinafter referred to as CERCLA), Sections 6001, 3008(h), and 3004(u) and (v) of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. § 6961, 6928(h), and 6924(u) and (v) as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA) (hereinafter referred to as RCRA), and Executive Order 12580;

(ii) EPA, Region IX, 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, 42 U.S.C. § 4620(e)(2), Sections 6001, 3008(h) and 3004(u) and (v) of RCRA, 42 U.S.C. § 6961, 6928(h), and 6924(u) and (v), and Executive Order 12580;

(iii) The U.S. 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, 42 U.S.C. 59620(e)(1), Sections 6001, 3008(h) and 3004(u) and (v) of RCRA, 42 U.S.C. § 61, 6928(h), and 6924(u) and (v), and Executive Order 12580, the National Environmental Policy Act, 42 U.S.C. § 4321, and the Atomic Energy Act of 1954 (AEA), as amended, 42 U.S.C. § 2011, et seq.;

(iv) 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, 42 U.S.C. 59620(e)(1), Sections 6001, 3008(h) and 3004(u) and (v) of RCRA, 42 U.S.C. § 6961, 6928(h), and 6924(u) and (v), and Executive Order 12580 and the AEA.

(v) The California Department of Health Services (DHS) and the California Regional Water Quality Control Board (RWQCB) enter into this Agreement pursuant to Sections 120 and 121 of CERCLA, 42 U.S.C. § 620 and 9621; RCRA; Division 20, Chapters 6.5 and 6.8 of the State of California Health and Safety Code; and Division 7 of the State of California Water Code.

DOE will take all necessary actions in order to fully effectuate the terms of this Agreement, including undertaking response actions at the Lawrence Livermore National Laboratory, Livermore, California (LLNL), in accordance with Federal and State applicable or relevant and appropriate laws, standards, limitations, criteria, and requirements to the extent consistent with CERCLA.

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II. Definitions

Except as noted below or otherwise explicitly stated, the definitions provided in CERCLA and the National Oil and Hazardous Substances Pollution Contingency Plan, 40 C.F.R. Part 300 (hereinafter National Contingency Plan or NCP), shall control the meaning of the terms used in this Agreement.

In addition:

A. "Agreement" shall refer to this document and shall include all Attachments to this document. All such Attachments shall be appended to and made an integral and enforceable part of this document.

B. "Applicable State Laws" shall mean all laws determined to be applicable under this Agreement. The term shall include but not be limited to all laws determined to be ARARs. It is recognized that in some instances where this phrase is used, there may be no applicable State laws.

C. "ARAR" shall mean "legally applicable" or "relevant and appropriate" laws, standards, requirements, criteria, or limitations as those terms are used in CERCLA 9121(d), 42 U.S.C. 59621 (d).

D. "Authorized Representative" includes a Party's contractors acting in any capacity, including an advisory capacity, when so designated by that party.

E. "CERCLA" shall mean the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. § 601 et sec., as amended by the Superfund Amendments and Reauthorization Act of 1986, Pub. L. 99499.

F. "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, or holiday shall be due on the following business day.

G. "DOE" shall mean the United States Department of Energy, its employees, contractors, agents,

successors, assigns and authorized representatives.

H. "DHS" shall mean the State of California Department of Health Services, its employees and authorized representatives.

I. "EPA" shall mean the United States Environmental Protection Agency, its employees, and authorized representatives.

J. "Feasibility Study" or "FS" shall mean a study that fully evaluates and develops remedial action alternatives to prevent or mitigate the migration or the release of hazardous substances, pollutants, or contaminants at and from the Site.

K. "LLNL" shall mean the Lawrence Livermore National Laboratory, a Federally owned, contractor operated facility located in Alameda County, in California, including all areas identified in Attachment 1.

L. "National Contingency Plan" or "NCP" shall mean the National Oil and Hazardous Substances Pollution contingency Plan, 40 C.F.R. Part 300, and any amendment thereof.

M. "Quality Assured Data" shall mean data that have undergone quality assurance as set forth in the approved Quality Assurance Project Plan.

N. "RCRA" shall mean the Resource Conservation and Recovery Act, 42 U.S.C. § 901 et seq., as amended by the Hazardous and Solid Waste Amendments of 1984, Pub. L. 98616.

O. "Remedial Investigation" or "RI" shall mean an investigation conducted to fully assess the nature and extent of the release or threat of release of hazardous substances, pollutants, or contaminants and to gather necessary data to support the corresponding feasibility study.

P. "RWQCB" shall mean the State of California Regional Water Quality Control Board, San Francisco Bay Region, its employees, and authorized representatives.

Q. "Site" shall include, for the purposes of this Agreement, LLNL, which occupies approximately 800 acres of contiguous land in a location 39 miles east of San Francisco in the Livermore alley of eastern Alameda County adjacent to the eastern edge of the City of Livermore, California, and other areas outside of LLNL contaminated by the migration of a hazardous substance, pollutant, or contaminant from property currently known as LLNL. The term shall have the same meaning as "facility" as defined by Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

R. "Timetables and deadlines" shall mean schedules as well as that work and those actions that 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 Article X (Resolution of Disputes) of this Agreement).

S. "University of California" or "UC" means the University of California, which is, by contract to DOE, the current operator of LLNL.

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III. Purpose of Agreement

A. The general purposes of this Agreement are to:

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

2. Establish a procedural framework and schedule for developing, implementing, and monitoring appropriate response actions at the Site in accordance with CERCLA, the NCP, Superfund guidance and policy, RCRA, and RCRA guidance and policy;

3. Promote ongoing coordination and cooperation between DOE/UC, EPA, DHS, and RWQCB;

4. Minimize the duplication of analysis and documentation;

5. Ensure that remedial action(s) at the Site will be in compliance with Federal and State ARARS;

6. Expedite remedial actions with a minimum of delay due to administrative procedures; and

7. Establish a basis for a determination that the DOE has:

    a. Completed the remedial actions at the Site pursuant to CERCLA and corrective measures pursuant to RCRA;

    b. Completed the remedial actions and corrective measures at the Site, as set forth in this Agreement so as to satisfy Division 20, Chapters 6.5 and 6.8 of the California Health and Safety Code and applicable State laws; and

    c. Completed the RI/FS and remedial actions at the site, as set forth in this Agreement, so as to satisfy the RWQCB Site Cleanup Order 88103, as amended, and Division 7 of the State of California Water Code.

B. Specifically, the purposes of this Agreement are to

1. Establish a framework to comply with the statutory and regulatory requirements for the performance of an RI(s) or the Site to fully assess the nature and extent of any threat to the public health, welfare, or the environment caused by any release and threatened release of hazardous substances, pollutants or contaminants at LLNL and to establish a framework to comply with the statutory and regulatory requirements for the performance of a FS(s) for the Site to identify, evaluate, and select alternatives for the appropriate remedial action(s) to prevent, mitigate, or abate the release or threatened release of hazardous substances, pollutants or contaminants at the Site in accordance with CERCLA.

2. 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.

3. Implement the selected interim and final remedial action(s) in accordance with CERCLA.

4. Provide for continued operation and maintenance of the selected remedial action(s).

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

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IV. Stipulated Facts

For the purpose of this Agreement only, the following constitutes a summary of facts upon which this Agreement is based. None of the facts related herein shall be considered admissions by any Party with respect to any unrelated claims by a Party or any claims by persons not a Party to this Agreement.

A. Lawrence Livermore National Laboratory is a Federally-owned research facility currently operated by the University of California (UC) for the Department of Energy. UC and its employees under contract to DOE are responsible for the operation and maintenance of the facility. UC has at LLNL an Environmental Protection Department having primary responsibility for the environmental investigation and response action projects at LLNL. Consistent with the normal operating relationship between the Parties, it is anticipated by DOE and UC that the response actions pursuant to this Agreement will be carried out by UC with DOE management oversight.

B. LLNL was first used by the Federal Government in the 1940's when the U.S. Navy established it as a Naval Air Station and Naval Air Rework Facility. Prior to the Navy's purchase of the property in 1942, the land was part of a ranch used for raising grain and grazing cattle.

C. From 1950 to 1954, California Research and Development, a subsidiary of Standard Oil, occupied the eastern portion of LLNL.

D. The property was transferred to the U.S. Atomic Energy Commission (a predecessor agency of DOE) in 1952 and was established as the Livermore Branch of the University of California Radiation Laboratory, subsequently known as the Lawrence Livermore National Laboratory (LLNL).

E. LLNL, was initially established as a weapons research laboratory. Other research programs have been added over the years, including laser fusion and laser isotope separation, magnetic fusion energy, biomedical and environmental sciences, and applied energy technology, which require research in basic scientific disciplines, including chemistry and materials science, computer science and technology, engineering, and physics.

F. From the beginning of the use of the property currently known as LLNL by the Federal government, hazardous materials have been used and stored on the property. Solvents, petroleum and other organic chemicals that have been used on said property have been found in the soils and ground water at the Site.

G. In April 1983, LLNL began a ground water study. Part-per-billion concentrations of dichloroethylene (DCE), chloroform, trichloroethylene (TCE), 1,1,1trichloroethane (TCA), tetrachloroethylene (PCE), and other halogenated hydrocarbons were found in ground water beneath

LLNL and in private wells immediately downgradient and west of LLNL. PCE was the principal contaminant in the wells west of the LLNL.

H. In September 1984, a second phase of work was commenced to define the vertical and lateral extent of the ground water pollution at the Site and to provide a better definition of the Site hydrogeology.

I. In 1985, thirty-two monitoring wells were installed at or near LLNL. To date, a total of over 200 monitoring wells have been installed.

J. Investigative work completed to date has shown that there has been more than one point of discharge of hazardous materials into the soil and underlying ground water at the Site. These release points include areas on the property currently known as LLNL where solvents and other chemicals were disposed of, where spillage from outdoor storage facilities occurred, and where releases from underground tanks and pipelines occurred, including a gasoline spill from an underground tank.

K. By 1987, a plume of volatile organic compounds (VOCs) dominated by PCE had migrated off LLNL at a distance of approximately 2,200 feet west of the current LLNL property.

The plume's width was estimated to be approximately 1,700 feet.

L. The Livermore Formation and overlying alluvial deposits contains the aquifers of the Livermore-Amador Valley Ground Water Basin, and is an important water bearing formation. The affected basin underlying the LLNL Site is the Mocho I, which is a subunit within the Livermore Valley Ground Water Basin. Nearby private wells in the Mocho I province are used for irrigation and domestic supply. In the Mocho II basin, the California Water Service operates several municipal wells, the nearest of which is located approximately two and one half miles west of LLNL.

M. The existing and/or potential beneficial uses of the ground water in the Livermore-Amador Valley Ground Water Basin, and its subbasins include: (a) municipal and domestic supply; (b) industrial supply; industrial service supply; and (d) agricultural supply.

N. Surface waters in the vicinity of LLNL, including Arroyo Seco and Arroyo Las Positas are intermittent streams that contribute to the ground water recharge.

O. The existing and/or potential beneficial uses of the surface waters in the Livermore-Amador Valley include: (a) contact and noncontact water recreation; (b) wildlife habitat; ground water recharge; and (d) fish migration and spawning.

P. Some cleanup actions were taken by DOE before and after the passage of the Superfund Amendments and Reauthorization Act of 1986 and prior to this Agreement.

Q. On September 11, 1984, DHS issued an Order for Compliance that made a determination of "... imminent or substantial endangerment ..." to the public health and welfare or the environment, and required provision of alternate drinking water to nearby residences where domestic potable drinking water had been contaminated with hazardous wastes or substances from LLNL. The Order also required submission of a comprehensive ground water investigation plan, including the installation of monitoring wells and sampling of ground water, by September 28, 1984.

R. On November 20, 1985, RWQCB adopted Order No. 85134, Waste Discharge Requirements, which directed investigation and cleanup efforts associated with contamination at the Site. DOE and UC have acted responsibly in pursuing these requirements.

S. On December 17, 1986, RWQCB adopted Order No. 8695, Waste Discharge Requirements, which defines effluent testing and air-stripping treatment requirements for short term discharge to the ground waters generated during well development and ground water hydraulic testing activities.

T. On January 12, 1987, DHS distributed a second draft Hazardous Waste Storage Permit for LLNL. The second draft refers to RWQCB Order No. 8695 Waste Discharge Requirements. LLNL had submitted a RCRA Part B Permit/California Operation Plan application for an incinerator and storage facility on September 25, 1984.

U. EPA included LLNL on the National Priorities List (NPL) as of July 21, 1987. LLNL was included on the NPL because of ground water contamination by hazardous substances, as defined in Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

V. On August 19, 1987, RWQCB adopted Order No. 87108, a Site Cleanup Order for the Site. The Order acknowledged that EPA had commenced negotiations with DOE to enter into an Interagency Agreement for Site investigation and remediation under CERCLA. The Order identified six areas of ground water concern. these are as follows: (1) Southwestern Corner (on-LLNL); (2) Building 403 Gasoline Leak area; (3) Southeastern Corner; (4) South Central Area (TaxiStrip/Old Salvage Yard Area/East Traffic Circle); (5) The Southwestern Corner (off-LLNL); and (6) The Remainder of the Site (including the northwest off-LLNL area).

W. On April 20, 1988, RWQCB adopted National Pollutant discharge Elimination System permit No. CA0029289, Order No. 88065 for DOE and LLNL. The permit provides conditions for discharges of water from three types of short term activities (routine ground water sampling, water well development, and hydraulic testing) and for two types of long term activities (a southwest corner ground water treatment system pilot study and long term remedial action).

X. On June 15, 1988, RWQCB adopted Order No. 88103, a revised Site Cleanup Order for the Site. The revised order considers the Site as a whole and establishes a compliance task schedule that incorporates the CERCLA investigation and remediation process.

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V. Stipulated Determinations

For the purpose of this Agreement only, the following constitutes a summary of the determinations upon which this Agreement is based. None of the determinations related herein shall be considered admissions by any Party with respect to any unrelated claims by a Party or any claims by persons not a Party to this Agreement.

A. LLNL constitutes a facility within the meaning of CERCLA § 01(9), 42 U.S.C. § 601(9) and the State of California Health and Safety Code § 25310.

B. LLNL, for the purpose of this Agreement, is a Federal facility which is subject to, and shall

comply with, CERCLA and RCRA in the same manner and to the same extent, both procedurally and substantively, as any non-governmental entity, including liability under Section 107 of CERCLA, 42 U.S.C. § 607.

C. Section 3004(u) of the Solid Waste Disposal Act, 42 U.S.C. § 924(u), requires that a permit for a treatment, storage, or disposal facility issued after the date of enactment of the Hazardous and Solid Waste Amendments of 1984 (HSWA) provide for corrective action for all releases of hazardous waste or constituents from any solid waste management unit, regardless of the time that the waste was placed in such a unit. In addition, Section 3004(v) of the Solid Waste Disposal Act, 42 U.S.C. § 924(v), requires that corrective action must be taken beyond the facility boundary where necessary to protect human health and the environment unless the owner or operator is unable to obtain the necessary permission to take the corrective action despite the owner or operator's best efforts to do so. DOE is required to comply with these sections in order to receive a final RCRA permit.

D. At some time from the 1940's to the present, "hazardous substances" as defined in Section 101(14) of CERCLA, 42 U.S.C. § 601(14), and Section 25316 of the California Health and Safety Code, were deposited, stored, disposed of, placed, located, or released at the Site or into "Waters of the State," as that term is defined by Section 13050(e) of the California Water Code.

E. There have been releases and there continue to be releases and threatened releases of hazardous substances into the environment within the meaning of CERCLA §§ 101(22), 104, 106, and 107, 42 U.S.C. § 9601(22), 9604, 9606, and 9607, California Health and Safety Code § 5320, and Division 7 of the California Water Code.

F. With respect to releases referred to in Subarticle E above, DOE is a person within the meaning of CERCLA § 107, 42 U.S.C. § 9607, and applicable State laws.

G. From 1952 to the present, DOE has been an "owner or operator" of LLNL within the definition of Section 101(20) of CERCLA, 42 U.S.C. § 601(20), and has been an owner or operator of LLNL within the meaning of section 107(a) of CERCLA, 42 U.S.C. § 607(a) and a "responsible party" as defined in applicable State laws. DOE has also been an owner or operator for purposes of Section 3005 of RCRA.

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VI. Parties

The Parties to this Agreement are EPA, DHS, RWQCB, and DOE. The terms of this Agreement shall apply to and be binding upon EPA, DHS, RWQCB, DOE, their response action contractors for the Site, and all subsequent owners, operators, and lessees of LLNL. This Article shall not be construed as an agreement by the Parties to identify each other or any third party. DOE shall notify its agents, employees, response action contractors for the Site, and all subsequent owners, operators and lessees of LLNL of the existence of this Agreement.

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VII. Statutory Compliance/RCRA-CERCLA Integration

A. The Parties intend to integrate DOE's CERCLA response obligations and RCRA corrective action

obligations which relate to the release(s) of hazardous substances, hazardous wastes, pollutants or contaminants covered by this Agreement into this comprehensive Agreement. Therefore, the Parties intend that activities covered by this Agreement and performed in compliance, with this Agreement, will be deemed to achieve compliance with CERCLA, 42 U.S.C. § 601 et seq.; to satisfy the corrective action requirements of Sections 3004(u) and (v) of RCRA, 42 U.S.C. § 924(u) and (v), for a RCRA permit, and Section 3008(h) of RCRA, 42 U.S.C. § 928(h), for interim status facilities; and to meet or exceed all applicable or relevant and appropriate Federal and State laws and regulations, to the extent required by Section 1121 of CERCLA, 42 U.S.C. § 621.

B. Based upon the foregoing, the Parties intend that any remedial action selected, implemented and completed under this Agreement shall be deemed, consistent with Article XXXV (Termination and Satisfaction), 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 corrective action under RCRA with respect to those releases. The Parties agree that with respect to releases of hazardous waste covered by this Agreement, RCRA shall be considered an applicable or relevant and appropriate requirement pursuant to Section 121 of CERCLA, 42 U.S.C. § 621.

C. If a permit is issued to the DOE for ongoing hazardous waste management activities at the Site, the permit shall reference and incorporate any appropriate provisions, including appropriate schedules (and the provision for extension of such schedules), of this Agreement into such permit. The Parties intend that the judicial review of any corrective action requirements cited in any permit conditions which reference this Agreement shall, to the extent authorized by law, only be reviewed under the provisions of CERCLA.

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VIII. Scope of Agreement

A. **Remedial Investigation**

DOE agrees it shall conduct a RI(s) for the Site (including any operable unit at the Site) [1] which is in accordance with the timetables and deadlines set forth in Attachment 3 to this Agreement. The RI (s) shall meet the purposes set forth in Article III (Purpose of Agreement) of this Agreement.

B. **Feasibility Study**

DOE agrees it shall conduct a FS(s) for the Site (including any operable unit of the Site) which is in accordance with the timetables and deadlines set forth in Attachment 3 to this Agreement. The FS(s) shall meet the purposes set forth in Article III (Purpose of Agreement) of this Agreement.

C. **Remedial Action Selection and Implementation**

Following completion and a review in accordance with Article IX (Consultation) by EPA, DHS, and RWQCB of a RI (including a RI for any operable unit) and the corresponding FS (including a FS for any operable unit) for all or part of the Site, DOE shall, after consultation with EPA, DHS and RWQCB, pursuant to Article IX (Consultation), publish its Proposed Remedial Action Plan [2] or public review and comment in accordance with CERCLA § 17(a), 42 U.S.C. § 617(a), and applicable State law. Upon completion of the public comment period, all Parties will consult with each other about the need for modification of the Proposed Remedial Action Plan and additional public

comment based on public response. When public comment has been properly considered, DOE shall submit its draft Record of Decision in accordance with applicable guidance. A review in accordance with Article IX (Consultation) shall be conducted on the draft Record of Decision. If the Parties agree on the draft Record of Decision, the draft Record of Decision shall be adopted by EPA, DHS, and RWQCB, and DOE will issue the final Record of Decision.[3] If the Parties are unable to reach agreement on the draft Record of Decision, selection of a remedial action shall be made by the EPA Administrator, or his delegates, and EPA shall then prepare the final Record of Decision. The final selection of the remedial action(s) by the EPA Administrator shall be final and shall not be subject to dispute in accordance with Article X (Resolution of Disputes). This does not preclude any rights of the Parties pursuant to Article XXXI (Reservation of Rights). Notice of the final Record of Decision adopted shall be published by DOE with EPA's concurrence and shall be made available to the public prior to the commencement of the remedial action, in accordance CERCLA §§ 17(b), (c), and (d), 42 U.S.C. §§ 617(b), (c), and (d).

Following final selection of the remedial action(s), the DOE shall propose and submit a Remedial Action Implementation Plan for the selected remedial action(s), including appropriate timetables and schedules, to EPA, DHS, and RWQCB for review in accordance with Attachment 3 and Article IX (Consultation). Following such review, DOE shall implement the remedial action(s) in accordance with the then approved requirements and time schedules, which will be specified in a future Attachment to this Agreement in accordance with the Remedial Action Implementation Plan.

D. **Deliverables**

DOE agrees to submit to EPA certain deliverables to fulfill the obligations and meet the purposes of this Agreement. A description of the deliverables and the schedule for their submittal are specified in Attachments 2 and 3 to this Agreement.

E. **Guidance**

EPA, DHS, and RWQCB agree to provide DOE with guidance and to give a timely response to requests for guidance to assist DOE in the performance of the requirements under this Agreement.

F. **Order of Precedence**

In the event of any inconsistency between the Articles of this Agreement and the Attachments to this Agreement, the Articles of this Agreement shall govern unless specifically stated otherwise in this Agreement.

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IX. Consultation with EPA, DHS, and RWQCB: Review and Comment Process for Draft and Final Documents

A. **Applicability**

The provisions of this Article establish the procedures that shall be used by DOE, EPA, DHS, and RWQCB to provide the Parties ,with appropriate notice, review, comment, and response to comments regarding RI/FS and remedial design/remedial action (RD/RA) documents, specified herein as either primary or secondary documents. In accordance with Section 120 of CERCLA, 42 U.S.C. 9620, DOE

will normally be responsible for issuing primary and secondary documents to all parties.

The designation of a document as "draft" or "final" is solely for purposes of consultation with EPA, DHS, and RWQCB in accordance with this Article. Such designation does not affect the obligation of the Parties to issue documents, Which may be referred to herein as "final", to the public for review and comment as appropriate and as required by law.

B. **General Process for RI/FS and RD/RA Documents**

1. Primary documents include those reports that are major, discrete portions of RI/FS or RD/RA activities. Primary documents are initially issued by the DOE in draft subject to review and comment by EPA, DHS, and RWQCB. Following receipt of comments on a particular draft primary document, the DOE will respond to the comments received and issue a draft final primary document subject to dispute resolution. The draft final primary document will become the final primary document thirty, (30) days after the period established for review of a draft final document if resolution is not invoked. If dispute resolution is invoked, the draft final primary document will become the final primary document in accordance with the dispute resolution process described in Article X (Resolution of Disputes).

2. Secondary documents include those documents that are discrete portions of the primary documents and are typically input or feeder documents. Secondary documents are issued by the DOE in draft subject to review and comment by EPA, DHS and RWQCB. Although the DOE will respond to comments received, the draft secondary documents may be finalized in the context of the corresponding primary documents. A secondary document may be disputed at the time the corresponding draft final primary document is issued.

C. **Primary Documents**

1. The DOE shall complete and transmit draft documents for the following primary documents to EPA, DHS, and RWQCB for review and comment in accordance with the provisions of this Article:

    a. RI/FS Work Plan

    b. Quality Assurance Project Plan

    c. Community Relations Plan

    d. RI Report

    e. FS Report

    f. Proposed Remedial Action Plan

    g. Record of Decision

    h. Remedial Action implementation Plan

    i. Remedial Design

2. Only the draft final documents for the primary documents identified above shall be subject to dispute resolution. The DOE shall complete and transmit draft primary documents in accordance with the timetable and deadlines established in Attachment 3 and as described in Attachment 2 of this Agreement.

D. **Secondary Documents**

1. The DOE shall complete and transmit draft documents for the following secondary documents to EPA, DHS, and RWQCB for review and comment in accordance with the provisions of this Article:

    a. Baseline Public Health Risk Assessment

    b. Treatability Studies (if any)

2. Although EPA, DHS, and RWQCB may comment on the draft documents for the secondary documents listed above, such documents shall not be subject to dispute resolution except as provided by Subarticle B hereof. Target dates shall be established for the completion and transmission of draft secondary documents pursuant to Attachment 3 of this Agreement.

E. **Meetings of the Project Managers on Development of Reports**

The Project Managers shall meet approximately every 90 days, except as otherwise agreed by the Parties, to review and discuss the progress of work being performed at the Site and on the primary and secondary documents. Prior to preparing any draft document specified in Subarticles C and D above, the Project Managers shall meet to discuss the report contents in an effort to reach a common understanding, to the maximum extent practicable, with respect to the conclusions to be presented in the draft report.

F. **Identification and Determination of Potential ARARs**

1. For those primary or secondary documents that consist of or include ARAR determinations, prior to the issuance of a draft document, the Project Managers shall meet to identify and propose, to the best of their ability, all potential ARARs pertinent to the document being addressed. Draft ARAR determinations shall be prepared by the DOE in accordance with Section 121(d) of CERCLA, 42 U.S.C. § 621(d), the NCP and pertinent guidance issued by EPA, which is not inconsistent with CERCLA and the NCP.

2. In identifying potential ARARs, the Parties recognize that actual ARARs can be identified only on a site specific basis and that ARARs depend on the specific hazardous substances, pollutants, and contaminants at a site, the particular actions proposed as a remedy, and the characteristics of a site. The Parties recognize that ARAR identification is necessarily an iterative process and that potential ARARs must be re-examined throughout the PI/FS process until a Record of Decision is issued.

G. **Review and Comment on Draft Documents**

1. DOE shall complete and transmit each draft primary document to EPA, DHS, and RWQCB on

or before the corresponding deadline established for the issuance of the document. DOE shall complete and transmit the draft secondary document in accordance with the target dates established for the issuance of such documents established pursuant to Attachment 3 of this Agreement

2. Unless the Parties mutually agree to another time period, all draft documents shall be subject to a 60-day period for review and comment. Review of any document by EPA, DHS and RWQCB 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 CERCLA, the NCP, and any pertinent guidance or policy issued by EPA or DHS. Comments by EPA, DHS, and RWQCB shall be provided with adequate specificity so that DOE may respond to the comment and, if appropriate, make changes to the draft document. Comments shall refer to any pertinent sources of authority or references upon which the comments are based, and, upon DOE's request EPA, DHS, or RWQCB shall provide a copy of the cited authority or reference. In cases involving complex or unusually lengthy documents, EPA, DHS, or RWQCB may extend the 60-day comment period for an additional 30 days by written notice to the DOE prior to the end of the 60-day period. In appropriate circumstances, this time period may be further extended in accordance with Article XIX (Extensions) hereof.

3. Representatives of DOE shall make themselves readily available to EPA, DHS, and RWQCB during the comment period for purposes of informally responding to questions and comments on draft documents. Oral comments made during such discussions need not be the subject of a written response by DOE on the close of the comment period.

4. In commenting on a draft document which contains a proposed ARAR determination, EPA, DHS, and RWQCB shall include a reasoned statement of whether they object to any portion of the proposed ARAR determination. To the extent that EPA, DHS, or RWQCB does object, it shall explain the bases for its objection in detail and shall identify any ARARs which it believes were not properly addressed in the proposed ARAR determination.

5. Following the close of the comment period for a draft document, DOE shall give full consideration to all written comments on the draft document submitted during the comment period. Within 60 days of the close of the comment period on a draft secondary document, DOE shall transmit to EPA, DHS, and RWQCB its written response to comments received within the comment period. Within 60 days of the close of the comment period on a draft primary document, DOE shall transmit to EPA, DHS, and RWQCB a draft final primary document, which shall include the DOE's response to all written comments received within the comment period. While the resulting draft final document shall be the responsibility of DOE, it shall be the product of consensus to the maximum extent possible.

6. DOE may extend the 60-day period for either responding to comments on a draft document or for issuing the draft final primary document for an additional 30 days by providing notice to EPA, DHS, and RWQCB. In appropriate circumstances, this time period may be further extended in accordance with Article XIX (Extensions) hereof.

H. **Availability of Dispute Resolution for Draft Final Primary Documents**

1. Dispute resolution shall be available to the Parties for draft final primary documents as set forth in Article X (Resolution of Disputes).

2. When dispute resolution is invoked on a draft primary document, work may be stopped in accordance with the procedures set forth in Article X (Resolution of Disputes) regarding dispute resolution.

I. **Finalization of Reports**

The draft final primary report shall serve as the final primary report if no party invokes dispute resolution regarding the document or, if invoked, at completion of the dispute resolution process should DOE's position be sustained. If DOE's determination is not sustained in the dispute resolution process, DOE shall prepare, within not more than 35 days after receipt of written resolution of the dispute, a revision of the draft final document which conforms to the results of dispute resolution. In appropriate circumstances, the time period for this revision period may be extended in accordance with Article XIX (Extensions) hereof.

J. **Subsequent Modifications of Final Documents**

Following finalization of any primary report pursuant to Subarticle I above, EPA, DHS, RWQCB, or DOE may seek to modify the document, including seeking additional field work, pilot studies, computer modeling or other supporting technical work, only as provided in Subarticles J.1 and J.2 below.

1. EPA, DHS, RWQCB, or DOE may seek to modify a document after finalization if it determines, based on new information (i.e., information that became available, comments received regarding RCRA 3004(u) or (v), 42 U.S.C. 6924(u) or (v) made during a public comment period for a RCRA permit, or conditions that became known, after the report was finalized) that the requested modification is necessary. EPA, DHS, RWQCB, or DOE may seek such a modification by submitting a concise written request to the Project Manager of the other Parties. The request shall specify the nature of the requested modification and how the request is based on new information.

2. In the event that a consensus is not reached by the Project Managers on the need for a modification, either EPA, DHS, RWQCB, or DOE may invoke dispute resolution to determine if such modification shall be conducted. Modification of a document shall be required only upon a showing that: (1) the requested modification is based on significant new information, and (2) the requested modification could be of significant assistance in evaluating impacts on the public health or the environment, in evaluating the selection of remedial alternatives, or in protecting human health and the environment.

3. Nothing in this Article shall alter EPA's, DHS's, or RWQCB's ability to request the performance of additional work pursuant to Article XI (Additional Work) of this Agreement which does not constitute modification of a final document.

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X. Resolution of Disputes

Except as specifically set forth elsewhere in this Agreement, if a dispute arises under this Agreement, the procedures of this Article shall apply.

All Parties to this Agreement shall make reasonable efforts to informally resolve disputes at the Project Manager or immediate supervisor level. If resolution cannot be achieved informally, the procedures of this Part shall be implemented to resolve a dispute.

A. Within thirty (30) days after: (1) the period established for review of a draft final primary document pursuant to Article IX (Consultation) of this Agreement, or (2) any action which leads to or generates a dispute (including a failure of the informal dispute resolution process), the disputing Party shall submit to the other Parties a written statement of dispute setting forth the nature of the dispute, the work affected by the dispute, the disputing Party's position with respect to the dispute, and the information the disputing Party is relying upon to support its position.

B. Prior to any Party's issuance of a written statement of dispute, the disputing Party shall engage the other Parties in informal dispute resolution among the Project managers and/or their immediate supervisors. During the informal dispute resolution process, the Parties shall meet as many times as are necessary to discuss and attempt resolution of the dispute.

C. If agreement cannot be reached on any issue during the informal dispute resolution process, the disputing Party shall forward the written statement of dispute to the Dispute Resolution Committee (DRC), thereby elevating the dispute to the DRC for resolution.

D. The DRC will serve as a forum for resolution of disputes for which agreement has not been reached through informal dispute resolution. The Parties shall each designate one individual and an alternate to serve on the DRC. The individuals designated to serve on the DRC shall be employed at the policy level (Senior Executive Service or equivalent). The EPA designated member on the DRC is the Toxics and Waste Management Division Director of EPA's Region IX (TWMD DD). The DOE's designated member is the Assistant Manager for Environment, Safety, and Quality Assurance. The DHS designated member is the Chief, Site Mitigation Unit, Toxic Substances Control Division, Region 2. The RWQCB designated member is the Division Chief of the appropriate division.

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

F. The SEC will serve as the forum for resolution of disputes for which agreement has not been reached by the DRC. The EPA representative on the SEC is the Regional Administrator of EPA's Region IX. The DOE representative on the SEC is the DOE San Francisco Operations Office Manager. The DHS representative on the SEC is the Section Chief, Toxics Substances Control Division, Region 2. The RWQCB representative on the SEC is the Executive Officer. 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 twenty-one (21) days, EPA's Regional Administrator shall issue a written position on the dispute. DOE, DHS, or RWQCB may, within twenty-one (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 all applicable laws and procedures. In the event that the neither DOE, DHS, nor RWQCB elects to elevate the dispute to the EPA Administrator within the designated twenty-one (21) day elevation period, DOE, DHS, and RWQCB shall be deemed to have agreed with Regional Administrator's written position with respect to the dispute.

G. Upon elevation of a dispute to the Administrator of EPA pursuant to Subarticle F, the Administrator will review and resolve the dispute within twenty-one (21) days. Upon request, and prior to resolving the dispute, the EPA Administrator shall meet and confer with any of the following parties; the Secretary of the DOE, the Deputy Director of DHS, and/or the Chairman of the RWQCB to discuss the issue(s) under dispute. Upon resolution, the Administrator shall provide all Parties with a written final decision setting forth resolution of the dispute. The duties of the Administrator set forth in this Subarticle shall not be delegated.

H. The pendency of any dispute under this Article shall not affect DOE's responsibility for timely performance of the work required by this Agreement, except that the time period for completion of work affected by such dispute shall be extended for a period of time usually not to exceed the actual time taken to resolve any good faith dispute in accordance with the procedures specified herein. All elements of the work required by this Agreement which are not affected by the dispute shall continue and be completed in accordance with the applicable schedule.

I. When dispute resolution is in progress, work affected by the dispute will immediately be discontinued if the TWMD DD requests, in writing, that work related to the dispute be stopped because, in EPA's opinion, such work is inadequate or defective, and such inadequacy or defect is likely to yield an adverse effect on human health or the environment, or is likely to have a substantial adverse effect on the remedy selection or implementation process. To the extent possible, EPA shall give DOE prior notification that a work stoppage request is forthcoming. After stoppage of work, if DOE believes that the work stoppage is inappropriate or may have potential significant adverse impacts, DOE may meet with the TWMD DD to discuss the work stoppage. Following this meeting, consultation with DHS and RWQCB, and further consideration of the issues, the TWMD DD will issue, in writing, a final decision with respect to the work stoppage. The final written decision of the TWMD DD may immediately be subjected to formal dispute resolution. Such dispute may be brought directly to either the DRC or the SEC, at the discretion of DOE, DHS, or RWQCB.

J. Within thirty-five (35) days of resolution of a dispute pursuant to the procedures specified in this Article, DOE shall incorporate the resolution and final determination into the appropriate plan, schedule or procedures and proceed to implement this Agreement according to the amended plan, schedule or procedures.

K. Resolution of a dispute pursuant to this Article of this Agreement constitutes a final resolution of any dispute arising under this Agreement. All Parties shall abide by all terms and conditions of any final resolution of dispute obtained pursuant to this Article of this Agreement. Any resolution of a dispute pursuant to this Agreement shall be incorporated into this Agreement and shall become a term and condition of this Agreement.

L. Resolution of disputes may include a determination of the length of any time extensions which are necessary.

M. Pursuant to this Article, all or a portion of a dispute may be elevated.

N. Authorities set forth to members of the DRC or SEC may only be delegated to persons acting for the designated member during a designated member's absence.

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XI. Additional Work or Modification of Work Before Finalization of a Primary Document

A. Except as provided in Article IX (Consultation), EPA, DHS, or RWQCB may at any time request additional work or modification to work, including minor field modifications, which they believe is necessary to accomplish the purposes of this Agreement. Such requests must be provided in writing to the UC Project Manager, with copies to all other Project Managers. DOE agrees to give full consideration to all such requests. DOE may either accept or reject any such requests received and must do so in writing, with a statement of reasons, within a reasonable period of time. If there is no consensus concerning whether or not the additional work or modification to work should be conducted, dispute resolution may only be invoked at the time of review of the subsequent corresponding primary document, in accordance with the procedures set forth in Article IX (Consultation).

B. Any additional work or modification to work agreed pursuant to Subarticle A shall be completed in accordance with the standards, specifications, and schedule determined or approved by the Parties.

C. Any additional work or modification of work agreed to pursuant to this Agreement shall be governed by the provisions of this Agreement.

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XII. Permits

A. The Parties recognize that under Sections 121(d) and 121(e)(1) of CERCLA, 42 U.S.C. 9621(d) and 9621(e)(1), and the NCP, portions of the response actions called for by this Agreement and conducted entirely on LLNL are exempted from the procedural requirement to obtain a Federal, State, or local permit, but must satisfy all the applicable or relevant and appropriate Federal and State standards, requirements, criteria, or limitations which would have been included in any such permit. When DOE proposes a response action (including a work plan pursuant to this Agreement) to be conducted entirely on LLNL, which in the absence of Section 121(e)(1) of CERCLA, 42 U.S.C. 9621 (e)(1) and the NCP would require a Federal or State permit, and for which DOE does not get a permit, DOE shall include the following information in the submittal to the Parties:

(1) Identification of each permit which would otherwise be required;

(2) Identification of the standards, criteria, or limitations which would have had to have been met to obtain each such permit; and

(3) Explanation of how the response action proposed will meet the standards, requirements, criteria or limitations identified in (2) immediately above. Upon DOE's request EPA, DHS, and RWQCB will provide their positions with respect to (2) and (3) above in a timely manner.

B. Subarticle A above is not intended to relieve DOE from the requirement(s) of obtaining a permit whenever it proposes a response action involving the shipment or movement of a hazardous substance off LLNL.

C. DOE shall be responsible for obtaining all Federal, State, or local permits which are necessary for

the performance of any work under this Agreement. If a permit which is necessary for implementation of this Agreement is not issued, or is issued or renewed in a manner which is materially inconsistent with the requirements of this Agreement, DOE agrees it shall notify EPA, DHS, and RWQCB of its intention to propose modifications to this Agreement to obtain conformance with the permit (or lack thereof). Notification by DOE of its intention to propose modifications shall be submitted within ten (10) business days of receipt by DOE of notification that; (1) a permit will not be issued; (2) a permit has been issued or reissued; or (3) a final determination with respect to any appeal related to the issuance of a permit has been entered. within thirty (30) days from the date it submits its notice of intention to propose modifications, DOE shall submit to EPA, DHS and RWQCB its proposed modifications to this Agreement with an explanation of its reasons in support thereof.

D. If DOE submits proposed modifications prior to a final determination of any appeal taken on a permit needed to implement this Agreement, EPA, DHS, and RWQCB may elect to delay review of the proposed modifications until after such final determination is entered. If EPA elects to delay review, DOE shall continue implementation of this Agreement as provided in Subarticle E of this Article.

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

F. Except as otherwise provided in this Article, DOE shall comply with applicable Federal and State hazardous waste management requirements at the LLNL facility.

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XIII. Imminent Health Hazard/Creation of Danger

A. If an imminent health hazard (e.g., a drinking water well containing any contaminant at concentrations greater than any Federal or State drinking water action level) or an activity conducted pursuant to this Agreement which is creating a danger to the public health or welfare or the environment is discovered by any Party during the efforts covered by this Agreement, the discovering Party will notify DOE and DOE will take immediate action to notify all Parties, potentially affected persons, and all relevant officials, including State and local health officials. In the case of contamination which originates on the site or is the result of activities in connection with the Site, DOE will expeditiously take appropriate measures to protect all persons affected.

B. Notwithstanding any authority EPA or DHS may have, EPA or DHS may request DOE to stop further implementation of this Agreement to abate any danger. DOE will comply with any such request for a minimum period of 24 hours and for any period of time determined to be appropriate by both EPA and DHS.

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XIV. Removal Actions

A. Any removal action conducted on the Site shall be conducted in a mariner consistent with this

Agreement, CERCLA, and the NCP.

B. DOE shall provide the other Parties with timely notice of any proposed removal action.

C. Nothing in this Agreement shall alter the DOE's authority, with respect to removal actions conducted pursuant to Section 104 of CERCLA, 42 U.S.C. 9604.

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XV. Notification

A. Unless otherwise specified, any document or submittal which is required to be provided under this Agreement or notification of any delegation of authority shall be addressed as follows, unless otherwise specified by written notice:

1. EPA:
   Mr. Jeff Zelikson
   Director, Toxics and Waste Management Division
   U.S. EPA Region 9
   215 Fremont Street
   San Francisco, CA 94105
   Attn: Mr. Nicholas Morgan

2. DOE:
   Mr. Terry Vaeth
   Assistant Manager for Defense Programs
   U.S. DOE, San Francisco Operations Office
   1333 Broadway
   Oakland, CA 94612
   Attn: Mr. Joe Cullen

3. DHS:
   Mr. Dwight Hoenig
   Chief, Toxic Substances Control Division, Region 2 California
   Department of Health Services
   2151 Berkeley Way, Annex 7
   Berkeley, CA 94704
   Attn: Mr. Donald Cox

4. RWQCB:
   Mr. Steven Ritchie
   Executive Officer
   California Regional Water Quality Control Board
   1111 Jackson Street
   Oakland, CA 94607
   Attn: Mr. Rico Duazo

5. UC:
   Mr. Richard Ragaini

Head, Environmental Protection Department
Lawrence Livermore National Laboratory
P.O. Box 808, L192
Livermore, CA 94550
Attn: Dr. William Isherwood

B. It is the responsibility of the originating Project Managers to assure that all document submittals are disseminated to all Project Managers, including copies of correspondence, if the correspondence is required to be sent to only one Party under this Agreement.

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XVI. Designated Project Managers

A. EPA, DHS, RWQCB, DOE, and UC will each designate Project Managers to coordinate the implementation of this Agreement, and will notify each other of the designation. The respective Project Managers may be changed by notifying the others in writing.

B. To the maximum extent possible, communications between the DOE/UC, EPA, DHS, and RWQCB, and all documents, including reports, agreements, and other correspondence, concerning the activities performed pursuant to the terms and conditions of this Agreement, shall be directed through the Project Managers. Each Project Manager shall be responsible for assuring internal dissemination and processing of all communications and documents received from the other Project Managers.

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XVII. Quality Assurance and Sampling Availability

A. The Parties shall make available to each other, upon request, results of sampling, tests, or other data generated by any Party, or on their behalf, with respect to the implementation of this Agreement. Quality assured data from all samples collected, analyzed, and reported in the preceding quarter shall be submitted no later than the last day of the following months: February, May, August, and November.

B. At the request of the EPA, DHS, or RWQCB Project Manager, DOE shall allow split or duplicate samples to be taken by EPA, DHS or RWQCB during sample collection conducted during the implementation of this Agreement.

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XVIII. Access, Data/Document Availability

A. EPA, DHS, and RWQCB will be permitted to enter the Site at reasonable times previously arranged and coordinated for the purpose of inspecting records, logs, and other documents relevant to implementation of this Agreement; reviewing the progress of DOE, its contractors, and lessees in carrying out the activities under this Agreement; conducting, with prior notice to DOE, tests which EPA, DHS, or RWQCB deem necessary; and verifying data submitted to EPA, DHS, and RWQCB by DOE. DOE shall honor all reasonable requests for access to the Site made by EPA, DHS, or

RWQCB. EPA, DHS, and RWQCB access shall be subject to requirements which are necessary to protect national security. DOE shall submit to EPA, DHS, and RWQCB, copies of records, and other documents, including sampling and monitoring data, as requested by EPA, DHS, or RWQCB which are relevant to oversight activities.

B. To the extent that activities pursuant to this Agreement must be carried out on property other than LLNL property, DOE agrees to use its best efforts, including exercising its authority, if necessary, to obtain access pursuant to Section 104(e) of CERCLA, 42 U.S.C. 9604(e), from the present owners and/or lessees. DOE shall use its best efforts to obtain access agreements which shall provide reasonable access for DOE, UC, EPA, DHS, and RWQCB and their representatives, and other state regulatory agencies as appropriate.

C. DOE shall use its best efforts to obtain written access agreements with respect to non-DOE property upon which pumping wells, treatment facilities, or other response facilities are to be located. In the event DOE is unable to obtain access within sixty (60) days after the access is sought, DOE shall promptly notify EPA, DHS, and RWQCB regarding both the lack of access and the efforts undertaken to obtain such access. If appropriate, DOE shall submit proposed modifications(s) to this Agreement to EPA, DHS, and RWQCB in response to such inability to obtain access.

D. Information, records, or other documents produced under the terms of this Agreement by EPA and DOE shall be available to the public except; (a) those identified to EPA or DOE as classified within the meaning of and in conformance with AEA, or (b) those that could otherwise be withheld pursuant to the Freedom of Information Act or the Privacy Act, unless expressly authorized for release by the originating agency. Documents or information so identified shall be handled in accordance with those regulations. No document marked draft may be made available to the public without prior consultation with the generating party. If the document is final and no confidentiality claim accompanies information which is submitted to any Party, the information may be made available to the public without further notice to the originating Party.

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XIX. Extensions

A. 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 shall be made prior to the deadline or scheduled deliverable date to EPA or DOE, as appropriate, either in writing or orally with a written follow up request within ten (10) business days. Any oral or written request shall be provided to the other Parties pursuant to Article XV (Notification). The written request shall specify:

1. The timetable and deadline or the schedule that is sought to be extended;
2. The length of the extension sought;
3. The good cause(s) for the extension; and
4. Any related timetable and deadline or schedule that would be affected if the extension were granted.

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

1. An event of force majeure;

2. A delay caused by another Party's failure to meet any requirement of this Agreement;
3. A delay caused by the good faith invocation of dispute resolution or the initiation of judicial action;
4. 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;
5. A delay caused by additional work agreed to by the Parties; and
6. Any other event or series of events mutually agreed to by the Parties as constituting good cause.

C. Absent agreement of the Parties with respect to the existence of good cause, the Parties may seek and obtain a determination through the dispute resolution process whether or not good cause exists.

D. For extension requests by DOE, the decision maker shall be EPA, and EPA will follow the following procedures:

1. Within fourteen (14) days of receipt of a written request for an extension of a timetable and deadline or a schedule, EPA shall advise all Parties in writing of its position on the request. Any failure by EPA to respond within the 14-day period shall be deemed to constitute concurrence with the request for extension. If EPA does not concur with the requested extension, it shall include in its statement of nonconcurrence an explanation of the basis for its position.

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

3. Within fourteen (14) days of receipt of a statement of nonconcurrence with the requested extension, DOE may invoke dispute resolution. If DOE does not invoke dispute resolution ,within fourteen (14) days of receipt of a statement of nonconcurrence, then DOE accepts EPA's nonconcurrence and the existing schedule.

4. 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 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, as defined in Article XXXIII (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.

E. For extension requests by EPA, DHS, and RWQCB, if no Party invokes dispute resolution within fourteen (14) days after written notice of the requested extension, the extension shall be deemed approved.

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XX. Contractor Recommendations

In all cases where EPA contractor reports make recommendations for EPA, these recommendations do not represent the opinion of EPA until concurrence is made in writing.

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XXI. Five Year Review

Consistent with Section 121(c) of CERCLA, 42 U.S.C. § 9621(c), and in accordance with this Agreement, DOE agrees that if the remedial action(s) selected results in hazardous substances, pollutants or contaminants remaining at the site, EPA, DHS, and RWQCB will review the remedial action no less often than once every five (5) years after The initiation of the final remedial action to assure that human health and the environment are being protected by the remedial action(s) being implemented. If, upon such review, it is the judgment of EPA that additional action or modification of a remedial action is appropriate in accordance with Sections 104 or 106 of CERCLA, 42 U.S.C. § 9604 or 9606, EPA shall require DOE to submit a proposal to implement such additional or modified action, which shall be subject to review and approval by EPA. Any dispute under this Article shall be resolved under Article X (Resolution of Disputes) of this Agreement.

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XXII. Retention of Records

DOE shall preserve, during the duration of this Agreement and for a minimum of ten (10) years after the termination and satisfaction of this Agreement, the complete Administrative Record, post-Record of Decision primary and secondary documents and annual reports. After this ten (10) year period, DOE shall notify FPA at least ninety (90) days prior to the destruction or disposal of any such records or documents. Upon request by EPA, DHS, or RWQCB, DOE shall make available any such records or copies of such records.

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XXIII. Administrative Record

A. DOE will establish an Administrative Record, which shall be available to the public at or near the Site. In addition, copies of the current index to the Administrative Record and selected documents from the Administrative Record will be available at a location in the City of Livermore which will provide convenient access to the public. A copy of the current index to the Administrative Record and selected documents will also be available to the public during normal working hours at the DOE San Francisco Operations Office, currently in Oakland, California.

B. The selection of each response action will be based on the Administrative Record, in accordance with CERCLA 5113(k), any regulations promulgated pursuant thereto and applicable guidance. A copy of each Administrative Record or a complete index of each Administrative Record shall be maintained at the EPA Region 9 Office, currently at 215 Fremont Street, San Francisco, California, 94105.

C. DOE will provide EPA with copies of documents generated or possessed by DOE which are included in the Administrative Record. EPA, DHS, and RWQCB will provide DOE with copies of

documents generated by the Party in question which should be included in the Administrative Record.

D. Upon establishment of an Administrative Record, DOE shall provide EPA, DHS, and RWQCB with an index of the Administrative Record. The index shall identify the documents which will comprise the Administrative Record for each decision document for each particular response action.

E. DOE shall provide EPA, DHS, and RWQCB with a quarterly update of the Administrative Record index when any changes or additions to the Record have been made.

F. Upon request by DHS or RWQCB, DOE shall provide a copy of any document in the Administrative Record to the requesting Party only.

G. EPA will provide DOE with guidance on establishing and maintaining the Administrative Record as this guidance develops.

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XXIV. Public Participation

A. The Parties agree that work conducted under this Agreement and any subsequent proposed remedial action alternative(s) and subsequent plan(s) for remedial action at the Site arising out of this Agreement shall comply with the public participation requirements of CERCLA, including Section 117 of CERCLA, 42 U.S.C. 59617, the NCP, all applicable guidance developed and provided by EPA, and all applicable State laws. This shall be achieved through implementation of the approved Community Relations Plan.

B. Excluding imminent hazard situations, any Party issuing a press release to any publication with reference to any of the work required by this Agreement shall advise the other Party of such press release and the contents thereof at least two (2) business days before the issuance of such press release.

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XXV. Recovery of Expenses

A. **Reimbursement of EPA Expenses**

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

B. **Reimbursement of DHS Expenses**

1. DOE agrees to reimburse DHS for its costs directly related to implementation of this Agreement up to the amount of $325,000.00.
2. After the end of each fiscal year, DHS shall submit to DOE an accounting of all DHS costs actually incurred in the course of the fiscal year directly related to the implementation of this Agreement. DHS shall submit cost summaries to DOE in support of such accounting. All costs incurred by DHS and set forth in the accounting shall be costs directly related to this

Agreement and costs not inconsistent with the NCP.

3. Except as allowed pursuant to Subarticles 4 or 5, below, within ninety (90) days of receipt of the accounting provided pursuant to Subarticle 2, above, DOE shall reimburse DHS in the amount set forth in the accounting submitted pursuant to Subarticle 2, above.
4. In the event that DOE contends that the costs set forth in the accounting provided pursuant to Subarticle 2, above, were not directly related to the implementation of this Agreement or were incurred in a manner inconsistent with the NCP, DOE may challenge the amount to be paid to DHS. If unresolved, DHS demand, and DOE's challenge, may be resolved in Federal district court.
5. DOE shall not be responsible for reimbursing DHS for any costs actually incurred in the course of implementing this Agreement in excess of the cap established in Subarticle 1, above.

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XXVI. Claims and Publication

A. DOE agrees to assume full responsibility for cleanup of the Site in accordance with CERCLA and the NCP. However, This Agreement shall constitute or be construed as a release by DHS, RWQCB, DOE, or PA of any claims, causes of action, or demand in law or equity against any person, firm, partnership, or corporation not a signatory to this Agreement for any liability which it may have arising out of or related 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 site.

B. This Agreement does not constitute any decision or preauthorization by EPA of funds under Section 111(a)(2) of CERCLA, 42 U.S.C. §§ 96211(a) for any person, agent, contractor, or consultant acting for DOE.

C. EPA, DHS, and RWQCB shall not be held as a party to any, contract entered into by DOE to implement the requirements of this Agreement.

D. This Agreement shall not restrict EPA, DHS, or RWQCB from any legal, equitable, administrative, or response action for any matter not part of the work covered by this Agreement.

E. DOE and EPA shall provide a copy of this Agreement to appropriate contractors, subcontractors, laboratories, and consultants retained to conduct any portion of the work performed pursuant to this Agreement prior to beginning work to be conducted under this Agreement.

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XXVII. Funding

It is the expectation of the Parties to this Agreement that all obligations of DOE arising under this Agreement will be fully funded. DOE shall take all necessary steps and make efforts to obtain timely funding to meet its obligations under this Agreement. 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. DOE shall make available the appropriate section of the proposed budget to EPA, DHS, and RWQCB after it has been submitted to Congress. Any requirement for the payment or obligation

of funds, including stipulated penalties, by DOE established by the terms of this Agreement shall be subject to the availability of appropriated funds, and no provision herein shall be interpreted to require obligation or payment of funds in violation of the Anti-Deficiency Act, 31 U.S.C. § 1341. In cases where payment or obligation of funds would constitute a violation of the Anti-Deficiency Act, the dates established requiring the payment or obligation of such funds shall be appropriately adjusted.

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

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XXVIII. Compliance with Laws

All actions undertaken pursuant to this Agreement by DOE or its representative(s) shall be done in accordance with all applicable Federal laws, regulations and Executive Orders, and applicable State and local laws and regulations.

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XXIX. Force Majeure

A. Force Majeure shall mean any event arising from causes beyond the control of a Party that causes a delay in or prevents the performance of any obligation under this Agreement, including, but not limited to, 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 be reasonably anticipated; unusual delay in transportation; restraint by court order or order of public authority; inability to obtain, at reasonable cost and after exercise of reasonable diligence, any necessary authorizations, approvals, permits, or licenses due to action or inaction of any governmental agency or authority other than DOE; delays caused by compliance with applicable statutes or regulations governing contracting, procurement or acquisition procedures, despite the exercise of reasonable diligence; and, for EPA and DOE only, insufficient availability of appropriated funds which have been diligently sought. in order for Force Majeure based on insufficient funding to apply to DOE, DOE shall have made timely request for such funds as part of the budgetary process as set forth in Article XXVII (Funding) of this Agreement. A Force Majeure shall also include any strike or other labor dispute, whether or not within the control of the Parties affected thereby. Force Majeure shall. not include increased costs or expenses of Response Actions, whether or not anticipated at the time such Response Actions were initiated.

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XXX. Amendment of Agreement

A. This Agreement may be amended by agreement of EPA, DHS, RWQCB, and DOE. Such amendments shall be in writing and shall have as the effective date that date on which such amendments are signed by all parties, with EPA signing last.

B. No informal advice, guidance, suggestions, or comments by 7PA, DHS, or RWQCB regarding

reports, plans, specifications, schedules, and any other writing submitted by DOE will be construed as relieving DOE of its obligation to obtain such formal approval as may be required by this Agreement.

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XXXI. Covenant Not to Sue DOE and Reservation of Rights

A. In consideration for DOE's compliance with this Agreement, and based on the information known to the Parties on the effective date of this Agreement, EPA, DHS, and RWQCB agree that compliance with this Agreement shall stand in lieu of any administrative, legal and equitable remedies against DOE available to them regarding the currently known releases or threatened releases of hazardous substances including hazardous wastes, pollutants or contaminants at the Site which are the subject of the RI/FS(s) and which will be addressed by the remedial action(s) provided for under this Agreement; except that nothing in this Agreement shall preclude EPA, DHS, or RWQCB from exercising any Administrative, legal, and equitable remedies available to them to require additional response actions by the DOE in the event that: (1)(a) conditions previously unknown or undetected by EPA, DHS, or RWQCB arise or are discovered at the Site, or (b) EPA, DHS, or RWQCB receive additional information not previously available concerning the premises which they employed in reaching this Agreement; and (2) and the implementation of the requirements of this Agreement are no longer protective of public health and the environment.

B. Notwithstanding this Article, or any other Article of this Agreement, DHS and/or RWQCB shall retain the right to obtain judicial review of any final decision of 7PA on selection of a remedial action pursuant to any authority DHS and/or RWQCB may have under CERCLA, including § 113, 121(e)(2), 121(f), and 310, 42 U.S.C. § 9613, 9621(e)(2), 9621(f), and 9659.

C. This Covenant Not To Sue does not affect any claims for natural resource damage assessments or for damages to natural resources.

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XXXII. Property Transfer

In the event DOE determines to enter into any contract for the sale or transfer of any of the Site, DOE will comply with the requirements of CERCLA § 120(h), 42 U.S.C. § 9620(h), in effectuating that sale or transfer, including all notice requirements. In addition, DOE shall include notice of this Agreement in any document transferring ownership or operation of the Site to any subsequent owner and/or operator of any portion of the Site and shall notify EPA of any such sale or transfer at least ninety (90) days prior to such transfer. No change in ownership of the Site or any portion thereof, or notice pursuant to Section 120(h)(3)(b) of CERCLA, 42 U.S.C. §§ 9620(h)(3)(b), shall relieve DOE of its obligation to perform pursuant to this Agreement. No change of ownership of the Site or any portion thereof shall be consummated by DOE without provision for continued maintenance of any containment system, treatment system, monitoring system, or other response action(s) installed or implemented pursuant to this Agreement.

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XXXIII. Stipulated Penalties

A. In the event that DOE fails to submit a primary document, as identified in Article IX (Consultation), to EPA pursuant to the appropriate timetable or deadline in accordance with the requirements of this Agreement, or any extensions granted pursuant to 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. 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 Article occurs.

B. Upon determining that DOE has failed in a manner set forth in Subarticle A, EPA shall so notify DOE in writing. If the failure in question is not already subject to dispute resolution at the time such none is received, DOE shall have fifteen (15) days after receipt of the notice to invoke dispute resolution on the question of whether the failure did in fact occur. DOE shall not be liable for the stipulated penalty assessed by EPA if the failure is determined, through the dispute resolution process, not to have occurred. No assessment of a stipulated penalty shall be final until the conclusion of dispute resolution procedures related to the assessment of the stipulated penalty.

C. The DOE annual report to Congress required by Section 120(e)(5) of CERCLA, 42 U.S.C. § 9620 (e)(5), shall include, with respect to each final assessment of a stipulated penalty against DOE under this Agreement, each of the following:

1. The facility responsible for the failure;
2. A statement of the facts and circumstances giving rise to the failure;
3. A statement of any administrative or other corrective action taken at the relevant facility, or a statement of why such measures were determined to be inappropriate;
4. A statement of any additional action taken by or at the facility to prevent recurrence of the same type of failure; and
5. The total dollar amount of the stipulated penalty assessed for the particular failure.

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

E. In no event shall this Article give rise to a stipulated penalty in excess of the amount set forth in Section 109 of CERCLA, 42 U.S.C. § 9609.

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

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

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XXXIV. Enforceability

A. The Parties agree that:

(1) 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, 42 U.S.C. § 659, 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, 42 U.S.C. § 9659(c) and 9609; and
(2) All timetables or deadlines associated with the development, implementation and completion of the RI/FS shall be enforceable by any person pursuant to Section 310 of CERCLA, 42 U.S.C. 59659, and any violation of such timetables or deadlines will be subject to civil penalties under Sections 310(c) and 109 of CERCLA, 42 U.S.C. § 659(c) and 9609;
(3) All terms and conditions of this Agreement which relate to interim or final remedial actions, including corresponding timetables, deadlines, or schedules, and all work associated with the interim or final remedial actions, shall be enforceable by any person pursuant to Section 310(c) of CERCLA, 42 U.S.C. § 9659, and any violation of such terms or conditions will be subject to civil penalties under Sections 310(c) and 109 of CERCLA, 42 U.S.C. §§ 9659(c) and 9609; and
(4) Any final resolution of a dispute pursuant to Article X (Resolution of Disputes) 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, 42 U.S.C. § 9659(c), 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, 42 U.S.C. § 9659(c) and 9609.

B. 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, 42 U.S.C. § 9613(h).

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

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XXXV. Termination and Satisfaction

To the extent that remedial response actions are conducted pursuant to the provisions of this Agreement, following the completion of all remedial response actions and upon written request by DOE, EPA, with the concurrence of DHS and RWQCB will send to DOE a written notice of satisfaction of the terms of ,his Agreement within ninety (90) days of the request. The notice shall state that, in the opinion of EPA, DHS, and RWQCB, DOE has satisfied all of the terms of this Agreement in accordance with the requirements of CERCLA, the NCP, RCRA § 3004(u) and (v), 42 U.S.C. § 6924(u) and (v), and related guidance, and applicable State laws and that the work performed by DOE was consistent with the agreed to remedial actions.

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XXXVI. Public Comment/Effective Date

A. Within fifteen (15) days of the date of execution of this Agreement, EPA shall announce the availability of this Agreement to the public for review and comment. EPA shall accept comments from the public for a period of forty-five (45) days after such announcement. At the end of the comment period, the Parties shall review such comments and shall either:

1. Determine that this Agreement should be made effective in its present form, in which case EPA shall notify all Parties in writing and this Agreement shall become effective on the date that

DOE receives such notification; or

2. Determine that modification of this Agreement is necessary, in which case the Parties shall meet to discuss and agree upon any proposed changes. Upon agreement of any proposed changes, EPA shall notify all Parties in writing and this Agreement shall become effective on the date that DOE receives such notification.

B. In the event a Party determines that it is necessary to modify this Agreement as a result of public comment thereon, and there is disagreement among the Parties as to the need for such modification, any Party may withdraw from this Agreement. Withdrawal by DOE shall not minimize the obligation of DOE to comply with Section 120 of CERCLA, 42 U.S.C. § 9620.

Each undersigned representative of a Party certifies that he or she is fully authorized to enter into the terms and conditions of this Agreement and to legally bind such Party to this Agreement.

IT IS SO AGREED:

Date: 11/01/88

[s]
Jo Ann Elferink
Manager
San Francisco Operations Office
United States Department of Energy

Date: 10/27/88

[s]
J. Winston Porter
Assistant Administrator
United States Environmental Protection Agency

Date: 10/27/88

[s]
Alex Cunningham
Chief Deputy Director
Toxic Substances Control Division
California Department of Health Services

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Attachment 2

Deliverables

The deliverables to be furnished by DOE pursuant to this Agreement are as follows:

1. RI/FS WORK PLAN: The Remedial Investigation/Feasibility Study (RI/FS) Work Plan will

describe the organization of the project, identify the appropriate administrative guidance, and outline the elements of work planned to complete the Remedial Investigation and Feasibility Study in accordance with CERCLA. The document will be consistent with CERCLA, the NCP, the Guidance on Conducting RIs/FSs Under CERCLA, EPA, Draft, March 1988, any subsequent revisions thereof (where such revisions are provided to DOE prior to submittal of the subject deliverable), and any other applicable or relevant EPA guidance.

Site-specific, detailed Field Sampling Plans (FSPs) are usually prepared as a component of the Sampling and Analysis Plan (SAP), which usually consists of a Quality Assurance Project Plan (see below) and FSPs. However, it is agreed to by the Parties that a SAP need not be prepared and that sitespecific, detailed FSPs will be prepared and submitted for review and concurrence as supplements to the RI/FS Work Plan at a future date consistent with the **Guidance on Conducting RIs/FSs Under CERCLA**, EPA, Draft, March 1988, any subsequent revisions thereof (where such revisions are provided to DOE prior to submit,al of the subject deliverable), and any other applicable or relevant EPA guidance.

2. DUALITY ASSURANCE PROJECT PLAN: The Quality Assurance Project Plan (QAPP) will meet CERCLA guidance by defining data objectives, establishing sampling criteria, and incorporating a set of Standard Operational Procedures (SOPs) to meet those goals. The QAPP will be developed in accordance with the **Guidance on Conducting RIs/FSs Under CERCLA**, EPA, Draft, March 1988, any subsequent revisions thereof, (where such revisions are provided to DOE prior to submittal of the subject deliverable), the **Compendium of Superfund Field Operations Methods**, EPA, September 1987, and any other applicable or relevant EPA guidance.

3. COMMUNITY RELATIONS PLAN: Following CERCLA guidance, the Community Relations Plan (CRP) provides a framework for presenting understandable and consistent information to interested parties during the RI, the FS, and remedial actions at the Site. The CRP documents the history of community involvement and community concerns regarding the Site, and provides an explanation of the Community Relation Program. It is meant to assist LLNL in determining the concerns of the community while informing the community about all aspects of LLNL's environmental restoration activities. Implementation of the CRP ensures that all concerned parties are involved in the CERCLA process in a meaningful manner. The CRP will be consistent with CERCLA, the NCP, the **Community Relations In Superfund: A Handbook**, EPA, March, 1986, any revisions thereof, (where such revisions are provided to DOE prior to submittal of the subject deliverable), and any other applicable or relevant EPA guidance.

4. BASELINE PUBLIC HEALTH RISK ASSESSMENT: Through the identification of potential pathways, appropriate solute transport modeling, and the use of available toxicological data, the Baseline Public Health Risk Assessment analyzes the potential risks to the public for the "no action" alternative. The document will be consistent with the **Superfund Public Health Evaluation Manual**, EPA, October, 1986, and any other applicable or relevant EPA guidance.

5. REMEDIAL INVESTIGATION: This report will be consistent with CERCLA, the NCP, the Guidance on Conducting RIs/FSs Under CERCLA, EPA,.Draft, March 1988, any subsequent revisions thereof, (where suchrevisions are provided to DOE prior to submittal of the subject deliverable), the **Compendium of Superfund Field Operations Methods**, EPA, September 1987, and any other applicable or relevant EPA guidance. The RI report will contain:

A. An assessment of the overall hydrogeology and migration of pollution for the Site, and will address:

1. Geology of the Site area and physical parameters for all relevant subsurface stratigraphic units,
2. Hydraulic characteristics of water bearing zones including direction and velocity of ground water flow,
3. Hydraulic communication and potential for migration of pollution between any and all water bearing zones,
4. Migration of pollution with respect to recharge and discharge areas, time, and other impacting factors, and
5. Influence on pollution migration of pumping of private wells.

B. A characterization of the nature and extent of Pollution, including source areas identified in the RCRA Facility Assessment, to address:

1. Types and concentrations of pollutants present in soil and ground water,
2. Vertical and horizontal extent of soil and ground water pollution, and
3. Identification of potential pollution migration mechanism and transport pathways.

6. FEASIBILITY STUDY: Consistent with CERCLA, the NCP, the **Guidance on Conducting RIs/FSs Under CERCLA**, EPA, Draft, March 1988, any subsequent revisions thereof (where such revisions are provided to DOE prior to submittal of the subject deliverable), and any other applicable or relevant EPA guidance, the FS report will contain:

A. A detailed evaluation of potential remedial alternatives for the site cleanup. Each alternative will be evaluated with respect to:

1. Effectiveness of the cleanup alternative based upon sufficient hydrogeologic site information.

2. Details of the alternative, such as treatment methodology, and, if ground water extraction is proposed, flow capture zone, areas of influence per extraction well, chemical monitoring data, and other pertinent information,
3. Manner and location of discharge, if any element of the cleanup alternative,
4. Details of source control and/or remediation including soil removal/disposal, if an element of the cleanup alternative,
5. Cost,
6. Benefits, and
7. Impacts on public health, welfare and the environment.

B. The list of applicable or relevant and appropriate requirements (ARARs).

C. The results and conclusions of any Pilot Studies.

7. FINAL RI/FS: This document comprises the separate RI and FS reports after incorporation of all comments pursuant to Article X (Consultation) or resolution of disputes pursuant to Article

X (Resolution of Disputes).

8. PROPOSED REMEDIAL ACTION PLAN: This report draws from the information in the RI/FS and is designed to identify the preferred alternative and the rationale for its choice, for the purpose of public participation. The document is equivalent to the Proposed Plan as that term is used in CERCLA U117 and as such is subject to a formal public review period and subsequent public hearing. The document shall be consistent with CERCLA, the NCP, the draft **Guidance on Preparing Superfund Decision Documents: The Proposed Plan and Record of Decision**, EPA, Draft, March 1988, any subsequent revisions thereof (where such revisions are provided to DOE prior to submittal of the subject deliverable), and any applicable or relevant EPA guidance.

9. RECORD OF DECISION: The Record of Decision (ROD) will Document the final remedy (ies) selected for the site. The ROD must be based on the material contained within the Administrative Record. It will include a responsiveness summary which addresses major comments, concerns, criticisms, or new data raised during the comment period on the Proposed Remedial Action Plan, including those that may have led to a significant changes from Remedial Action Plan. The ROD shall be consistent with CERCLA, the NCP, the draft **Guidance on Preparing Superfund Decision Plan and Record of Decision Documents: The Proposed Plan and Record of Decision**, EPA, Draft, March 1988, any revisions thereof (where such are provided to DOE prior to submittal of the subject deliverable), and any applicable or relevant EPA guidance and shall describe a remedy (ies) that:

    A. Is protective of human health and the environment;

    B. Attains all ARARs or provides the grounds for invoking one of the waivers CERCLA provides;

    C. Is cost effective; and

    D. That utilizes permanent solutions to the maximum extent practical.

10. REMEDIAL ACTION IMPLEMENTATION PLAN: This plan will establish a schedule of planned actions to implement the ROD. To the degree feasible it will document engineering decisions or the decision process, including the nature of ongoing investigations, studies or tests. The plan will provide a detailed list of deliverables and timetables and schedules with sufficient detail to enable comprehensive understanding of the upcoming implementation of the selected remedy (ies).

11. REMEDIAL DESIGN: The Remedial Design (RD) will provide detailed engineering design and specifications which will allow the Parties an opportunity to review and comprehend all aspect of the selected remedy(ies).

12. MONTHLY REPORTS: Monthly summaries of progress on the work under this Agreement. The reports include:

    A. A summary of work completed since the previous report and of work anticipated to be completed but, in fact, not completed;

B. Work anticipated to be completed over the upcoming report period;

C. Identification of potential problems which will cause or threaten to cause delays of documents called for by this Agreement; and

D. Documentation of events of any delays of work planned and the reasons therefore, and new schedule for the work.

13. ANNUAL REPORTS: LLNL will report to the Parties annually on the effectiveness of the RI/FS, remedial design, and remedial action program. The report will summarize all work accomplished, and provide updated maps and illustrations, and an updated schedule of sampling and analysis for each monitoring well.

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