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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 9
AND THE
ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
AND THE
ARIZONA DEPARTMENT OF WATER RESOURCES
AND THE
UNITED STATES AIR FORCE

IN THE MATTER OF: The United States Department of the Air Force Luke Air Force Base	Federal Facility Agreement Under CERCLA Section 120 Administrative Docket Number: 90-29

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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:

1. JURISDICTION

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

(a) The United States Environmental Protection Agency (EPA), enters into those portions of this Agreement that relate to the remedial investigation/feasibility study (RI/FS) pursuant to section 120(e)(1) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. § 9620(e)(1), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), Pub. L. 99-499 (hereinafter jointly referred to as CERCLA), and the Resource Conservation and Recovery Act (RCRA) sections 6001, 3008(h), 3004(u) and (v), and 7003, 42 U.S.C. §§ 6961, 6928(h), 6924(u) and (v), and 6793 as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA) (hereinafter jointly referred to as RCRA), the Clean Water Act, 33 U.S.C. §§ 1251 et seq., and Executive Order 12580;

(b) EPA enters into those portions of this Agreement that relate to remedial actions pursuant to CERCLA section 120(e)(2), 42 U.S.C. § 9620(e)(2), RCRA sections 6001, 3008(h),

3004(u) and (v), and 7003, 42 U.S.C. §§ 6961, 6928(h), 6924(u) and (v), and 6793, the Clean Water Act, 33 U.S.C. §§ 1251 et seq., and Executive Order 12580;

(c) The United States Air Force (Air Force) enters into those portions of this Agreement that relate to the RI/FS pursuant to CERCLA section 120(e)(1), 42 U.S.C. § 9620(e)(1), RCRA sections 6001, 3008(h) and 3004(u) & (v), 42 U.S.C. §§ 6961, 6928(h), 6924(u) & (v), the Clean Water Act, 33 U.S.C. §§ 1251 et seq., Executive Order 12580, the National Environmental Policy Act, 42 U.S.C. § 4321, and the Defense Environmental Restoration program (DERP), 10 U.S.C. §§ 2701 et. seq.;

(d) The Air Force enters into those portions of this Agreement that relate to remedial actions pursuant to CERCLA section 120(e)(2), 42 U.S.C. § 9620(e)(2), RCRA sections 6001, 3008(h), and 3004(u) & (v), 42 U.S.C. §§ 6961, 6928(h), 6924(u) & (v), the Clean Water Act, 33 U.S.C. §§ 1251 et seq., Executive Order 12580 and the DERP; and

(e) The Department of Environmental Quality (DEQ) and the Department of Water Resources (DWR) enter into this agreement pursuant to CERCLA sections 120(f) and 121, 42 U.S.C. §§ 9620(f) and 9621, and the Arizona Revised Statutes sections 49-202, paragraphs A and B, and 45-105.

2. PARTIES

2.1 The Parties to this Agreement are EPA, the Air Force, DEQ and DWR, as agencies of the State of Arizona. The terms of the Agreement shall apply to and be binding upon EPA, DEQ, DWR and the Air Force.

2.2 This Agreement shall be enforceable against all of the Parties to this Agreement. This Section shall not be construed as an agreement to indemnify any person. The Air Force shall notify its agents, members, employees, response action contractors for the Site, and all subsequent owners, operators, and lessees of the Site, of the existence of this Agreement.

2.3 Each Party shall be responsible for ensuring that its contractors comply with the terms and conditions of this Agreement. Failure of a Party to provide proper direction to its contractors and any resultant noncompliance with this Agreement by a contractor shall not be considered a Force Majeure event or other good cause for extensions under Section 9 (Extensions), unless the Parties so agree or unless established pursuant to Section 12 (Dispute Resolution). The Air Force will notify EPA, DEQ and DWR of the identity and assigned tasks of each of its contractors performing work under this Agreement upon their selection.

2.4 DEQ and DWR, as agencies of the State of Arizona, shall speak with one voice between them in all decisions of the Parties which may be taken to dispute resolution under this Agreement, including but not limited to decisions under sections 7.8, 7.10,

8, 9, 11.2, 30, and 36. It shall be the responsibility of the State agencies to determine who shall present the one position on behalf of the State.

3. DEFINITIONS

3.1 Except as noted below or otherwise explicitly stated, the definitions provided in CERCLA, CERCLA case law, and the NCP shall control the meaning of terms used in this Agreement.

(a) "Agreement" shall refer to this document and shall include all Appendices to this document to the extent they are consistent with the original Agreement as executed or modified. All such Appendices shall be made an integral and enforceable part of this document. Copies of Appendices shall be available as part of the administrative record, as provided in Subsection 26.3.

(b) "The Air Force" shall mean the United States Air Force, its employees, members, agents, and authorized representatives. "The Air Force" shall also include the Department of Defense (DOD), to the extent necessary to effectuate the terms of this Agreement, including, but not limited to, appropriations and Congressional reporting requirements.

(c) "ARARs" shall mean federal and State of Arizona applicable or relevant and appropriate requirements, standards, criteria, or limitations, identified pursuant to section 121 of CERCLA. ARARs shall apply in the same manner and to the same ex-

tent that such are applied to any non-governmental entity, facility, unit, or site, as defined in CERCLA and the NCP. See CERCLA section 120(a)(1), 42 U.S.C. § 9620(a)(1).

(d) "CERCLA" shall mean the Comprehensive Environmental Response, Compensation and Liability Act, Public Law 96-510, 42 U.S.C. §§ 9601 et seq., as amended by the Superfund Amendments and Reauthorization Act of 1986, Public Law 99-499, and any subsequent amendments.

(e) "Days" shall mean calendar days, unless business days are specified. Any submittal that under the terms of this Agreement would be due on Saturday, Sunday, or holiday shall be due on the following business day.

(f) "DEQ" shall mean the Arizona Department of Environmental Quality, its successors and assigns, and its duly authorized representatives.

(g) "DWR" shall mean the Arizona Department of Water Resources, its successors and assigns, and its duly authorized representatives.

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

(i) "Federal Facility" shall include Luke Air Force Base, including the Luke waste treatment plant annex (Luke AFB).

(j) "Feasibility Study" or "FS" means a study conducted pursuant to CERCLA and the NCP which fully develops, screens and evaluates in detail remedial action alternatives to prevent, mitigate, or abate the migration or the release of hazardous substances, pollutants, or contaminants at and from the

Site. The Air Force shall conduct and prepare the FS in a manner to support the intent and objectives of Section 17 (Statutory Compliance/RCRA-CERCLA Integration).

(k) "Meeting," in regard to Project Managers, shall mean an in-person discussion at a single location or a conference telephone call of all Project Managers. A conference call will suffice for an in-person meeting at the concurrence of the Project Managers.

(l) "Natural Resources Trustee(s)" or "Federal or State Natural Resources Trustee(s)" shall have the same meaning and authority as provided in CERCLA and the NCP.

(m) "Natural Resource Trustee(s) Notification and Coordination" shall have the same meaning as provided in CERCLA and the NCP.

(n) "National Contingency Plan" or "NCP" shall refer to the regulations contained in 40 CFR 300.1, et seq. and any subsequent amendments.

(o) "Operable Unit" shall have the same meaning as provided in the NCP.

(p) "Operation and maintenance" shall mean activities required to maintain the effectiveness of response actions.

(q) "On-Scene-Coordinator" or "OSC" shall have the same meaning and authority as provided in the NCP.

(r) "RCRA" or "RCRA/HSWA" shall mean the Resource Conservation and Recovery Act of 1976, Public Law 94-580, 42 U.S.C. §§ 6901 et seq., as amended by the Hazardous and Solid Waste Amendments of 1984, Public Law 98-616, and any subsequent amendments.

(s) "Remedial Design" or "RD" shall have the same meaning as provided in the NCP.

(t) "Remedial Investigation" or "RI" means that investigation conducted pursuant to CERCLA and the NCP, as supplemented by the substantive provisions of the EPA RCRA Facilities Assessment (RFA) guidance or other RFA as negotiated with and agreed to by the EPA Remedial Project Manager. The RI serves as a mechanism for collecting data for Site and waste characterization and conducting treatability studies as necessary to evaluate performance and cost of the treatment technologies. The data gathered during the RI will also be used to conduct a baseline risk assessment, perform a feasibility study, and support design of a selected remedy. The Air Force shall conduct and prepare the RI in a manner to support the intent and objectives of Section 17 (Statutory Compliance/RCRA-CERCLA Integration).

(u) "Remedy" or "Remedial Action" or "RA" shall have the same meaning as provided in section 101(24) of CERCLA, 42 U.S.C. § 9601(24), and the NCP, and may consist of Operable Units.

(v) "Remove" or "Removal" shall have the same meaning as provided in section 101(23) of CERCLA, 42 U.S.C. § 9601(23), and the NCP.

(w) "Remedial Project Manager" or "RPM" shall have the same meaning and authority provided in Section 18 below.

(x) "Site" shall include the "federal facility" of Luke AFB as defined above and the "facility" as defined in CERCLA, and any area off the Federal Facility to or under which a release of hazardous substances has migrated, or threatens to migrate, from a source on or at Luke AFB. For the purposes of obtaining permits, the terms "on-site" and "off-site" shall have the same meaning as provided in the NCP.

(y) "State" shall mean both DEQ and DWR unless otherwise specified.

(z) "State of Arizona" shall mean the Arizona state government in its entirety unless otherwise specified.

4. PURPOSES

4.1 The general purposes of this Agreement are to:

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

(b) 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, RCRA guidance and policy, and applicable State of Arizona law; and

(c) Facilitate cooperation, exchange of information and participation of the Parties in such action; and

(d) Ensure the adequate assessment of potential injury to natural resources, the prompt notification, cooperation and coordination with the Federal and State Natural Resources Trustees necessary to guarantee the implementation of response actions achieving appropriate cleanup levels.

4.2 Specifically, the purposes of this Agreement are to:

(a) Identify operable units (OUs) that are appropriate at the Site prior to the implementation of final remedial action(s) for the Site. OUs shall be identified, proposed to the Parties and implemented as early as possible.

(b) Establish requirements for the performance of a Remedial Investigation ("RI") to determine fully the nature and extent of the threat to the public health or welfare or the environment caused by the release and threatened release of hazardous substances, pollutants, or contaminants at the Site and to establish requirements for the performance of a Feasibility Study ("FS") 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 and applicable State of Arizona law;

(c) 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 and applicable State of Arizona law;

(d) Implement the selected remedial actions(s) in accordance with CERCLA and applicable State of Arizona law;

(e) Assure compliance, through this Agreement, with RCRA and other federal and State of Arizona hazardous waste laws and regulations for matters covered herein;

(f) Coordinate response actions at the Site with the mission and support activities at Luke AFB;

(g) Expedite the cleanup process to protect human health and the environment;

(h) Provide for State involvement in the initiation, development, selection and enforcement of remedial actions to be undertaken at Luke AFB, including the review of all applicable data as it becomes available and the development of studies, reports, and action plans; and to identify and integrate State of Arizona ARARs into the remedial action process; and to

(i) Provide for operation and maintenance of any remedial action selected and implemented pursuant to this Agreement.

5. DETERMINATIONS

5.1 This Agreement is based upon the placement of Luke AFB, Maricopa County, Arizona, on the National Priorities List by the Environmental Protection Agency on August 30, 1990, 55 Federal Register at page 35502.

5.2 Luke AFB is a facility under the jurisdiction, custody, or control of the Department of Defense within the meaning of Executive Order 12580, 52 Federal Register 2923, 29 January 1987.

The Department of the Air Force is authorized to act on behalf of the Secretary of Defense for all functions delegated by the President through E.O. 12580 which are relevant to this Agreement.

5.3 Luke AFB is a federal facility under the jurisdiction of the Secretary of Defense within the meaning of CERCLA section 120, 42 U.S.C. § 9620, and Superfund Amendments and Reauthorization Act of 1986 (SARA) section 211, 10 U.S.C. § 2701 et seq., and is subject to the Defense Environmental Restoration Program (DERP).

5.4 The Air Force is the authorized delegate of the President under E.O. 12580 for receipt of notification by the State of its ARARs as required by CERCLA section 121(d)(2)(A)(ii), 42 U.S.C. § 9621(d)(2)(A)(ii).

5.5 The authority of the Air Force to exercise the delegated removal authority of the President pursuant to CERCLA section 104, 42 U.S.C. § 9604 is not altered by this Agreement.

5.6 The actions to be taken pursuant to this Agreement are reasonable and necessary to protect the public health, welfare, or the environment.

5.7 There are areas within the boundaries of the federal facility where hazardous substances have been deposited, stored, placed, or otherwise come to be located in accordance with 42 U.S.C. § 9601(9) and (14).

5.8 There have been releases of hazardous substances, pollutants or contaminants at or from the federal facility into the environment within the meaning of 42 U.S.C. §§ 9601(22), 9604, 9606, and 9607.

5.9 With respect to these releases, the Air Force is an owner/ operator and/or generator subject to the provisions of 42 U.S.C. § 9607 and within the meaning of Arizona Revised Statutes section 49-283.

5.10 Included as Attachment B to this Agreement is a map showing source(s) of suspected contamination and the areal extent of known contamination, based on information available at the time of the signing of this Agreement.

6. WORK TO BE PERFORMED

6.1 The Parties agree to perform all tasks, obligations and responsibilities undertaken pursuant to this Agreement ,including without limitation those pertaining to RCRA facility 993, in accordance with CERCLA and CERCLA guidance and policy; the NCP; pertinent provisions of RCRA and RCRA guidance and policy; Executive Order 12580; applicable State of Arizona laws and regulations; and all terms and conditions of this Agreement including documents prepared and incorporated in accordance with Section 7 (Consultation).

6.2 The Air Force agrees to undertake, seek adequate funding for, fully implement and report on the following tasks, with participation of the Parties as set forth in this Agreement:

(a) Remedial Investigations of the Site;

(b) Federal and State Natural Resource Trustee Notification and Coordination for the Site;

(c) Feasibility Studies for the Site;

(d) All response actions, including Operable Units, for the Site;

(e) Operation and maintenance of response actions at the Site.

6.3 The Parties agree to:

(a) Make their best efforts to expedite the initiation of response actions for the Site, particularly for Operable Units;

(b) Carry out all activities under this Agreement so as to protect the public health, welfare and the environment.

6.4 Upon request, EPA, DEQ and DWR agree to provide any Party with guidance or reasonable assistance in obtaining guidance relevant to the implementation of this Agreement.

7. CONSULTATION: Review and Comment Process for Draft and Final Documents

7.1 Applicability: The provisions of this Section establish the procedures that shall be used by the Parties to provide each other with appropriate technical support, notice, review, comment, and response to comments regarding RI/FS and RD/RA documents, specified herein as either primary or secondary documents. In accordance with CERCLA section 120, 42 U.S.C. § 9620, and 10 U.S.C. § 2705, the Air Force will normally be responsible for issuing primary and secondary documents to EPA, DEQ and DWR. As of

the effective date of this Agreement, all draft, draft final and final primary and secondary documents identified herein shall be prepared, distributed and subject to dispute in accordance with subsections 7.2 through 7.10 below. The designation of a document as "draft" or "final" is solely for purposes of consultation with EPA, DEQ and DWR in accordance with this Section. 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.

7.2 General Process for RI/FS and RD/RA documents:

(a) Primary documents include those reports that are major, discrete, portions of RI/FS and/or RD/RA activities. Primary documents are initially issued by the Air Force in draft subject to review and comment by EPA, DEQ and DWR. Following receipt of comments on a particular draft primary document, the Air Force 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 either thirty (30) days after the issuance of a draft final document if dispute resolution is not invoked or as modified by decision of the dispute resolution process.

(b) Secondary documents include those reports that are discrete portions of the primary documents and are typically input or feeder documents. Secondary documents are issued by the Air Force in draft subject to review and comment by EPA, DEQ and DWR. Although the Air Force 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.

7.3 Primary Documents:

(a) The Air Force shall complete and transmit drafts of the primary documents identified in Appendix A, Section I, hereto for each operable unit and for the final remedy to EPA, DEQ and DWR for review and comment in accordance with the provisions of this Section.

(b) Only draft final primary documents shall be subject to dispute resolution. The Air Force shall complete and transmit draft primary documents in accordance with the timetable and deadlines established in Section 8 (Deadlines) of this Agreement.

(c) Primary documents may include target dates for subtasks established as provided in subsections 7.4(b) and 18.3. The purpose of target dates is to assist the Air Force in meeting deadlines, but target dates do not become enforceable by their inclusion in the primary documents and are not subject to Section 8 (Deadlines), Section 9 (Extensions) or Section 13 (Enforceability).

7.4 Secondary Documents:

(a) The Air Force shall complete and transmit drafts of the secondary documents identified in Appendix A, Section II, hereto for each operable unit and for the final remedy to EPA, DEQ and DWR for review and comment.

(b) Although EPA, DEQ and DWR may comment on the drafts for the secondary documents identified above, such documents shall not be subject to dispute resolution except as provided by Subsection 7.2 hereof. Target dates for the completion and transmission of draft secondary documents may be established by the Project Managers. The Project Managers also may agree upon additional secondary documents that are within the scope of the listed primary documents.

7.5 Meetings of the Project Managers. (See also Subsection 18.3). The Project Managers shall meet in person approximately every ninety (90) days, except as otherwise agreed by the Parties, to review and discuss the progress of work being performed at the Site, including progress on the primary and secondary documents. However, progress meetings may be held more frequently as needed upon request by any Project Manager. Prior to preparing any draft document specified in subsections 7.3 and 7.4 above, the Project Managers shall meet in an effort to reach a common understanding with respect to the contents of the draft document.

7.6 Identification and Determination of Potential ARARs:

(a) For those primary documents or secondary documents for which ARAR determinations are appropriate, prior to the issuance of a draft document, the Project Managers shall meet to identify and propose all potential ARARs pertinent to the document being addressed, including any requirements pertaining to licenses and permits which may be a source of ARARs. At that time, DEQ shall identify potential State of Arizona ARARs, except

for those arising out of Arizona Revised Statutes Title 45, which shall be identified by DWR. DEQ and DWR shall identify these ARARs as required by CERCLA section 121(d)(2)(A)(ii), 42 U.S.C. § 9621(d)(2)(A)(ii), which are pertinent to those activities for which it is responsible and the document being addressed. Draft ARAR determinations shall be prepared by the Air Force in accordance with CERCLA section 121(d)(2), 42 U.S.C. § 9621(d)(2), the NCP and pertinent guidance issued by EPA.

(b) DEQ will contact those State of Arizona and local governmental agencies, except DWR, which are a source of potential ARARs. The proposed ARARs obtained from the identified agencies will be submitted to the Air Force, along with a list of those agencies who failed to respond to DEQ's solicitation of proposed ARARs. DEQ will contact those agencies who failed to respond and again solicit these inputs.

(c) 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 associated with a proposed remedy and the characteristics of a site. The Parties recognize that ARAR identification is necessarily an iterative process and that potential ARARs must be identified and discussed among the Parties as early as possible, and must be re-examined throughout the RI/FS process until a ROD is issued.

7.7 Review and Comment on Draft Documents:

(a) The Air Force shall complete and transmit each draft primary document to EPA, DEQ and DWR on or before the corresponding deadline established for the issuance of the document. The Air Force shall complete and transmit the draft secondary documents in accordance with the target dates established for the issuance of such documents.

(b) Unless the Parties mutually agree to another time period, all draft documents shall be subject to a sixty (60) day period for review and comment. Review of any document by the EPA, DEQ and DWR may concern all aspects of it (including completeness) and should include, but is not limited to, technical evaluation of any aspect to the document, and consistency with CERCLA, the NCP, applicable State of Arizona law, and any pertinent guidance or policy issued by the EPA, DEQ or DWR. At the request of any Project Manager, and to expedite the review process, the Air Force shall make an oral presentation of the document to the Parties at the next scheduled meeting of the Project Managers following transmittal of the draft document or within fourteen (14) days following the request, whichever is sooner. Comments by the EPA, DEQ and DWR shall be provided with adequate specificity so that the Air Force 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 request of the Air Force, the EPA, DEQ or DWR, as appropriate, shall provide a copy of the cited authority or reference. EPA, DEQ or DWR may extend the sixty (60) day comment period for an additional thirty

(30) days by written notice to the Air Force prior to the end of the sixty (60) day period. On or before the close of the comment period, EPA, DEQ and DWR shall transmit their written comments to the Air Force. In appropriate circumstances, this time period may be further extended in accordance with Section 9 (Extensions).

(c) Representatives of the Air Force shall make themselves readily available to EPA, DEQ and DWR 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 the Air Force on the close of the comment period.

(d) In commenting on a draft document which contains a proposed ARAR determination, EPA, DEQ or DWR shall include a reasoned statement of whether it objects to any portion of the proposed ARAR determination. To the extent that EPA, DEQ or DWR does object, it shall explain the basis for its objection in detail and shall identify any ARARs which it believes were not properly addressed in the proposed ARAR determination.

(e) Following the close of the comment period for a draft document, the Air Force shall give full consideration to all written comments. Within fifteen (15) days following the close of the comment period on a draft secondary document or draft primary document the Parties shall hold a meeting to discuss all comments received. On a draft secondary document the Air Force shall, within sixty (60) days of the close of the comment period, transmit to the EPA, DEQ and DWR its written

response to the comments received. On a draft primary document the Air Force shall, within sixty (60) days of the close of the comment period, transmit to EPA, DEQ and DWR a draft final primary document, which shall include the Air Force's response to all written comments received within the comment period. While the resulting draft final document shall be the responsibility of the Air Force, it shall be the product of consensus to the maximum extent possible.

(f) The Air Force may extend the sixty (60) day period for either responding to comments on a draft document or for issuing the draft final primary document for an additional thirty (30) days by providing written notice to EPA, DEQ and DWR. In appropriate circumstances, this time period may be further extended in accordance with Section 9 (Extensions).

7.8 Availability of Dispute Resolution for Draft Final Primary Documents:

(a) Dispute resolution shall be available to the Parties for draft final primary documents as set forth in Section 12 (Dispute Resolution).

(b) When dispute resolution is invoked on a draft final primary document, work may be stopped in accordance with the procedures set forth in Subsection 12.9 regarding dispute resolution.

7.9 Finalization of Documents: The draft final primary document shall serve as the final primary document if no party invokes dispute resolution regarding the document or, if invoked, at completion of the dispute resolution process should the Air

Force's position be sustained. If the Air Force's determination is not sustained in the dispute resolution process, the Air Force shall prepare, within not more than sixty (60) days, 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 Section 9 (Extensions).

7.10 Subsequent Modification of Final Documents: Following finalization of any primary document other than the Community Relations Plan pursuant to Subsection 7.9 above, any Party may seek to modify the document including seeking additional field work, pilot studies, computer modeling or other supporting technical work, only as provided in subparagraphs (a) and (b) below.

(a) Any Party may seek to modify a document after finalization if it determines, based on new information (i.e., information that becomes available, or conditions that become known, after the document was finalized) that the requested modification is necessary. Any party may seek such a modification by submitting a concise written request to the Project Managers of the other Parties. The request shall specify the nature of the requested modification and how the request is based on new information.

(b) In the event that a consensus is not reached by the Project Managers on the need for a modification, any Party 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.

(c) Nothing in this Section shall alter EPA's, DEQ's or DWR's ability to request the performance of additional work which was not contemplated by this Agreement. The Air Force's obligation to perform such work under this Agreement must be established by either a modification of a document or by amendments to this Agreement.

8. DEADLINES

8.1 All deadlines agreed upon before the effective date of this Agreement shall be identified in Appendix A, Section IV, to this Agreement. To the extent that deadlines have already been mutually agreed upon by the Parties prior to the effective date of this Agreement, they will satisfy the requirements of this Section and remain in effect, shall be published in accordance with Subsection 8.2, and shall be incorporated into the appropriate work plans.

8.2 Within forty-five (45) days after the effective date of this Agreement, the Air Force shall propose, and announce and make available for public comment in the same manner as Section 36 specifies for this Agreement, proposed deadlines for completion of the draft primary documents identified in Appendix A,

Section I.A through I.G, for each remedial action, including each operable unit identified as of the effective date of this Agreement. Within sixty (60) days after the effective date of this Agreement, or the end of the public comment period on the Agreement, whichever is later, EPA and the State shall review and provide comments to the Air Force regarding the proposed deadlines. Within fifteen (15) days following receipt of the comments the Air Force shall, as appropriate, make revisions and reissue the proposal. The Parties shall meet as necessary to discuss and finalize the proposed deadlines. All agreed-upon deadlines shall be incorporated into the appropriate work plans. If the Parties fail to agree within thirty (30) days on the proposed deadlines, the matter shall immediately be submitted for dispute resolution pursuant to Section 12 (Dispute Resolution). The final deadlines established pursuant to this Subsection shall be published by EPA, in conjunction with the State, and shall be identified in Appendix A to this Agreement.

8.3 Within twenty-one (21) days of issuance of the Record of Decision for any operable unit or for the final remedy, the Air Force shall propose deadlines for completion of the draft primary documents identified in Appendix A, Section I.H through I.K. These deadlines shall be proposed, finalized and published using the same procedures set forth in Subsection 8.2 above.

8.4 For any operable units not identified as of the effective date of this Agreement, the Air Force shall propose deadlines for all documents listed in Appendix A, Section I.A through I.G (with the exception of the Community Relations Plan) within

twenty-one (21) days of agreement on the proposed operable unit by all Parties. These deadlines shall be proposed, finalized and published using the same procedures set forth in Subsection 8.2 above.

8.5 The deadlines set forth in this Section, or to be established as set forth in this Section, may be extended pursuant to Section 9 (Extensions). The Parties recognize that one possible basis for extension of the deadlines for completion of the Remedial Investigation and Feasibility Study documents is the identification of significant new Site conditions during the performance of the remedial investigation.

9. EXTENSIONS

9.1 Timetables, deadlines and schedules shall be extended upon receipt of a timely request for extension and when good cause exists for the requested extension. Any request for extension by a Party shall be submitted to the other Parties in writing and shall specify:

(a) The timetable, deadline or schedule that is sought to be extended;

(b) The length of the extension sought;

(c) The good cause(s) for the extension; and

(d) The extent to which any related timetable and deadline or schedule would be affected if the extension were granted.

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

(a) An event of Force Majeure;

(b) A delay caused by another Party's failure to meet any requirement of this Agreement;

(c) A delay caused by the good faith invocation of dispute resolution or the initiation of judicial action;

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

(e) A delay caused by public comment periods or hearings required under State of Arizona law in connection with the State's performance of this Agreement;

(f) Any work stoppage within the scope of Section 11 (Emergencies and Removals); or

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

9.3 Absent agreement of the Parties with respect to the existence of good cause, a Party may seek and obtain a determination through the dispute resolution process that good cause exists.

9.4 Within seven (7) days of receipt of a request for an extension of a timetable, deadline or schedule, each receiving Party shall advise the requesting Party orally of the receiving Party's position on the request. Such oral notice shall be confirmed in writing within a reasonable time period. Any failure by a receiving Party to respond within the seven (7) day period shall be deemed to constitute concurrence with the request for

extension. If a receiving Party does not concur in the requested extension, it shall include in its statement of nonconcurrence an explanation of the basis for its position.

9.5 If there is consensus among the Parties that the requested extension is warranted, the Air Force 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.

9.6 Within seven (7) days of receipt of a statement of nonconcurrence with the requested extension, the requesting Party may invoke dispute resolution.

9.7 A timely and good faith request by the Air Force 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 or an application for judicial enforcement may be sought only to compel compliance with the timetable and deadline or schedule as most recently extended.

10. FORCE MAJEURE

10.1 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 the Air Force; delays caused by compliance with applicable statutes or regulations governing contracting, procurement or acquisition procedures, despite the exercise of reasonable diligence; and insufficient availability of appropriated funds which have been diligently sought. In order for Force Majeure based on insufficient funding to apply to the Air Force, the Air Force shall have made timely request for such funds as part of the budgetary process as set forth in Section 15 (Funding). 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.

11. EMERGENCIES AND REMOVALS

11.1 Discovery and Notification: If any Party discovers or becomes aware of an emergency or other situation that may present an endangerment to public health, welfare or the environment at or near the Site, which is related to or may affect the work performed under this Agreement, that Party shall immediately orally notify all other Parties, followed by written notification within seven (7) days. If the emergency arises from activities conducted pursuant to this Agreement, the Air Force shall then take immediate action to notify the appropriate State of Arizona and local agencies and affected members of the public.

11.2 Work Stoppage: In the event any Party determines that activities conducted pursuant to this Agreement will cause or otherwise be threatened by a situation described in Subsection 11.1, the Party may propose the termination of such activities. If the Parties mutually agree, the activities shall be stopped for such period of time as required to abate the danger. In the absence of mutual agreement, the activities shall be stopped in accordance with the proposal, and the matter shall be immediately referred to the EPA Hazardous Waste Management Division Director for a work stoppage determination in accordance with Section 12.10.

11.3 Removal Actions:

(a) The provisions of this Section shall apply to all removal actions as defined in CERCLA section 101(23), 42 U.S.C. § 9601(23) and encompassed by Arizona Revised Statutes section 49-

281(4), including all modifications to, or extensions of, the ongoing removal actions, and all new removal actions proposed or commenced following the effective date of this Agreement.

(b) Any removal actions conducted at the Site shall be conducted in a manner consistent with this Agreement, CERCLA, the NCP and Executive Order 12580.

(c) Nothing in this Agreement shall alter the Air Force's authority with respect to removal actions conducted pursuant to section 104 of CERCLA, 42 U.S.C. § 9604.

(d) Nothing in this Agreement shall alter any authority DEQ, DWR or EPA may have with respect to removal actions conducted at the Site.

(e) All reviews conducted by EPA, DEQ and DWR pursuant to 10 U.S.C. § 2705(b)(2) will be expedited so as not to unduly jeopardize fiscal resources of the Air Force for funding the removal actions.

(f) If a Party determines that there may be an endangerment to the public health or welfare or the environment because of an actual or threatened release of a hazardous substance, pollutant or contaminant at or from the Site, including but not limited to discovery of contamination of a drinking water well at concentrations that exceed any State or federal drinking water action level or standards, the Party may request that the Air Force take such response actions as may be necessary to abate such danger or threat and to protect the public health or welfare or the environment. Such actions might include provision of al-

ternative drinking water supplies or other response actions listed in CERCLA section 101(23) or (24), 42 U.S.C. § 9601(23) or (24), or such other relief as the public interest may require.

11.4 Notice and Opportunity to Comment:

(a) The Air Force shall provide the other Parties with timely notice and opportunity to review and comment upon any proposed removal action for the Site, in accordance with 10 U.S.C. § 2705(a) and (b). The Air Force agrees to provide the information described below pursuant to such obligation.

(b) For emergency response actions, the Air Force shall provide EPA, DEQ and DWR with notice in accordance with Subsection 11.1. Except in the case of extreme emergencies, such oral notification shall include adequate information concerning the Site background, threat to the public health and welfare or the environment (including the need for response), proposed actions and costs (including a comparison of possible alternatives, means of transportation of any hazardous substances off-site, and proposed manner of disposal), expected change in the situation should no action be taken or should action be delayed (including associated environmental impacts), any important policy issues, and the Air Force On-Scene Coordinator recommendations. Within forty-five (45) days of completion of the emergency action, the Air Force will furnish EPA, DEQ and DWR with an Action Memorandum

1 addressing the information provided in the oral notification, and
2 any other information required pursuant to CERCLA and the NCP,
3 and in accordance with pertinent EPA guidance, for such actions.
4 (c) For other removal actions, the Air Force will
5 provide EPA, DEQ and DWR with any information required by CERCLA,
6 the NCP, and in accordance with pertinent EPA guidance, such as
7 the Action Memorandum, the Engineering Evaluation/Cost Analysis
8 (in the case of non-time-critical removals) and, to the extent it
9 is not otherwise included, all information required to be
10 provided in accordance with paragraph (b) of this Subsection.
11 (d) All activities related to ongoing removal actions
12 shall be reported by the Air Force in the progress reports as
13 described in Section 18 (Project Managers).
14 11.5 Any dispute among the Parties as to whether a proposed
15 response action is: (a) properly considered a removal action, as
16 defined by CERCLA section 101(23), 42 U.S.C. § 9601(23) or (b)
17 consistent with the final remedial action, shall be resolved pur-
18 suant to Section 12 (Dispute Resolution). Such dispute may be
19 brought directly to the Dispute Resolution Committee (DRC) or the
20 Senior Executive Committee (SEC) at any Party's request.
21 11.6 The Parties shall first seek to resolve any dispute as
22 to whether the Air Force will take a removal action requested by
23 any other Party under Subsection 11.3(f) through the dispute
24 resolution process contained in Section 12 (Dispute Resolution),
25 but that process shall be modified for disputes on this specific
26 subject matter in accordance with Subsection 12.12. EPA and the
27 State reserve any and all rights each may have with regard to

whether the Air Force will take a removal action requested by any Party pursuant to Subsection 11.3(f) once the dispute resolution process specified in this subsection is exhausted, and notwithstanding Section 31 (Covenant Not To Sue and Reservation of Rights).

12. DISPUTE RESOLUTION

12.1 Except as specifically set forth elsewhere in this Agreement, if a dispute arises under this Agreement, the procedures of this Section shall apply. EPA, the Air Force, and collectively the Parties representing the State as a single unit, may invoke this dispute resolution procedure. 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 Section shall be implemented to resolve a dispute.

12.2 Within thirty (30) days after: (a) the issuance of a draft final primary document pursuant to Section 7 (Consultation), or (b) any action which leads to or generates a dispute, the disputing Party shall submit to the DRC 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 technical, legal or factual information the disputing Party is relying upon to support its position.

12.3 Prior to any Party's issuance of a written statement of a dispute, the disputing Party shall engage the other Parties in informal dispute resolution among the Project Managers and/or

their immediate supervisors. During this informal dispute resolution period the Parties shall meet as many times as are necessary to discuss and attempt resolution of the dispute.

12.4 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 (SES) or equivalent or be delegated the authority to participate on the DRC for the purposes of dispute resolution under this Agreement. The EPA representative on the DRC is the Deputy Director for Superfund Hazardous Waste Management Division, EPA Region 9. The Air Force's designated member is the Director of Environmental Management, Headquarters, Tactical Air Command. The DEQ representative is the Section Manager, Emergency and Remedial Section, Office of Waste Programs. The DWR representative is the Chief, Water Quality Division. Written notice of any delegation of authority from a Party's designated representative on the DRC shall be provided to all other Parties pursuant to the procedures of Section 21 (Notification).

12.5 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 SEC for resolution within seven (7) days after the close of the twenty-one (21) day resolution period.

12.6 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 Region 9. The Air Force's representative on the SEC is the Deputy Chief of Staff for Engineering and Services, Headquarters, Tactical Air Command. The DEQ representative on the SEC is the DEQ Director. The DWR representative on the SEC is the DWR Director. 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. The Air Force or the State may, within fourteen (14) 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 the Air Force or the State elects not to elevate the dispute to the Administrator within the designated fourteen (14) day escalation period, the Air Force and the State shall be deemed to have agreed with the Regional Administrator's written position with respect to the dispute.

12.7 Upon escalation of a dispute to the Administrator of EPA pursuant to Subsection 12.6 above, 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 the Air Force's SEC Representative and the State's SEC representatives to discuss the issue(s) under dispute. Upon resolution, the Administrator shall provide the Air Force and the State with a written final decision setting forth resolution of the dispute. The duties of the Administrator set forth in this Section shall not be delegated.

12.8 Whenever this Section requires unanimity for dispute resolution, DEQ and DWR, as agencies of the State of Arizona, shall speak with one voice between them regardless of whether the State has more than one representative at the particular stage of dispute resolution. It shall be the responsibility of the State to determine who shall present the one position on behalf of the State.

12.9 The pendency of any dispute under this Section shall not affect any Party'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 timetable and deadline or schedule.

12.10 When dispute resolution is in progress, work affected by the dispute will immediately be discontinued if the Hazardous Waste Management Division Director for EPA Region 9 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. The State may request the EPA Hazardous Waste Management Division Director to order work stopped for the reasons set out above. To the extent possible, the Party seeking a work stoppage shall consult with the other Parties prior to initiating a work stoppage request. After work stoppage, if a Party believes that the work stoppage is inappropriate or may have potentially significant adverse impacts, the Party may meet with the other Parties to discuss the work stoppage. Following this meeting, and further considerations of this issue, the EPA Hazardous Waste Management Division Director will issue, in writing, a final decision with respect to the work stoppage. The final written decision of the EPA Hazardous Waste Management Division Director may immediately be subject to formal dispute resolution. Such dispute may be brought directly to either the DRC or the SEC, at the discretion of the Party requesting dispute resolution.

12.11 Within twenty-one (21) days of resolution of a dispute pursuant to the procedures specified in this Section, the Air Force shall incorporate the resolution and final determina-

tion into the appropriate plan, schedule or procedures and proceed to implement this Agreement according to the amended plan, schedule or procedures.

12.12 The following modified dispute resolution procedure shall apply only to disputes arising under Subsection 11.6, concerning a decision by the Air Force not to undertake a removal action as requested under Subsection 11.3(f). This provision shall apply to such disputes in lieu of the procedures specified in Subsections 12.5, 12.6, and 12.7.

(a) For purposes of this modified dispute resolution procedure, the EPA and State representatives on the Dispute Resolution Committee (DRC) and Senior Executive Committee (SEC) shall remain the same as in Subsections 12.4 and 12.6, while the Air Force member of the DRC shall be the Director of Environmental Management, Headquarters, Tactical Air Command, and the Air Force member of the SEC shall be the Deputy Chief of Staff for Engineering and Services, Headquarters, Tactical Air Command.

(b) After submission of a Subsection 11.6 matter to dispute, as described in Subsection 12.2, the DRC shall handle the dispute under the procedure described in Subsection 12.5, except that the DRC shall have ten (10) days rather than twenty one (21) days to unanimously resolve the dispute, and shall forward an unresolved dispute to the SEC within four (4) days rather than seven (7) days.

(c) If agreement is not reached by the DRC, 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 in seven (7) days, the Air Force SEC member shall issue a written position on the dispute. EPA or the State may, within four (4) days of the issuance of the Air Force SEC member's position, issue a written notice elevating the dispute to the Deputy Assistant Secretary of the Air Force for Environment, Safety, and Occupational Health (currently designated SAF/MIQ), for resolution in accordance with all applicable laws and procedures. In the event EPA or the State elects not to elevate the dispute to SAF/MIQ within the designated four (4) day elevation period, EPA and the State shall be deemed to have agreed with the Air Force SEC member's written position with respect to the dispute.

(d) Upon escalation of a dispute to SAF/MIQ pursuant to subsection 12.12(c) above, SAF/MIQ will review and seek to resolve the dispute in a manner acceptable to all Parties within seven (7) days. Upon request, and prior to issuing a recommended resolution, SAF/MIQ shall meet and confer with the EPA Administrator's Representative and the DEQ Director and the DWR Director or their representatives to discuss the issue under dispute. SAF/MIQ shall provide EPA and the State with a proposed resolution of the dispute. In the event EPA or the State do not concur with the SAF/MIQ proposed resolution of the dispute, EPA and the State retain any right each possessed with regard to the issue raised in the dispute under Subsection 11.6. Such nonconcurrence will be transmitted in writing to SAF/MIQ within seven

(7) days of receipt of his/her issuance of the proposed resolution. Failure to transmit such nonconcurrence will be presumed to signify concurrence.

12.13 Subject to the terms of subsections 11.6, 12.12 and 31.2, resolution of a dispute pursuant to this Section of the 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 Section of this Agreement.

13. ENFORCEABILITY

13.1 The Parties agree that:

(a) Upon the effective date of this Agreement, any standard, regulation, condition, requirement or order which has become effective under CERCLA and is incorporated into this Agreement is enforceable by any person pursuant to CERCLA section 310, 42 U.S.C. § 9659, and any violation of such standard, regulation, condition, requirement or order will be subject to civil penalties under CERCLA sections 310(c) and 109, 42 U.S.C. §§ 9659(c) and 9609;

(b) All timetables or deadlines associated with the RI/FS shall be enforceable by any person pursuant to CERCLA section 310, 42 U.S.C. § 9659, and any violation of such timetables or deadlines will be subject to civil penalties under CERCLA sections 310(c) and 109, 42 U.S.C. §§ 9659(c) and 9609;

(c) All terms and conditions of this Agreement which relate to remedial actions, including corresponding timetables, deadlines or schedules, and all work associated with remedial actions, shall be enforceable by any person pursuant to CERCLA section 310(c), 42 U.S.C. § 9659(c), and any violation of such terms or conditions will be subject to civil penalties under CERCLA sections 310(c) and 109, 42 U.S.C. §§ 9659(c) and 9609; and

(d) Any final resolution of a dispute pursuant to Section 12 (Dispute Resolution) of this Agreement which establishes a term, standard, condition, timetable, deadline or schedule shall be enforceable by any person pursuant to CERCLA section 310(c), 42 U.S.C. § 9659(c), and any violation of such term, standard, condition, timetable, deadline or schedule will be subject to civil penalties under CERCLA sections 310(c) and 109, 42 U.S.C. §§ 9659(c) and 9609.

13.2 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 CERCLA section 113(h), 42 U.S.C. § 9613(h).

13.3 Nothing in this Agreement shall be construed as a restriction or waiver of any rights the EPA or the State may have under CERCLA, including but not limited to any rights under sections 113, 121 and 310, 42 U.S.C. §§ 9613, 9621 and 9659. The Air Force does not waive any rights it may have under CERCLA section 120, 42 U.S.C. § 9620, SARA section 211 and Executive Order 12580.

13.4 The Parties agree to exhaust their rights under Section 12 (Dispute Resolution) prior to exercising any rights to judicial review that they may have.

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

14. STIPULATED PENALTIES

14.1 In the event that the Air Force fails to submit a primary document referenced in Section 7 (Consultation) to EPA, DEQ and DWR pursuant to the appropriate timetable or deadline established under Section 8 in accordance with the requirements of this Agreement, or fails to comply with a term or condition of this Agreement which relates to an operable unit or final remedial action, EPA may assess a stipulated penalty against the Air Force. DEQ or DWR may also recommend to EPA that a stipulated penalty be assessed. 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 Subsection occurs.

14.2 Upon determining that the Air Force has failed in a manner set forth in Subsection 14.1, EPA shall so notify the Air Force in writing. If the failure in question is not already subject to dispute resolution at the time such notice is received, the Air Force 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. The Air Force 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.

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

(a) The federal facility responsible for the failure;

(b) A statement of the facts and circumstances giving rise to the failure;

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

(d) A statement of any additional action taken by or at the federal facility to prevent recurrence of the same type of failure; and

(e) The total dollar amount of the stipulated penalty assessed for the particular failure.

14.4 Stipulated penalties assessed pursuant to this Section shall be payable to the Hazardous Substances Response Trust Fund only in the manner and to the extent expressly provided for in acts authorizing funds for, and appropriations to, the DOD. EPA, DEQ and DWR, to the extent allowed by law, agree to divide

equally any stipulated penalties paid on behalf of Luke AFB with fifty percent (50%) allocated to EPA and fifty percent (50%) allocated to the State.

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

14.6 This Section shall not affect the Air Force's ability to obtain an extension of a timetable, deadline or schedule pursuant to Section 9 (Extensions).

14.7 Nothing in this Agreement shall be construed to render any member, employee, agent or authorized representative of the Air Force personally liable for the payment of any stipulated penalty assessed pursuant to this Section.

15. FUNDING

15.1 It is the expectation of the Parties to this Agreement that all obligations of the Air Force arising under this Agreement will be fully funded. The Air Force agrees to seek sufficient funding through the DOD budgetary process to fulfill its obligations under this Agreement.

15.2 In accordance with CERCLA section 120(e)(5)(B), 42 U.S.C. § 9620(e)(5)(B), the Air Force shall include, in its submission to the Department of Defense annual report to Congress, the specific cost estimates and budgetary proposals associated with the implementation of this Agreement.

15.3 Any requirement for the payment or obligation of funds, including stipulated penalties, by the Air Force 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.

15.4 If appropriated funds are not available to fulfill the Air Force's obligations under this Agreement, EPA, DEQ and DWR reserve the right to initiate an action against any other person, or to take any response action, which would be appropriate absent this Agreement.

15.5 Funds authorized and appropriated annually by Congress under the "Environmental Restoration, Defense" appropriation in the Department of Defense Appropriation Act and allocated by the Deputy Assistant Secretary of Defense for Environment to the Air Force will be the source of funds for activities required by this Agreement consistent with section 211 of CERCLA, 10 U.S.C. § Chapter 160. However, should the Environmental Restoration, Defense appropriation be inadequate in any year to meet the total Air Force CERCLA implementation requirements, the DOD shall employ and the Air Force shall follow a standardized DOD prioritization process which allocates that year's appropriations in a manner which maximizes the protection of human health and

the environment. A standardized DOD prioritization model shall be developed and utilized with the assistance of EPA and the states.

16. EXEMPTIONS

16.1 The obligation of the Air Force to comply with the provisions of this Agreement may be relieved by:

(a) A Presidential order of exemption issued pursuant to the provisions of CERCLA section 120(j)(1), 42 U.S.C. § 9620(j)(1), or RCRA section 6001, 42 U.S.C. § 6961; or

(b) The order of an appropriate court.

16.2 The State reserves any statutory right it may have to challenge any Presidential Order relieving the Air Force of its obligations to comply with this Agreement.

17. STATUTORY COMPLIANCE/RCRA-CERCLA INTEGRATION

17.1 The Parties intend to integrate the Air Force'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 will achieve compliance with CERCLA, 42 U.S.C. §§ 9601 et seq., to satisfy the corrective action requirements of RCRA section 3004(u) and (v), 42 U.S.C. § 6924(u) and (v), for a RCRA permit, and RCRA section 3008(h), 42 U.S.C. § 6928(h), for interim status facilities; and to meet or

exceed all applicable or relevant and appropriate federal and State of Arizona laws and regulations, to the extent required by CERCLA section 121, 42 U.S.C. § 9621.

17.2 Based upon the foregoing, the Parties intend that any remedial action selected, implemented and completed under this Agreement will 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 (i.e., no further corrective action shall be required). 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 CERCLA section 121, 42 U.S.C. § 9621.

17.3 The Parties recognize that the requirement to obtain permits for response actions undertaken pursuant to this Agreement shall be as provided for in CERCLA and the NCP. The Parties recognize that ongoing activities outside the scope of this Agreement at Luke AFB may require the issuance of permits under federal and State of Arizona laws. This Agreement does not affect the requirements, if any, to obtain such permits. However, if a permit is issued to the Air Force for ongoing hazardous waste management activities at the Site, the issuing party shall reference and incorporate in a permit condition any appropriate provision, including appropriate schedules (and the provision for extension of such schedules), of this Agreement into such permit. The Parties intend that any judicial review of any permit condi-

tion which references this Agreement shall, to the extent authorized by law, only be reviewed under the provisions of CERCLA.

18. PROJECT MANAGERS

18.1 On or before the effective date of this Agreement, EPA, the Air Force, DEQ and DWR shall each designate a Project Manager and an alternate (each hereinafter referred to as Project Manager), for the purpose of overseeing the implementation of this Agreement. The Project Managers shall be responsible on a daily basis for assuring proper implementation of the RI/FS and the RD/RA in accordance with the terms of the Agreement. In addition to the formal notice provisions set forth in Section 21 (Notification), to the maximum extent possible, communications among the Air Force, EPA, DEQ and DWR on all documents, including reports, comments, and other correspondence concerning the activities performed pursuant to this Agreement, shall be directed through the Project Managers.

18.2 The Air Force, EPA, DEQ and DWR may change their respective Project Managers. The other Parties shall be notified in writing within five (5) days of the change.

18.3 The Project Managers shall meet to discuss progress as described in Subsection 7.5. Although the Air Force has ultimate responsibility for meeting its respective deadlines or schedule, the Project Managers shall assist in this effort by consolidating the review of primary and secondary documents whenever possible, and by scheduling progress meetings to review reports, evaluate the performance of environmental monitoring at the Site, review

RI/FS or RD/RA progress, discuss target dates for elements of the RI/FS to be conducted in the following one hundred and eighty (180) days, resolve disputes, and adjust deadlines or schedules. At least one week prior to each scheduled progress meeting, the Air Force will provide to the other Parties a draft agenda and summary of the status of the work subject to this Agreement. Unless the Project Managers agree otherwise, the Air Force shall prepare minutes of each progress meeting. These minutes, along with the meeting agenda and all documents discussed during the meeting (which were not previously provided) as attachments, shall constitute a progress report, which the Air Force shall send to all Project Managers within ten (10) business days after the meeting ends. If an extended period occurs between Project Manager progress meetings, the Project Managers may agree that the Air Force shall prepare an interim progress report and provide it to the other Parties. The report shall include the information that would normally be discussed in a progress meeting of the Project Managers. Other meetings shall be held more frequently upon request by any Project Manager.

18.4 The authority of the Project Managers shall include, but is not limited to:

(a) Taking samples and ensuring that sampling and other field work is performed in accordance with the terms of any final work plan and QAPP;

(b) Observing, and taking photographs and making such other reports on the progress of the work as the Project Managers deem appropriate, subject to the limitations set forth in Section 25 (Access to Federal Facility) hereof;

(c) Reviewing records, files and documents relevant to the work performed;

(d) Determining the form and specific content of the Project Manager meetings and of progress reports based on such meetings;

(e) Recommending and requesting minor field modifications to the work to be performed pursuant to a final work plan, or in techniques, procedures, or design utilized in carrying out such work plan; and

(f) Exercising the authority vested by the NCP, Section 300.120(b)(1), in the Air Force RPM as On Scene Coordinator and Remedial Project Manager in consultation with the EPA and State RPMs and in accordance with the procedures specified in this Agreement.

18.5 Any minor field modification proposed by any Party pursuant to this Section must be approved orally by all Parties' Project Managers to be effective. The Air Force Project Manager will make a contemporaneous record of such modification and approval in a written log, and a copy of the log entry will be provided as part of the next progress report. Even after approval of the proposed modification, no Project Manager will require implementation by a government contractor without approval of the appropriate Government Contracting Officer.

18.6 The Project Manager for the Air Force shall be responsible for day-to-day field activities at the Site. The Air Force Project Manager or other designated employee of Luke AFB shall be present at the Site or reasonably available to supervise work during all hours of work performed at the Site pursuant to this Agreement. For all times that such work is being performed, the Air Force Project Manager shall inform the command post at Luke AFB of the name and telephone number of the designated employee responsible for supervising the work.

18.7 The Project Managers shall be reasonably available to consult on work performed pursuant to this Agreement and shall make themselves available to each other for the pendency of this Agreement. The absence of EPA, DEQ, DWR, or Air Force Project Managers from the facility shall not be cause for work stoppage of activities taken under this Agreement.

19. PERMITS

19.1 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-site are exempted from the procedural requirement to obtain a federal, State of Arizona, 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.

19.2 This Section is not intended to relieve the Air Force from any and all regulatory requirements, including obtaining a permit, whenever it proposes a response action involving either the movement of hazardous substances, pollutants, or contaminants off-site, or the conduct of a response action off-site.

19.3 The Air Force shall notify EPA, DEQ and DWR in writing of any permit required for off-site activities as soon as it becomes aware of the requirement. The Air Force agrees to obtain any permits necessary for the performance of any work under this Agreement. Upon request, the Air Force shall provide EPA, DEQ and DWR copies of all such permit applications and other documents related to the permit process. Copies of permits obtained in implementing this Agreement shall be appended to the appropriate submittal or progress report. Upon request by the Air Force Project Manager, the Project Managers of EPA, DEQ and DWR will assist Luke AFB to the extent feasible in obtaining any required permit.

20. QUALITY ASSURANCE

20.1 To ensure compliance with the QAPP, the Air Force shall arrange for access, upon request by EPA or the State, to all laboratories performing analysis on behalf of the Air Force pursuant to this Agreement.

21. NOTIFICATION

21.1 All Parties shall transmit primary and secondary documents, and comments thereon, and all notices required herein by next day mail, hand delivery, or facsimile. Time limitations shall commence upon receipt.

21.2 Notice to the individual Parties pursuant to this Agreement shall be sent to the addresses specified by the Parties. Initially these shall be as follows:

William Lopp, Remedial Project Manager, Luke AFB
U.S. Environmental Protection Agency, Region 9
Hazardous Waste Management Division, H-7-3
1235 Mission Street
San Francisco, CA 94103;

and

Luke AFB Remedial Project Manager
Remedial Projects Unit
Office of Waste Programs
Arizona Department of Environmental Quality
2005 N. Central Avenue
Phoenix, AZ 85004

and

Dave Annis, Project Manager, Luke AFB
Remedial Action Division
Arizona Department of Water Resources
15 South 15th Avenue
Phoenix, AZ 85007

and

Attn: Capt. Delphine Rafferty
Chief Environmental Quality Branch
832 CSG/DEV
Luke AFB Air Force Base, Arizona 85309

21.3 All routine correspondence may be sent via first class mail to the above addressees.

22. DATA AND DOCUMENT AVAILABILITY

22.1 Upon request by any party, each Party shall make the requested sampling results, test results or other data or documents generated through the implementation of this Agreement available to the other Parties. As soon as possible, but not later than sixty (60) days after the last sampling event of a group of samples, the Air Force shall, at a minimum, provide a quality assured data summary report citing all results which initially measure above detection. As soon as possible but not later than one hundred twenty (120) days after the last sampling event of a group of samples, the Air Force shall provide all requested quality assured data. If quality assurance procedures are not completed within the sixty (60) or one hundred twenty (120) day time frames, then reports without quality assurance shall be submitted within their respective time frames and quality assured data shall be submitted as soon as it becomes available. For the purpose of this paragraph, a "group of samples" is intended to mean (1) an established round of quarterly or monthly samples collected from a specified network of locations, or (2) a discrete sampling episode.

22.2 The sampling Party's Project Manager shall notify the other Parties' Project Managers not less than ten (10) days in advance of any sample collection. If it is not possible to provide ten (10) days prior notification, the sampling Party's Project Manager shall notify the other Project Managers as soon

as possible after becoming aware that samples will be collected. Each Party shall allow, to the extent practicable, split or duplicate samples to be taken by the other Parties or their authorized representatives in accordance with final RI/FS Workplans, QAPP and FSPs.

23. RELEASE OF RECORDS

23.1 The Parties may request of one another access to or a copy of any record or document relating to this Agreement or the Installation Restoration Program (IRP). If the Party that is the subject of the request (the originating Party) has the record or document, that Party shall provide access to or a copy of the record or document; provided, however, that no access to or copies of records or documents need be provided if they are subject to claims of attorney-client privilege, attorney work product, deliberative process, enforcement confidentiality, or properly classified for national security under law or executive order.

23.2 Records or documents identified by the originating Party as confidential pursuant to other non-disclosure provisions of the Freedom of Information Act, 5 U.S.C. § 552, or pursuant to State of Arizona law, shall be released to the requesting Party, provided the requesting Party states in writing that it will not release the record or document to the public without prior approval of the originating Party or after opportunity to consult and, if necessary, contest any preliminary decision to release a document, in accordance with applicable statutes and regula-

tions. Records or documents which are provided to the requesting Party and which are not identified as confidential may be made available to the public without further notice to the originating Party.

23.3 The Parties will not assert one of the above exemptions, including any available under the Freedom of Information Act or Arizona Public Records Act, even if available, if no governmental interest would be jeopardized by access or release as determined solely by that Party.

23.4 Subject to section 120(j)(2) of CERCLA, 42 U.S.C. § 9620(j)(2), any documents required to be provided by Section 7 (Consultation), and analytical data showing test results will always be releasable and no exemption shall be asserted by any Party.

23.5 This Section does not change any requirement regarding press releases in Section 26 (Public Participation and Community Relations).

23.6 A determination not to release a document for one of the reasons specified above shall not be subject to Section 12 (Dispute Resolution). Any Party objecting to another Party's determination may pursue the objection through the determining Party's appeal procedures.

24. PRESERVATION OF RECORDS

24.1 Despite any document retention policy to the contrary, the Parties shall preserve, during the pendency of this Agreement and for a minimum of ten (10) years after its termination, all

records and documents contained in the Administrative Record and any additional records and documents retained in the ordinary course of business which relate to the actions carried out pursuant to this Agreement. After this ten (10) year period, each Party shall notify the other Parties at least forty-five (45) days prior to destruction of any such documents. Upon request by any Party, the requested Party shall make available such records or copies of any such records, unless withholding is authorized and determined appropriate by law.

25. ACCESS TO FEDERAL FACILITY

25.1 Without limitations on any authority conferred on EPA, DEQ or DWR by statute or regulation, EPA, DEQ or DWR or their authorized representatives, shall be allowed to enter Luke AFB at reasonable times for purposes consistent with the provisions of the Agreement, subject to any statutory and regulatory requirements necessary to protect national security or mission essential activities. Such access shall include, but not be limited to, reviewing the progress of the Air Force in carrying out the terms of this Agreement; ascertaining that the work performed pursuant to this Agreement is in accordance with approved work plans, sampling plans and QAPPs; and conducting such tests as EPA, DEQ, DWR, or the Project Managers deem necessary.

25.2 The Air Force shall honor all reasonable requests for access by the EPA, DEQ or DWR, conditioned upon presentation of proper credentials. The Air Force Project Manager will provide

briefing information, coordinate access and escort to restricted or controlled-access areas, arrange for base passes and coordinate any other access requests which arise.

25.3 EPA, DEQ and DWR shall provide reasonable notice to the Air Force Project Manager to request any necessary escorts. EPA, DEQ and DWR shall not use any camera, sound recording or other recording device at Luke AFB without the permission of the Air Force Project Manager. The Air Force shall not unreasonably withhold such permission.

25.4 The access by EPA, DEQ and DWR, granted in Subsection 25.1 of this Section, shall be subject to those regulations necessary to protect national security or mission essential activities. Such regulation shall not be applied so as to unreasonably hinder EPA, DEQ or DWR from carrying out their responsibilities and authority pursuant to this Agreement. In the event that access requested by either EPA, DEQ or DWR is denied by the Air Force, the Air Force shall provide an explanation within 48 hours of the reason for the denial, including reference to the applicable regulations, and, upon request, a copy of such regulations. The Air Force shall expeditiously make alternative arrangements for accommodating the requested access. The Parties agree that this Agreement is subject to CERCLA section 120(j), 42 U.S.C. § 9620(j), regarding the issuance of Site Specific Presidential Orders as may be necessary to protect national security.

25.5 If EPA, DEQ or DWR requests access in order to observe a sampling event or other work being conducted pursuant to this Agreement, and access is denied or limited, the Air Force agrees to reschedule or postpone such sampling or work if EPA, DEQ or DWR so requests, until such mutually agreeable time when the requested access is allowed. The Air Force shall not restrict the access rights of the EPA, DEQ or DWR to any greater extent than the Air Force restricts the access rights of its contractors performing work pursuant to this Agreement.

25.6 All Parties with access to Luke AFB pursuant to this Section shall comply with all applicable health and safety plans.

25.7 To the extent the activities pursuant to this Agreement must be carried out on other than Air Force's property, the Air Force shall use its best efforts, including its authority under CERCLA section 104, 42 U.S.C. § 9604, to obtain access agreements from the owners which shall provide reasonable access for the Air Force, EPA, DEQ and DWR and their representatives. The Air Force may request the assistance of DEQ in obtaining such access, and upon such request, DEQ will use its best efforts to obtain the required access. In the event that the Air Force is unable to obtain such access agreements, the Air Force shall promptly notify EPA, DEQ and DWR.

25.8 With respect to non-Air Force property on which monitoring wells, pumping wells, or other response actions are to be located, the Air Force shall use its best efforts to ensure that any access agreements shall provide for the continued right of entry for all Parties for the performance of such remedial ac-

tivities. In addition, any access agreement shall provide that no conveyance of title, easement, or other interest in the property shall be consummated without the continued right of entry.

25.9 Nothing in this Section shall be construed to limit EPA's, DEQ's and DWR's full right of access as provided in section 104(e) of CERCLA, 42 U.S.C. § 9604(e), and Arizona Revised Statutes section 49-287, paragraphs J and K, except as that right may be limited by section 120(j)(2) of CERCLA, 42 U.S.C. § 9620(j)(2), Executive Order 12580, or other applicable national security regulations or federal law.

26. PUBLIC PARTICIPATION AND COMMUNITY RELATIONS

26.1 The Parties agree that any proposed removal actions and remedial action alternative(s) and plan(s) for remedial action at the Site arising out of this Agreement shall comply with the administrative record and public participation requirements of CERCLA sections 113(k) and 117, 42 U.S.C. §§ 9613(k) and 9617, relevant community relations provisions in the NCP, EPA guidances, and, to the extent they may apply, State statutes and regulations. The State agrees to inform the Air Force of all State requirements which it believes pertain to public participation. The provisions of this Section shall be carried out in a manner consistent with, and shall fulfill the intent of, Section 17 (Statutory Compliance - RCRA/CERCLA Integration).

26.2 The Air Force shall develop and implement a community relations plan (CRP) addressing the environmental activities and elements of work undertaken by the Air Force.

26.3 The Air Force shall establish and maintain an administrative record at a place, at or near the federal facility, which is freely accessible to the public, which record shall provide the documentation supporting the selection of each response action. The administrative record shall be established and maintained in accordance with relevant provisions in CERCLA, the NCP, and EPA guidances. A copy of each document placed in the administrative record, not already provided, will be provided by the Air Force to the other Parties. The administrative record developed by the Air Force shall be updated and new documents supplied to the other Parties on at least a quarterly basis. An index of documents in the administrative record will accompany each update of the administrative record.

26.4 Except in case of an emergency, any Party issuing a press release with reference to any of the work required by this Agreement shall advise the other Parties of such press release and the contents thereof, at least forty-eight (48) hours prior to issuance.

27. FIVE YEAR REVIEW

27.1 Consistent with section 121(c) of CERCLA, 42 U.S.C. § 9621(c), and in accordance with this Agreement, if the selected remedial action results in any hazardous substances, pollutants or contaminants remaining at the Site, the Parties shall review

the remedial action program at least 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 being implemented.

27.2 If, upon such review, any of the Parties proposes additional work or modification of work, such proposal shall be handled under Subsection 7.10 of this Agreement.

27.3 To synchronize the five-year reviews for all operable units and final remedial actions, the following procedure will be used: Review of operable units will be conducted every five years counting from the initiation of the first operable unit, until initiation of the final remedial action for the Site. At that time a separate review for all operable units shall be conducted. Review of the final remedial action (including all operable units) shall be conducted every five years thereafter.

28. TRANSFER OF REAL PROPERTY

28.1 No change in the ownership of the Luke AFB Air Force Base shall in any way alter the responsibilities of the Parties under this Agreement. The Air Force shall not transfer any real property comprising the federal facility except in compliance with section 120(h) of CERCLA, 42 U.S.C. § 9620(h). Prior to any transfer of any portion of the real property comprising the federal facility which includes an area within which any release of hazardous substance has come to be located, or any property which is necessary for proceeding with the remedial action, the Air Force shall give written notice of that condition to the

recipient of the property; and at least thirty (30) days prior to any such transfer, the Air Force shall notify all Parties of the transfer of any real property subject to this Agreement and the provisions made for any additional remedial actions, if required.

28.2 Until six (6) months following the effective date of the final regulations implementing CERCLA section 120(h)(2), 42 U.S.C. § 9620(h)(2), the Air Force agrees to comply with the most recent version of the regulations as proposed and all other substantive and procedural provisions of CERCLA section 120(h), 42 U.S.C. § 9620(h), and Subsection 28.1 of this Section.

29. AMENDMENT OR MODIFICATION OF AGREEMENT

29.1 This Agreement can be amended or modified solely upon written consent of all Parties. Such amendments or modifications may be proposed by any Party and shall be effective the third business day following the day the last Party to sign the amendment or modification sends its notification of signing to the other Parties. The Parties may agree to a different effective date.

30. TERMINATION OF THE AGREEMENT

30.1 At the completion of the Remedial Action, the Air Force shall prepare a Project Close-Out Report that certifies that all requirements of this Agreement have been completed. The provisions of this Agreement shall be deemed satisfied and terminated upon receipt by the Air Force of written notice from EPA, with concurrence of DEQ and DWR, that the Air Force has

demonstrated that all the terms of this Agreement have been completed. If EPA denies or otherwise fails to grant a termination notice within ninety (90) days of receiving a written Air Force request for such notice, EPA shall provide a written statement of the basis for its denial and describe the Air Force actions which, in the view of EPA, would be a satisfactory basis for granting a notice of completion. Such denial shall be subject to dispute resolution.

30.2 This provision shall not affect the requirements for periodic review at maximum five (5) year intervals of the efficacy of the remedial actions.

31. COVENANT NOT TO SUE AND RESERVATION OF RIGHTS

31.1 In consideration for the Air Force's compliance with this Agreement, and based on the information known to the Parties or reasonably available on the effective date of this Agreement, EPA, the Air Force, DEQ and DWR agree that compliance with this Agreement shall stand in lieu of any administrative, legal, and equitable remedies against the Air Force available to them regarding the releases or threatened releases of hazardous substances including hazardous wastes, pollutants or contaminants at the Site which are the subject of any RI/FS conducted pursuant to this Agreement and which have been or will be adequately addressed by the remedial actions provided for under this Agreement.

31.2 Notwithstanding this Section, or any other Section of this Agreement, DEQ and DWR shall retain any statutory right they may have to obtain judicial review of any final decision of the EPA on selection of remedial action pursuant to any authority DEQ and DWR may have under CERCLA, including sections 121(e)(2), 121(f), 310 and 113, 42 U.S.C. §§ 9621(e)(2), 9621(f), 9659 and 9613.

32. OTHER CLAIMS

32.1 Nothing in this Agreement shall constitute or be construed as a bar or release from any claim, cause of action or demand in law or equity by or against any person, firm, partnership or corporation not a signatory to this Agreement for any liability it may have arising out of or relating in any way to the generation, storage, treatment, handling, transportation, release, or disposal of any hazardous substances, hazardous waste, pollutants, or contaminants found at, taken to, or taken from the federal facility. Unless specifically agreed to in writing by the Parties, EPA, DEQ and DWR shall not be held as a party to any contract entered into by the Air Force to implement the requirements of this Agreement.

32.2 This agreement shall not restrict EPA, DEQ or DWR from taking any legal or response action for any matter not part of the subject matter of this Agreement.

33. RECOVERY OF EPA EXPENSES

33.1 The Parties agree to amend this Agreement at a later date in accordance with any subsequent national resolution of the issue of cost reimbursement. Pending such resolution, EPA reserves any rights it may have with respect to cost reimbursement.

34. STATE SUPPORT SERVICES

34.1 The Air Force agrees to request funding and reimburse the State, subject to the conditions and limitations set forth in this Section, and subject to Section 15 (Funding), for all reasonable costs it incurs in providing services in direct support of the Air Force's environmental restoration activities pursuant to this Agreement at the Site.

34.2 Reimbursable expenses shall consist only of actual expenditures required to be made and actually made by the State in providing the following assistance to Luke AFB:

(a) Timely technical review and substantive comment on reports or studies which the Air Force prepares in support of its response actions and submits to the State;

(b) Identification and explanation of unique State requirements applicable to military installations in performing response actions, especially State applicable or relevant and appropriate requirements (ARARs);

(c) Field visits to ensure investigations and cleanup activities are implemented in accordance with appropriate State requirements, or in accordance with agreed upon conditions between the State and the Air Force that are established in the framework of this Agreement;

(d) Support and assistance to the Air Force in the conduct of public participation activities in accordance with federal and State requirements for public involvement;

(e) Participation in the review and comment functions of Air Force Technical Review Committees; and

(f) Other services specified in this Agreement.

34.3 Within ninety (90) days after the end of each quarter of the federal fiscal year, the State shall submit to the Air Force an accounting of all State costs actually incurred during that quarter in providing direct support services under this Section. Such accounting shall be accompanied by cost summaries and be supported by documentation which meets federal auditing requirements. The summaries will set forth employee-hours and other expenses by major type of support service. All costs submitted must be for work directly related to implementation of this Agreement and not inconsistent with either the National Contingency Plan (NCP) or the requirements described in OMB Circulars A-87 (Cost Principles for State and Local Governments) and A-128 (Audits for State and Local Cooperative Agreements with State and Local Governments) and Standard Forms 424 and 270. The Air Force has the right to audit cost reports used by the State to develop the cost summaries. Before the beginning of each fis-

cal year, the State shall supply a budget estimate of what it plans to do in the next year in the same level of detail as the billing documents.

34.4 Within ninety (90) days of receipt of the accounting provided pursuant to Subsection 34.3 above, the Air Force shall reimburse the State in the amount set forth in the accounting, except for any portion of the accounting in dispute pursuant to Subsections 34.5 or 34.6.

34.5 In the event the Air Force contends that any of the costs set forth in the accounting provided pursuant to Subsection 34.3 above are not properly payable, the matter shall be resolved through a bilateral dispute resolution process set forth at Subsection 34.9 below.

34.6 (a) The Air Force shall not be responsible for reimbursing the State for any costs actually incurred in the implementation of this Agreement in excess of one percent (1%) of the Air Force total lifetime project costs incurred through construction of the remedial action(s). This total reimbursement limit is currently estimated to be a sum of $ 182,000 over the life of the Agreement. Circumstances could arise whereby fluctuations in the Air Force estimates or actual final costs through the construction of the final remedial action creates a situation where the State receives reimbursement in excess of one percent of these costs. Under these circumstances, the State remains entitled to payment for services rendered prior to the completion of a new estimate if the services are within the ceiling applicable under the previous estimate.

(b) Funding of support services must be constrained so as to avoid unnecessary diversion of the limited Defense Environmental Restoration Account funds available for the overall cleanup, and

(c) Support services should not be disproportionate to overall project costs and budget.

34.7 Either the Air Force or the State may request, on the basis of significant upward or downward revisions in the Air Force's estimate of its total lifetime costs through construction used in Subsection 34.6 above, a renegotiation of the cap. Failing an agreement, either the Air Force or the State may initiate dispute resolution in accordance with Subsection 34.9 below.

34.8 The State agrees to seek reimbursement for its expenses solely through the mechanisms established in this Section, and reimbursement provided under this Section shall be in settlement of any claims for State response costs relative to the Air Force's environmental restoration activities at the Site.

34.9 Section 12 (Dispute Resolution) notwithstanding, this Subsection shall govern any dispute between the Air Force and the State regarding the application of this Section or any matter controlled by this Section including, but not limited to, allowability of expenses and limits on reimbursement. While it is the intent of the Air Force and the State that these procedures shall govern resolution of disputes concerning State reimbursement, informal dispute resolution is encouraged.

(a) The Air Force and State Project Managers shall be the initial points of contact for coordination of dispute resolution under this Subsection.

(b) If the Air Force and State Project Managers are unable to resolve a dispute, the matter shall be referred to the Deputy Chief of Staff for Engineering and Services, Headquaters, Tactical Air Command, or his designated representative, and the Section Manager, Emergency and Remedial Projects Section, DEQ and the Chief, Water Quality Division, DWR, as soon as practicable, but in any event within five (5) working days after the dispute is elevated by the Project Managers.

(c) If the Deputy Chief of Staff for Engineering and Services, Headquaters, Tactical Air Command, and the Section Manager, Emergency and Remedial Projects Section, DEQ and the Chief, Water Quality Division, DWR, are unable to resolve the dispute within ten (10) working days, the matter shall be elevated to the DEQ Assistant Director, Office of Waste Programs, and the Deputy Director, Office of Engineering, DWR and the Deputy Assistant Secretary of the Air Force for Environment, Safety, and Occupational Health.

(d) In the event the DEQ Assistant Director, Office of Waste Programs, and the Deputy Director, Office of Engineering, DWR and the Deputy Assistant Secretary of the Air Force are unable to resolve a dispute, the State retains any legal and equitable remedies it may have to recover its expenses. In addition, the State may withdraw from this Agreement by giving sixty (60) days notice to the other Parties.

34.10 Nothing herein shall be construed to limit the ability of the Air Force to contract with the State for technical services that could otherwise be provided by a private contractor including, but not limited to:

(a) Identification, investigation, and cleanup of any contamination beyond the boundaries of Luke AFB;

(b) Laboratory analysis; or

(c) Data collection for field studies.

34.11 Nothing in this Agreement shall be construed to constitute a waiver of any claims by the State for any expenses incurred prior to the effective date of this Agreement.

34.12 The Air Force and the State agree that the terms and conditions of this Section shall become null and void when the State enters into a Defense/State Memorandum of Agreement (DSMOA) with the Department of Defense (DOD) which addresses State reimbursement.

35. STATE PARTICIPATION CONTINGENCY

35.1 If either or both of the the State agencies fail to sign this Agreement within thirty (30) days of notification of the signature by both EPA and the Air Force, this Agreement will be interpreted as if the non-signing agency(ies) were not a Party and any reference to such agency(ies) in this Agreement will have no effect. In addition, all other provisions of this Agreement notwithstanding, if either or both of the State agencies does not sign this Agreement within the said thirty (30) days, the Air Force shall only have to comply with any State of Arizona re-

quirements, conditions, or standards, including those specifically listed in this Agreement, which the Air Force would otherwise have to comply with absent this Agreement.

35.2 In the event that DEQ or DWR does not sign this Agreement:

(a) The Air Force agrees to transmit all primary and secondary documents to DEQ and DWR at the same time such documents are transmitted to EPA; and

(b) EPA intends to consult with the State with respect to the above documents and during implementation of this Agreement.

36. EFFECTIVE DATE AND PUBLIC COMMENT

36.1 This Agreement is effective upon signature by all parties. In the event either or both of DEQ and DWR fails to sign this Agreement in the time period set forth in Section 35 of this Agreement (STATE PARTICIPATION CONTINGENCY), then "effective date" shall mean thirty (30) days from the date the non-signing agency or agencies receives notice that both EPA and the Air Force have signed the Agreement.

36.2 The provisions of this Section shall be carried out in a manner consistent with, and shall fulfill the intent of Section 17 (Statutory Compliance - RCRA/CERCLA Integration).

36.3 Within fifteen (15) days after EPA, as the last signatory, executes this Agreement, the Air Force shall announce the availability of this Agreement to the public for a minimum forty-five (45) day period of review and comment, but ending no

earlier than the date on which comments from EPA and the State are due, under Section 8, on proposed deadlines. Publication shall include publication in at least two major local newspapers of general circulation.

36.4 Promptly upon the completion of the comment period, the Air Force shall transmit to the other Parties copies of all comments received within the comment period. The Parties shall review all comments and, within thirty (30) days after the close of the comment period, the Air Force shall prepare a written response to the public comments, for review and concurrence of the other Parties. Within sixty (60) days after the close of the comment period, the Parties shall determine that either:

(a) the Agreement shall remain effective in its present form; or

(b) the Parties will seek to modify the Agreement pursuant to Section 29 (Amendment or Modification of Agreement), in response to the comments received. Absent or pending an amendment of the Agreement pursuant to Section 29, the Agreement will remain effective in its form as originally executed.

36.5 Any response action underway upon the effective date of this Agreement shall be subject to oversight by the Parties.

37. APPENDICES AND ATTACHMENTS

37.1 Appendix A to this Agreement shall be an integral and enforceable part of the Agreement. It shall include a listing of the most current versions of:

(a) All final primary and secondary documents which will be created in accordance with Section 7 (Consultation);

(b) All primary documents submitted before the effective date of the Agreement;

(c) All deadlines previously established;

(d) All deadlines which will be established in accordance with Section 8 (Deadlines) and which may be extended in accordance with Section 9 (Extensions); and

(e) Operable units identified at the Site as of the effective date of the Agreement.

37.2 Attachments shall be for information only and shall not be enforceable parts of this Agreement. The information in these attachments is provided to support the initial review and comment upon this Agreement, and they are only intended to reflect the conditions known at the signing of this Agreement. None of the facts related therein shall be considered admissions by, nor are they legally binding upon, any Party with respect to any claims unrelated to, or persons not a Party to, this Agreement. They shall include:

(a) Statement of Facts;

(b) Site map of Luke AFB

(c) Chemicals of concern;

(d) Description of selected primary and secondary documents.

(e) RI/FS workplan outline; and

(f) Removal actions proposed by the Air Force.

38. COUNTERPARTS

38.1 This Federal Facility Agreement may be executed and delivered in any number of counterparts, each of which when executed and delivered shall be deemed to be an original, but such counterparts shall together constitute one and the same document.

COUNTERPART SIGNATURE PAGE

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.

UNITED STATES AIR FORCE

26 Sep 90
DATE

Ralph T. Browning
RALPH T. BROWNING
Brigadier General
United States Air Force
Commander, 832 Air Division
Luke Air Foce Base, Arizona

COUNTERPART SIGNATURE PAGE

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.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

9.27.90
DATE

John Wise
for DANIEL W. MCGOVERN
Regional Administrator
U.S. Environmental Protection Agency
Region IX

COUNTERPART SIGNATURE PAGE

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.

STATE OF ARIZONA
DEPARTMENT OF ENVIRONMENTAL QUALITY

9-17-90
DATE

RANDOLPH WOOD, Director
Arizona Department of Environmental Quality

COUNTERPART SIGNATURE PAGE

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.

STATE OF ARIZONA
DEPARTMENT OF WATER RESOURCES

4/9/96
DATE

N. W. PLUMMER, Director
Arizona Department of Water Resources

APPENDIX A

PRIMARY AND SECONDARY DOCUMENTS

I. Primary Documents: The Air Force shall complete and transmit drafts of the following primary documents for each operable unit and for the final remedy to EPA and the State, for review and comment in accordance with the provisions of Section 7 of this Agreement. All primary documents will be produced consistent with the National Contingency Plan and appropriate EPA guidance.

A. Remedial Investigation/Feasibility Study (RI/FS) Workplan.

B. Sampling and Analysis Plan (SAP) comprised of a Quality Assurance Project Plan (QAPP) and a Field Sampling Plan (FSP).

C. Community Relations Plan (CRP).

D. Remedial Investigation (RI) Report including Risk Assessment.

E. Feasibility Study (FS) Report.

F. Proposed Plan.

G. Record of Decision (ROD).

H. Remedial Design/Remedial Action (RD/RA) Work Plan.

I. Remedial Design (including Contingency Plan).

J. Construction Quality Assurance Plan.

K. Construction Quality Control Plan.

II. Secondary Documents: The Air Force shall complete and transmit drafts of the following secondary documents for each operable unit and for the final remedy to EPA and the State for review and comment. All secondary documents will be produced consistent with the National Contingency Plan and appropriate EPA guidance.

A. Site Characterization Summary (part of RI).

B. Sampling and Data Results.

C. Treatability Studies (only if generated).

D. Initial Screening of Alternatives.

E. Risk Assessment Report (including Ecological Assessment Report).

F. Well closure methods and procedures (as appropriate).

G. Detailed Analyses of Alternatives.

H. Preliminary Remedial Design.

III. Primary documents submitted before the effective date of the Agreement: The Parties agree that, for the purposes of formally initiating the review and comment period set forth in Section 7.7 of this Agreement (Review and Comment on Draft Documents), the effective date of this Agreement shall be deemed the deadline for the issuance of the following draft documents:

A. There are none.

IV. Deadlines for draft primary documents not submitted before the effective date of the Agreement: In accordance with Section 8.1 of this Agreement, the following deadlines for submission of draft primary documents have been agreed upon by the Parties before the effective date of this Agreement. Any projected target dates submitted with the primary documents shall be subject to revision by the Project Managers in accordance with Section 18.3, and shall not be subject to Section 9 (Extensions) or Section 13 (Enforceability) of this Agreement, or Section 14 (Stipulated Penalties).

A. No deadlines for draft primary documents submitted after the effective date are negotiated herein.

V. There are no secondary or primary documents which have been accepted as final before or on the effective date of this agreement.

VI. Operable Units defined at the effective date of the Agreement are as follows:

A. Operable Unit One (OU1) is the Luke Air Force Base Site wide final remedy; and

B. Operable Unit Two (OU2) is the operable unit defined as soil contamination at: the North Fire Training Area; the South Fire Training Area; the Abandoned Surface Impoundment near the South Fire Training Area; and Facility 993.

ATTACHMENT A

STATEMENT OF FACTS

ATTACHMENT A

STATEMENT OF FACT

I. Description of the facility: Luke AFB is assigned to the Tactical Air Command (TAC) and occupies 4,198 acres of land in Maricopa County, Arizona, 13 miles west of downtown Phoenix. The base is located east of the White Tank Mountains, southwest of Sun City, and north of Litchfield Park. Luke AFB is bordered by the Phoenix Goodyear Airport Superfund Site to the south. In addition, LAFB supports the following off-site facilities:

A. Gila Bend Air Force Auxiliary Field;
B. Luke Air Force Range;
C. Auxiliary Field No. 1;
D. Holbrook Radar Bomb Scoring Range;
E. Fort Tuthill Recreational Annex;
F. Sanitary Landfill Annex (now closed);
G. Waste Treatment Annex; and
H. Humboldt Mountain Radar Site.

Construction at LAFB began in March 1941, on land acquired from the City of Phoenix. Occupation of the base took place in June 1941 with the mission of providing advanced flight training to fighter pilots. In November 1946, the base was deactivated after training 17,000 pilots. The Gila Bend Gunnery Range, a major part of the training operation, remained open but was operated by Williams AFB (near Chandler, Arizona). LAFB reopened in February 1951, with the onset of the Korean War to again provide advanced flight training to fighter pilots. In December 1980, the 832 Air Division became the current host of LAFB. The primary mission of the base today is to provide command supervision of both the F-16 training program of the 58 Tactical Training Wing (TTW) and the F-15 and F-5 programs of the 405 TTW.

II. Areas of potential contamination identified at Luke AFB: Implementation of the Installation Restoration Program (IRP) at Luke AFB has resulted in the production of several documents which identify and attempt to evaluate potential contamination at several locations. In part, it is the oversight task of the State and EPA to review these previous

studies using EPA methods and guidance to determine the need for additional and supplemental RI/FS and remedial action. The following provides information on areas of concern identified in IRP documents and environmental studies depicting conditions known at the time of this Agreement.

A. The Air Force, EPA, and State believe that further remedial investigation is required at the following locations:

1. RW-02 (Waste Treatment Annex)
2. LF-03 (Outboard Runway Landfill)
3. OT-04 (Perimeter Road POL Waste Disposal & Landfill)
4. DP-05 (POL Waste Disposal Trench)
5. FT-06 (South Fire Training Area)
6. FT-07 (North Fire Training Area)
7. OT-12 (Old EOD Burial Site)
8. DP-13 (Drainage Ditch Disposal Area)
9. LF-14 (Old Salvage Yard Burial Site)
10. SS-17 (Former DPDO Yard)
11. ST-18 (Facility 993)
12. SD-20 (Oil/Water Separator Canal and Earth Fissures)
13. DP-22 (POL Trench NE Runway)
14. DP-23 (Old Surface Impoundment Area West of Building 999)
15. DP-24 (Base Ammo Storage Area)
16. LF-25 (NW Landfill)
17. SD-26 (Hush House Canal)

B. The Air Force believes that additional investigation will not be required at the following locations and has proposed that no further remedial investigation will be performed. The Air Force believes that it is appropriate that the Air Force, EPA, and the State evaluate all information relative to these locations during project manager meetings and document their findings in accordance with all applicable EPA regulations and guidance.

1. OT-01 (Old Incinerator Site)
2. OT-08 (F-15 Burial Site)
3. OT-09 (Canberra Burial Site)
4. OT-10 (Concrete Rubble Burial Site)
5. SS-11 (Former Outside Transformer Storage)
6. SS-15 (Facility 328 Spill Site)
7. SS-16 (Facility 321 USTs)
8. ST-19 (BX Leaking USTs)
9. SD-21 (Sewage Treatment Plant Effluent Canal)

III. Summary of Installation Restoration Program (IRP) Activities: The Air Force IRP is mandated by the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) (Section 120) and the Superfund Amendments and Reauthorization Act of 1986 (SARA) (Section 211). Presidential Executive Order 12580 delegates responsibilities under CERCLA to the Department of Defense. the objectives of the IRP are identification, investigation, research and development, and cleanup of contamination from hazardous substances, pollutants, and contaminants. The following is a summary of IRP activities conducted at Luke AFB to date.

A. The Phase I Records Search for Luke Air Force Base was completed in 1982 by CH2M Hill. Sixteen past disposal or spill sites were identified and documented during this investigation. The following is a summary of the sites identified in this report:

1. Site OT-1 Old Incinerator Site -- Former site of a 15-ton-per-day capacity incinerator located near the North Gate. The incinerator was the main method of disposal of base general refuse from 1941 until deactivation of the base in 1951 until 1953, at which time it is was abandoned because of maintenance problems. The incinerator facility was demolished in 1972. No known or suspected hazardous wastes were disposed of at the site. Ash from the incinerator was probably sent to Site No. 2 (RW-2, Waste Treatment Annex) for disposal.

2. Site No.2 Waste Treatment Annex - The site is located 2 miles east of the base on Glendale Avenue on the west bank of the Agua Fria River and is adjacent to the Sewage Treatment Plan. The site was used as the main landfill for disposal of general refuse from Luke Air Force Base from approximately 1953 until 1970. The site may also have been used intermittently from 1941 until deactivation of the base in 1946. Since 1970, all general refuse from Luke Air Force Base has gone to the City of Glendale landfills. A small quantity of low-level radioactive electron tubes were buried at the site in 1956. The material, believed to be encased in concrete, was disposed of in a pit 12 feet deep with 4 feet of concrete cover and 6 feet of each cover. The radioactive burial site is located in the current (1982) DPDO storage yard and is designated by a radioactive warning sign. A recent

(1982) radiological survey showed no measurable radiation above background at the surface of the site.

3. Site LF-3 Outboard Runway Landfill - The site was used for disposal of general refuse from the base from 1951 to 1953. The operated consisted of narrow trenches where refuse was burned and covered on a daily basis, similar to the operation of Site No. 2 (RW-2). Landfill operations were discontinued at this site in 1953 when the Outboard Runway was constructed. All general refuse from the base was then sent to Site No. 2 (RW-2) for disposal. No known or suspected industrial type wastes or hazardous wastes were disposed of at this site.

4. Site OT-4 Perimeter Road POL Waste Application Site - The site was used for the disposal of most of the Petroleum, Oil and Lubricant product (POL) wastes from the main base from 1952 until approximately 1970. The tanker truck then spread the POL waste on the dirt perimeter road around the south end of the runway in the southwest corner of the base. This road oiling procedure served to dispose of the POL waste and to control excessive road dust. After 1954, indications are that up to 50,000 gallons per year of POL was disposed of on the perimeter road. The majority of this POL waste consisted of contaminated JP-4 jet fuel with some Aviation Gasoline (AVGAS), motor fuels (MOGAS), diesel fuel, waste engine oils, and waste solvents. Other wastes disposed of in this manner included wastes from the Facility 912 oil/water separator, and tank sludge from the periodic cleaning of fuel storage tanks.

5. Site DP-5 POL Waste Disposal Trench Site - The site is a triangular area southeast of Taxiway I on the east side of the runaways in the southern part of the base. The area is approximately 1000 feet north-south along the east boundary, 800 feet east-west along the southern boundary, and 900 feet along the northwest boundary. The general area is approximately 18.5 acres. The site is located south of Building 1013 and southeast of Facility 3640. The site was used from 1970 until 1972 for the disposal of POL waste from Luke Air Force Base. POL waste from the base was transported to the site in tanker trucks and dis-

posed or in shallow trenches, approximately 1.5 feet deep. The waste was allowed to weather for 4 to 6 weeks and then covered with soil. Numerous shallow trenches were excavated in this are for POL waste disposal, as well as a shallow lagoon located in the northeast corner of this site. The area was used to store asphalt rubble from 1979 to at least 1982 which came from the demolition of an aircraft taxiway.

6. Site FT-6 South Fire Department Training Area - The site was the original fire department training area and was located in the southern portion of the base. Training exercises were conducted from 1941 to 1946, and 1951 to approximately 1963 about once per month. The POL waste generated during 1941 to 1946 was small and was disposed of in fire department training exercises. After 1954, the volume of POL waste increased, due mainly to contaminated JP-4 from assigned jet aircraft. Standard procedure was to transport the POL waste in 55-gallon drums to the fire department training site.

7. Site FT-7 North Fire Department Training Area - The site is located in the northern portion of Luke Air Force Base, west of FAcility 1356 fire department training area. The site consisted of at least three cleared and bermed circular areas approximately 100 feet in diameter located just east of an inactive firing-in-butt. The entire area is approximately 400 feet in diameter exhibiting little or no topographical relief. Scorch marks within a gravel and dirt circle mark the locations of defunct fire training pits. Training exercises were conducted from approximately 1963 to 1973 about once per month, and about once per quarter thereafter. Standard procedure was to transport the POL waste in 55-gallon drums to the department training area. Fire training exercises were moved to Facility 1356 which was constructed in 1973.

8. Site OT-8 F-15 Burial Site - The site is where an F-15 aircraft was buried in 1978 after it was destroyed in a fire. Some structural components of the aircraft contained boron fibers. The aircraft was reportedly shrouded in plastic prior to disposal at the site. No known or suspected hazardous wastes were disposed of at this site.

9. Site OT-9 Canberra Burial Site - This site is where a Canberra reciprocating engine aircraft was buried in the early 1905's. The site is located in the runway clear zone where the aircraft reportedly crashed. No known or suspected hazardous wastes were disposed of at this site.

10. Site OT-10 Concrete Rubble Burial Site - The site is located in the northwest corner of the base. Concrete and asphalt rubble from runway repair and extension operations was stored above ground and accumulated in this area since 1951. All of the accumulated rubble was then disposed of in a burial pit in 1974. No known or suspected wastes were disposed of at this site.

11. Site SS-11 Former Outside Transformer Storage Area - The site was used by exterior electric shop personnel prior to June, 1981 for temporary storage of out-of-service transformers. The out-of-service transformers, some of which contained polycholorinated biphenyis (PCBs), were stored on the ground. No evidence of any PCB spills or leaks were found.

12. Site OT-12 Old EOD Burial Pit - The site was located between the outboard runway and the perimeter road, northeast of Site No. 8. The exact dates of operation of the burial pit could not be determined, however, the pit was in existence in the early 1970's. The site is located near the Explosive Ordnance Disposal (EOD) Demolition and Burn Facility 1047, which was constructed in 1963 and was probably used to dispose of the residue from incineration or detonation of unused or outdated ordnance. All hazardous constituents are expected to have been destroyed in the incineration/detonation operations and there is no evidence that hazardous materials were disposed of at this site.

13. Site DP-13 Old Drainage Ditch Disposal Area - The site was the location of a drainage ditch along the northwest perimeter on the base that was reportedly used for the disposal of some general refuse during the 1940's. Waste materials reportedly disposed of at this location included concrete rubble, wire, fencing, and waste lumber. No known or suspected industrial type waste or haz-

ardous wastes were disposed of at this location. The ditch was filled in and covered when the base was deactivated in 1946.

14. Site LF-14 Old Salvage Yard Burial Site - The site is located in the northeast corner of the base in the former salvage yard area. The site was used for disposal of surplus materials such as tools, aircraft parts, and equipment following temporary base closure in 1946. No known or suspected hazardous wastes were disposed of at this site.

15. Site SS-15 Facility 328 "Spill Site" - The site was the location of a minor fuel spill, estimated to be less than 1,000 gallons, which occurred during replacement of an old underground fuel line with a new above-ground fuel line in 1964. The low permeability of the soil and high evaporation rate are expected to have resulted in the majority of the spilled fuel being evaporated. Some percolation into the soil may have taken place, but the quantity involved was judged to be insignificant. (Auditor's Note: This incident actually occurred at Facility 321 as stated in the body of the CH2M Hill Report but it was reported in the conclusions of the report as having occurred at Facility 328. This is an editorial error that has inadvertently resulted in Facility 328 as being listed as a spill site).

16. SS-16 Facility 321 Fuel UST - The site is the location of the Facility 321 fuel underground storage tanks (UST's). Infrequent spills reportedly have taken place in this area as a result of overtopping of the fuel storage tanks. The spills involved are believed to be insignificant, and the majority of the spilled fuel are expected to have evaporated into the atmosphere. Some percolation into the soil may have taken place, but the quantity involved is expected to be insignificant.

B. The Phase II, Stage 1 Problem Confirmation Study was completed in 1984 by Roy F. Weston, Inc. Based on recommendations in the Phase I Report, four sites were investigated in this effort (North Fire Training Area, South Fire Training Area, Waste POL Disposal Trenches, and Perimeter Road Waste Disposal Area. The investigation consisted of collection and analysis of soil samples and production well samples. The following is a summary of the report.

1. Site OT-4 Perimeter Road Waste POL Application Site- Shallow soil samples were collected at the site and twelve of 16 samples were taken and analyzed for oil and grease, and volatile organic compounds (VOCs). Oil and grease was uniformly in the low part per million range in all samples analyzed. Only six VOC compounds were detected in seven of the 11 samples, with a maximum concentration of 0.040mg/kg of 1,1-dichloroethylene. The most common VOC compound found was 1,1-dichloroethylene, found in all seven of the samples containing VOC compounds. The very low levels of oil and grease and VOC compounds indicate that weathering of sprayed fuels and solvents by the prevailing desert conditions at Luke Air Force Base was effective in devolatilizing the contaminants.

2. SITE DP-5 POL Waste Disposal Trench Site - Ten soil borings were advanced to a depth of 20 feet. Eight of the 10 borings at the site, and all within the area of trenching operations penetrated a semiconsolidated, well-cemented caliche zone, which ranged in thickness from approximately two to six feet and was encountered at depths ranging between eight and 15 feet. The soil samples were analyzed for oil and greases, and VOCs. Oil and grease was uniformly in the low parts per million range in all samples analyzed. Lead concentrations were fairly uniform in all samples ranging from 0.053 to 0.304mg/kg. The most common VOC compound found was chloroform, present in 5 of the samples. The very low levels of oil and grease and VOC compounds indicates that the weathering process was effective in devolatilizing the emplaced fuels prior to burial.

3. Site FT-6 South Fire Department Training Area - Soils exposed during a Military Construction Project revealed a veneer of local oil-stained fill material above the soil horizon. The soil samples were analyzed for oil and grease, and volatile organic compounds. Oil and grease was high in two of the samples analyzed at 1.5 and 3.7 percent by weight. In addition, very low VOC concentrations were detected indicating that any solvent and fuel residues remaining from previous fire training exercises have weathered extensively in the desert environment at Luke Air Force Base.

The weathering, coupled with the MCP plan to cap the entire site with concrete construction slabs and parking lots was expected to limit the infiltration and vertical migration of the contaminants.

4. Site FT-7 North Fire Department Training Area - Four borings were advanced and selected samples were analyzed for oil and grease, and volatile organic compounds. Elevated oil and grease levels were detected near the bottom of each boring. Eleven VOC compounds were detected, all 12 soil samples contained at least one VOC compound, and 1,1 dichloroethylene was found in all but 2 of the samples.

C. The Phase II/Stage 2 Problem Confirmation Study was completed in 1984 by Roy F. West, Inc. Five sites were investigated in this effort (North Fire Training Area, Waste POL Disposal Trenches and Lagoon, Oil/Water Separator Canal, and Sewage Treatment Plant Effluent Canal). The investigation consisted of a soil vapor survey, collection and analysis of soil samples, and collection and analysis of ground-water samples. Comments have been generated by the Arizona Department of Water Resources, the Arizona Department of Health Services and Omaha District Corps of Engineers concerning procedures and results of the report. The following is a summary of the report.

1. Generally, compounds that were detected above background levels in the various sampled media at Luke AFB fall into one of three categories: (1) probable laboratory or sampling artifacts (i.e., compounds inadvertently introduced to samples during sampling, handling, or laboratory analysis; (2) scattered occurrences of compounds that are found infrequently and at low concentrations and that do not appear in any identifiable pattern or distribution; and (3) occurrences of compounds that are found in an identifiable pattern or distribution. The majority of compounds detected at Luke AFB fall into one of the first categories. Occurrences of compounds that fall into the third category include:

2. Various target compounds in the soil-gas at the O/W Separator Canal, at the POL Area, and at the STP Effluent Canal. At all three sites surveyed, elevated concentrations of various target com-

pounds were detected in the soil-gas. These concentrations appeared in identifiable patterns, indicating the existence of a probable relationship between the particular source areas and the distributions of compounds found in the soil-gas. However, neither soil nor ground-water contamination was associated with these soil-gas concentrations.

3. Oil and grease (O&G) in the soil at the NFTA. Relatively high O&G concentrations (greater than 1,000 mg/kg) were detected at three locations, all at 10 feet in depth or shallower. At greater depths, O&G concentrations above background levels (up to 329 mg/kg) were detected consistently in one boring (06-04) located at the Current Fire Training Area. These concentrations are not considered be significant in terms of oil and grease migration.

4. Nitrate/nitrite in the ground water at the STP Effluent Canal. Nitrate/nitrite was detected at concentrations of 6.73, 7.40, and 6.74 mg/L in MW-101 at the STP Effluent Canal during three sample rounds. The concentrations are below the MCL for nitrate (10 mg/L). The probable source of these concentrations is the STP effluent that infiltrates to the water table from lagoons at the site. Concentrations of total Kjeldahl nitrogen (TKN) in the effluent ranged from 24.9 to 27.9 mg/L in the nine samples collected. Subsequent oxidation of nitrogen compounds (those analyzed as TKN) probably resulted in the formation of nitrate/nitrite.

5. Petroleum hydrocarbons in the sediments at the O/W Separator Canal. Concentrations of petroleum hydrocarbons were detected, as expected based on visible sediment staining staining. Significant reduction of petroleum hydrocarbons with dept was noted in the top 12 inches of sediment. These concentrations are not considered to be significant in terms of petroleum hydrocarbons migration at the site.

6. Lead in the soil and the sediment at the STP Effluent Canal. Concentrations of lead were detected in all soil samples, ranging from 20 to 72 ppb, and in three of ten sediment samples, ranging from 22 to 57 ppb. Although the STP ef-

fluent cannot be ruled out as a source, it is likely that these concentrations are naturally occurring.

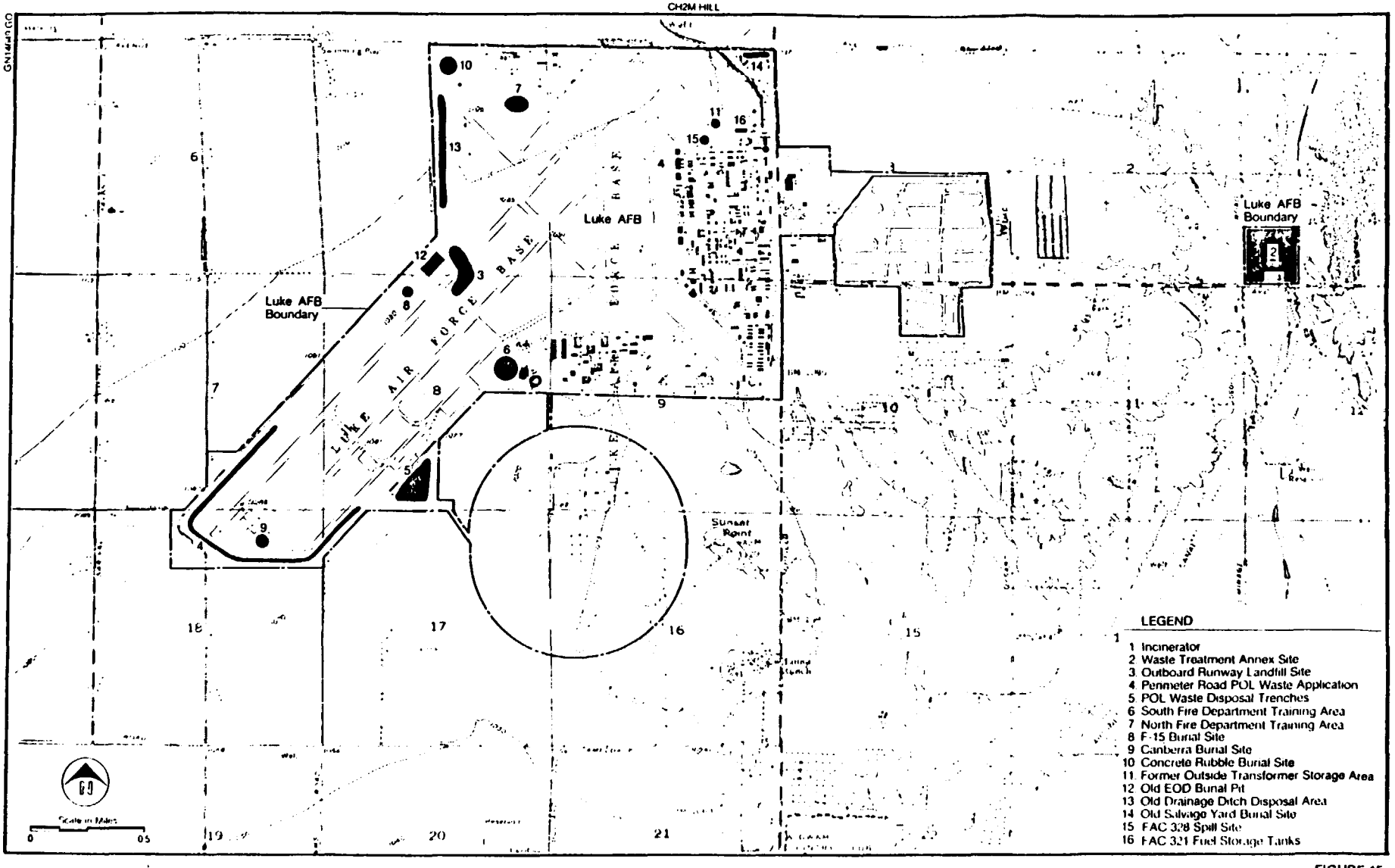
D. A Predesign study was completed at the North Fire Training Area in 1989 by Engineering, Science, and Technology. The purpose of this report was to define the nature and extent of soil contamination, evaluate remedial action alternatives, and provide reference information for the remedial design. The following is a summary of the report.

1. Field activities that supported the predestine report included: Twenty-five soil borings ranging in depth from 30 feet to 150 feet in six fire training pits at the NFTA; Collection and analysis of soil samples at specific depth intervals in each boring for volatile organics, total recoverable petroleum hydrocarbons (TRPH), and metals.

2. In Fire Pits 1 and 2, both in the former fire training area, detectable levels of methylene chloride and acetone were considerably below Arizona soil cleanup action levels. Fire Pit 5, also in the former fire training area showed only minor contamination from methylene chloride and acetone. In all three pits, metals were not significantly above background, and TRPH concentrations were all below analytical detection limits. Analyses from the three current fire training areas exhibited consistent patterns. The concentrations of volatile organic compounds in each pit increased from the surface to a 10 foot depth where concentrations decreased in a gravely sand layer to a dept of 15 feet. Between 15 feet and approximately 30 feet in dept, concentrations of VOCs increased. No contamination was found beneath a depth of 50 feet. Analyses for total petroleum hydrocarbons show a similar pattern. Metals concentrations were all near background levels in all of the pits. Several remediation alternatives were studied and the report recommends soil venting as the most cost effective remediation alternative for the North Fire Training Area.

ATTACHMENT B

SITE MAPS



Location map of identified disposal sites at Luke AFB.

FIGURE 15.

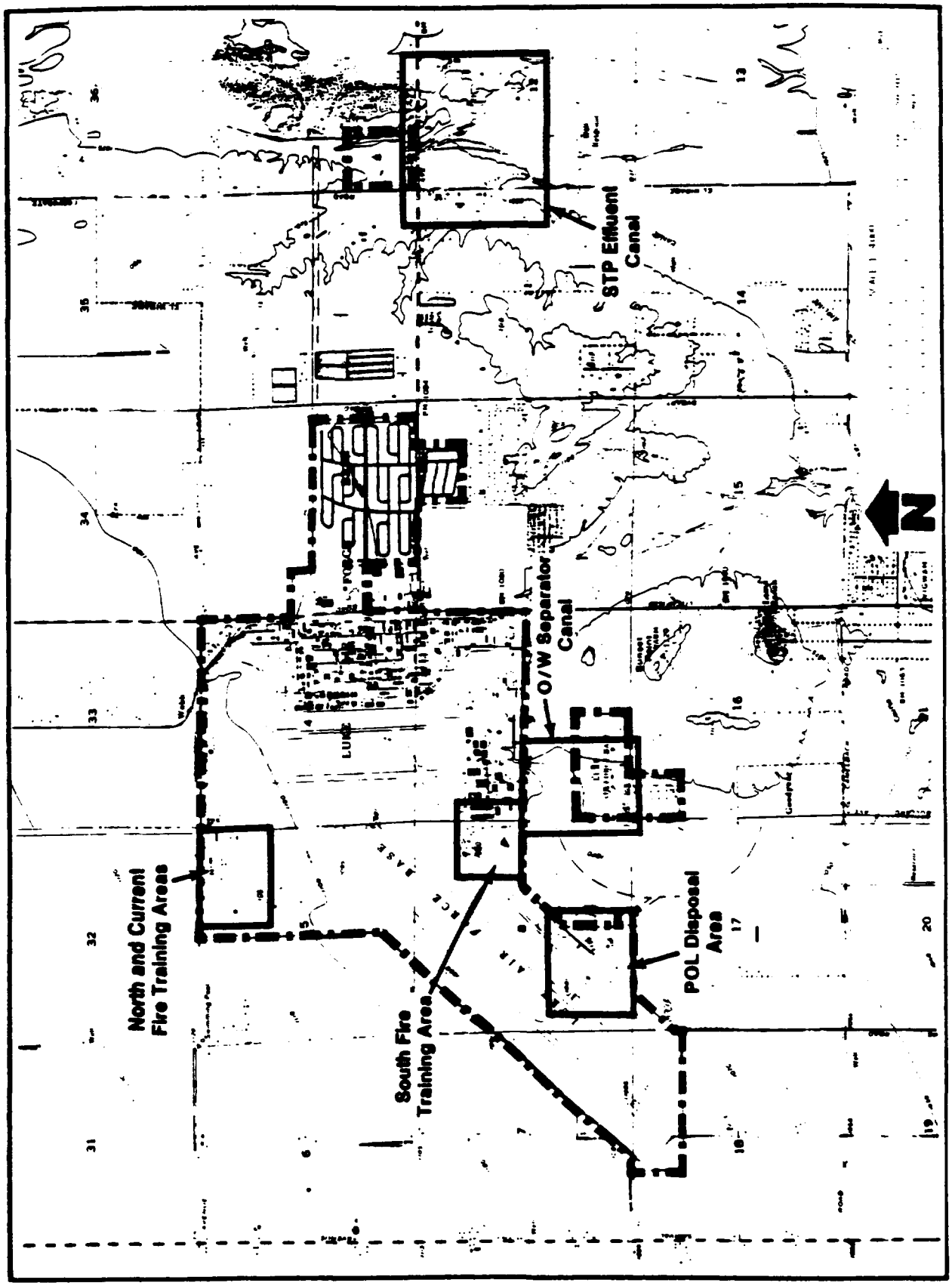


FIGURE 1-2 LOCATIONS OF PHASE II STAGE 2 INVESTIGATION SITES, LUKE AFB, AZ

ATTACHMENT C

CHEMICALS OF CONCERN

ATTACHMENT C

CHEMICALS OF CONCERN

Based on historical operations and previous sampling, the following chemicals of concern may be present in the environment at the Site in excess of recognized regulatory standards. The descriptions of toxicity of the chemicals at the Site is for reference only and should not be interpreted as describing absolute effects on any individual person. The list includes but may not encompass all chemicals of concern known at the time of this agreement. As the remedial investigation continues, the list may change.

* Acetone
  Acute: Dryness and irritation of eyes, nose and throat are usual signs of acute exposure to acetone vapor. Exposure to high concentrations can produce dizziness, nausea, narcosis and in extreme cases, coma.
  Chronic: Respiratory tract irritation, and dermatitis. Acetone's toxicity and its cumulative action are low for both acute and chronic exposures.

* Benzene
  Acute: Central Nervous System (CNS) depression (headache, dizziness, drowsiness and nausea).
  Chronic: Suppression of blood cells, leukopenia (a reduction of leukocytes); anemia and thrombocytopenia (decrease in blood platelets).

* Carbon Tetrachloride
  Acute: Drowsiness, dizziness, incoordination and mental confusion; nausea, vomiting, diarrhea and abdominal pain; delayed effects of damage to the heart, liver and kidneys.
  Chronic: Damage to the liver and kidneys; Parkinsonsim (chronic nervous disease marked by tremors).

* Chromium

Acute: Chromium and its compounds are extremely toxic. Dermal contact with concentrated forms often causes dermatitis and local ulceration. Inhalation as dust or mist is irritating to nasal mucosa and respiratory tract. Ingestion may cause nausea, vomiting, diarrhea, renal damage and death.
Chronic: Perforation of the nasal septum. Cough, pulmonary congestion and fever may occur, as well as hepatitis. Bronchogenic carcinoma.

* Chloroform
  Acute: CNS depression (headache, drowsiness, vomiting, dizziness); liver and kidney damage; sing and eye irritation.
  Chronic: Liver and kidney damage.

* Cyanides
  Acute: Hydrocyanic acid causes death by physiologically inhibiting tissue oxidation thus causing asphysia. The nonvolatile cyanide salts appear to be relatively nontoxic systemically so long as they are not ingested and care is taken to prevent the formation of hydrocyanic acid. Electroplaters who are daily exposed to cyanide solutions may develop a "cyanide" rash characterized by itching.
  Chronic: Exposure to small amounts of cyanide compounds over long periods of time is reported to cause loss of appetite, headache, weakness, nausea, dizziness, and symptoms of irritation of the upper respiratory tract and eyes.

* 1,2 - Dichloroethane
  Acute: Nausea, vomiting, mental confusion, dizziness and pulmonary edema; eye and skin irritation.
  Chronic: Loss of appetite, nausea, vomiting, stomach pain, CNS changes, liver and kidney damage.

* 1,2 - Dichloroethene
  Acute: Nausea, vomiting, dizziness and narcosis; skin and mucous membrane irritation.
  Chronic: No human data, animal data weak; may cause damage to liver, lung, and blood cells.

* Lead

  Acute: The early symptoms of lead intoxication are most commonly gastrointestinal disorders, colic, constipation, etc. Weakness, which may go on to paralysis chiefly of the exytensor muscles of the wrists and less often of the ankles, is noticeable in the more serious cases. Involvement of the brain (encephalopathy) is the most serious result of lead poisoning.

  Chronic: Damage to the peripheral nervous system, damage to the kidneys and damage to the blood forming process may lead to anemia. Encephalopathy is the most serious clinical form of lead intoxication and can occur acutely. It may arise precipitously with the onset of intractable seizures, followed by coma, cardio-respiratory arrest and death.

* Mercury

  Acute: Symptoms include tightness in the chest, difficulty in breathing, coughing and pain in the chest.

  Chronic: Psychic and emotional disturbances are characteristic. Fine tremors may affect the hands, head, tongue, or jaw. Salivation, gingivitis and digestive disturbances are common.

* Methyl ethyl ketone (MEK)

  Acute: Eye, nose, and throat irritation are usually the first symptoms. At high concentrations, CNS depression and narcosis along with congestion of the lungs, liver and kidneys are observed.

  Chronic: Dermatitis. No confirmed reports of serious chronic effects below irritating levels.

* Pentachlorophenol

  Acute: Dust or mist may cause irritation of the eyes and respiratory tract. Readily penetrates skin. Prolonged dermal exposure may cause an acne-like dermatitis. Systemic effects include weakness, loss of appetite, nausea, vomiting, shortness of breath, chest pain, headache, excessive body sweating and dizziness.

Chronic: Liver and kidney damage. Painful irritation of the nose should prevent inhaling concentrations which will produce adverse systemic effects

* Tetrachloroethylene
  Acute: Nausea, vomiting, headache, dizziness, drowsiness and tremors; eye and skin irritation.
  Chronic: Headache, fatigue and dizziness; liver and kidney damage.

* Toluene
  Acute: CNS depression (headache, dizziness, fatigue, muscle weakness); eye and skin irritation.
  Chronic: No known adverse, long-term effects.

* Trichloroethylene (TCE)
  Acute: CNS depression (headache, dizziness, vertigo, tremors, irregular heartbeat, fatigue, nausea, vomiting, blurred vision); skin and eye irritation.
  Chronic: Liver and kidney damage, CNS depression.

* 1,1,2 - Trichloroethane
  Acute: CNS depression; eye and nose irritation.
  Chronic: CNS depression; liver and kidney damage.

* Vinyl Chloride
  Acute: Headache, dizziness, abdominal pain, numbness and tingling of the extremities; skin and eye irritation.
  Chronic: Liver damage; enlargement of the spleen, decreased blood platelets; nerve damage; decreased pulmonary function.

* Xylene
  Acute: CNS depression (dizziness, drowsiness, nausea, vomiting, abdominal pain and loss of appetite); breathing xylene vapors or aspiration of a few milliliters may cause pulmonary edema; damage to the liver and kidney; skin and eye irritation.

Chronic: Headache, irritability, fatigue, digestive disorders and sleep disorders; tremors; impaired memory, weakness, vertigo, loss of appetite; damage to liver and kidneys.

ATTACHMENT D

DESCRIPTION OF SELECTED PRIMARY AND SECONDARY DOCUMENTS

DESCRIPTION SELECTED OF PRIMARY AND SECONDARY DOCUMENTS

I. Primary Documents:

A. Remedial Investigation/Feasibility Study (RI/FS) Workplans -- The Work Plan documents appropriate decisions and evaluations made during earlier phases of site discovery and confirmation (e.g. RI/FS scoping and Phase I and Phase II IRP work). It also serves as a valuable tool for assigning responsibilities and setting the project's schedule and cost. The primary user of the Work Plan is the Air Force and the project team that will execute the work at the Base. Secondary users of the Work Plan include other groups or agencies serving in a review capacity, such as EPA and local government agencies. The Work Plan will be made available for public comment and placed in the Administrative Record. Appendix B of this Agreement outlines the contents of information to be addressed in RI/FS Workplans.

B. Sampling and Analysis Plans (SAPs) -- The SAP consists of two parts: (1) a Quality Assurance Project Plan (QAPP) that describes the policy, organizational, functional activities, and quality assurance and quality control protocols necessary to achieve data quality objectives dictated by the intended use of the data; and (2) the Field Sampling Plan (FSP) that provides guidance for all field work by defining in detail the sampling and data gathering methods to be used on the project. The FSP should be written so that a field sampling team unfamiliar with the site would be able to gather the samples and field information required. (NOTE: Depending on the number and complexity of operable units, one Base wide QAPP may be appropriate and one each FSP for each operable unit).

1. Quality Assurance Project Plans will follow the most current EPA guidance and will address:

a. Title Page and Signature Pages;

b. Table of Contents;

c. Project Description;

d. Data Quality Objectives;

e. Project Organization;

f. Sample Collection and Quality Control;

g. Sample Custody;

h. Analytical and Quality Control Procedures;

i. Data Quality Management; and

j. Quality Assurance Oversight.

2. Field Sampling Plan will follow the most recent EPA guidance and will address the following:

a. Sampling Objectives - Specific objectives of a sampling effort that describe the intended uses of data should be clearly and succinctly stated.

b. Site Background - If the analysis of existing data is not included in the workplan or QAPP, it must be included in the Field Sampling Plan (FSP). This analysis would include a description of the site and surrounding areas and a discussion of known and suspected contamination sources, probable transport pathways, and other information about the site. The analysis should also include descriptions of specific data gaps and ways in which sampling is designed to fill those gaps. Including this discussion in the FSP will help orient the sampling team in the field.

c. Maps

d. Rational for Sample Locations, Numbers of Samples, and Analytical Parameters - This section of sampling plan identifies each sample matrix to be collected and the constituents to be analyzed. A table may be used to clearly identify the number of samples to be collected along with the ap-

propriate number of replicates and blanks. A figure should be included to show the location of existing or proposed sample points.

e. Sample Analyses - A tabular and narrative system should be established for each operable unit. The sample designation should include specific location (e.g. the well number), the sampling round, the sample matrix (e.g., surface soil, ground water, soil boring), and the name of the site.

f. Field Methods and Procedures- A table should be included that identifies sample preservation methods, types of sampling jars, shipping requirements, and holding times. Examples of paperwork and instructions for filling out the paperwork should be included. Specific documentation for the laboratory and field work should be included (e.g., field notebooks, photographs).

g. Site Safety Plan

h. Provisions must be made for the proper handling and disposal of sampling wastes generated on site. Site specific procedures will be described to prevent contamination of clean areas and to comply with existing regulations.

C. Community Relations Plan (CRP) -- The CRP documents the community relations history and the issues of community concern. It should describe the techniques that will be needed to achieve the objectives of the program. The plan is used by community relations staff, but it should also be used by federal and state agency technical staff members when planning technical work at the site. One site wide CRP may be amended as appropriate to address multiple operable units and the final remedy. Any such amendments shall not be subject to the threshold requirements of Subsection 7.10 of the Agreement. Any disagreement regarding amendment of the CRP shall be resolved pursuant to Section 12 (Dispute Resolution).

D. RI Reports -- The objective of the Remedial Investigation Report (RI) is to collect sufficient information to support an informed risk management decision regarding the appropriate remedy for the site. The RI

process will be conducted in accordance with the NCP and the most current EPA Guidance. (e.g. Guidance for conducting Remedial Investigations and Feasibility Studies under CERCLA, OSWER Directive 9355.3-01, October 1988.) The RI will be based on information collected in earlier IRP work, RIs, the RI/FS Workplans, and removal actions. The final remedy RI will be a comprehensive, Base wide RI. Tasks shall include, but not limited to the following:

1. Field investigation data evaluation and validation;

2. Nature and extent of contamination;

3. Federal/State ARARs; and

4. Treatability studies.

E. FS Reports -- The objective of the Feasibility Study (FS) is to develop and evaluate a range of remedial options that ensure the protection of human health and the environment. The FS process will be conducted in accordance with the NCP and the most current EPA Guidance (e.g., Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA, OSWER Directive 9355.3-01, October 1988.) The final remedy FS will be from a Base wide perspective and will use information obtained in the RIs and removal actions. Tasks shall include, but not limited to, the following:

1. Evaluation criteria for detailed analysis of alternatives ("the nine criteria");

2. Short term effectiveness;

3. Long term effectiveness;

4. Reduction of toxicity, mobility and volume;

5. Implementability;

6. Cost;

7. Compliance with ARARs;

8. Overall protection of human health and the environment;

9. State acceptance (to the extent know at this stage); and

10. Community acceptance (to the extent known at this stage).

F. Proposed Plans --

1. The objective of the proposed plan is to facilitate public participation in the remedy selection process by:

   a. Identifying the preferred alternative for a remedial action at a site and explaining the reason for the preference;

   b. Describing other remedial options that were considered in the RI/FS reports;

   c. Soliciting public review and comment on all the alternatives described; and

   d. Providing information on how the public can be involved in the remedy selection process.

2. The Proposed Plan is a public participation document and is expected to be widely read. Therefore, the Proposed Plan should be written in a clear and concise manner using non-technical language. The Proposed Plan should be written in accordance with the NCP and the most current EPA Guidance (e.g., Guidance on Preparing Superfund Decision Documents, November 1989).

G. Records of Decision (RODs) -- The purpose of the Record of Decision (ROD) is to illustrate the final remedial action plan for the site. The ROD summarizes the problems posed by the conditions at the site, the alternative remedies considered for addressing those problems, and the comparative analysis of those alternative against the nine evaluation criteria. The ROD then presents the selected remedy and provides the rationale for the selection. The ROD will be written in accordance with the NCP and the most current EPA Guidance (e.g., Guidance on Preparing Superfund Decision Documents, November 1989.) The ROD for the final remedy will be from a base wide perspective and will incorporate RODs issued for operable units (if any). Essential ROD Components include the following:

1. The Declaration

2. The Decision Summary

3. The Responsiveness Summary

NOTE: 15 days for public notice of final Proposed Plan plus 60 days for public comment period plus 60 days from close of public comment period means draft ROD is due 135 days from the date of the final Proposed Plan.

H. Remedial Design/Remedial Action (RD/RA) Work Plans --

1. The Remedial Design Work Plan documents the methods by which the remedy in the ROD will be designed. It shall include but not be limited to:

   a. Tentative formation of the design team;

   b. A health and safety plan for design activities;

   c. Requirements for additional field data collection (as needed);

   d. Requirements for treatability studies (as needed);

   e. A schedule for completion of the design;

   f. Design criteria and assumptions; and

   g. Tentative treatment schemes.

2. The Remedial Action Work Plan is the basis for the Air Force's approach the the implementation of the designed Remedial Action. The Remedial Action Work Plan shall address the following:

   a. Formulation of the remedial action team, including the key personnel, description of duties, and lines of authority in the management of the construction activities;

   b. Description of the roles and relationships of the Air Force, Air Force Project Coordinator, Resident Engineer, Independent Quality Assurance Team, Remedial Design Professional, and Remedial Action Constructor;

c. Process for selecting the Remedial Action Constructor;

d. Schedule for the Remedial Action and the process to continuously update the project schedule;

e. Method to implement the Construction Quality Assurance Plan, including criteria and composition of the Independent Quality Assurance Team;

f. A health and safety plan for field construction activities;

g. Strategy for implementing the Contingency Plan;

h. Procedure for data collection during the Remedial Action to validate the completion of the project; and

i. Requirements for project close-out.

3. The Remedial Design/Remedial Action Work Plans may be submitted as one document or as two documents for each operable unit/final remedy.

I. Remedial Designs -- The Remedial Design is the set of design plans and specifications which will be implemented to remediate the site. The Remedial Design shall:

1. Be consistent with the technical requirements of the ROD, this Agreement, and ARARs;

2. Be consistent with currently accepted environmental protection measures and technologies;

3. Be consistent with standard engineering practices;

4. Be consistent with applicable statutes, EPA policies, directives, and regulations;

5. Report the results of field data and treatability studies (if conducted subsequent to RI/FS);

6. Articulate design criteria;

7. Estimate a project delivery schedule and construction schedule;

8. Present complete full size engineering drawings;

9. Present detailed construction specifications;

Contingency Plan -- The Contingency Plan is written to protect the local affected population in the event of an accident or emergency. One Base wide Contingency Plan may be amended as appropriate to address operable units and the final remedy. Any such amendments shall not be subject to the threshold requirements of Subsection 7.10 of the Agreement. Any disagreement regarding amendment to the Contingency Plan shall be resolved pursuant to Section 12 (Dispute Resolution). The Contingency Plan shall include but not be limited to:

1. Name of person responsible in the event of an emergency incident;

2. Plan and date for meeting with local community, including local, state, and federal agencies involved in the cleanup, as well as local emergency squads and hospitals (as appropriate);

3. Air monitoring plan; and

4. Spill control and countermeasure plan.

J. Construction Quality Assurance Plans -- The Construction Quality Assurance Plan is a document that describes the site specific components of the quality assurance program. The purpose is to ensure that a completed project meets or exceed all design criteria, plans, and specifications. The Construction Quality Assurance Plan shall include but not be limited to:

1. Responsibilities and authorities of all organizations and key personnel involved in the design and construction of the site remediation;

2. The qualifications of the quality assurance personnel to demonstrate they posses the training and experience necessary to fulfill their identified responsibilities;

3. The observations and tests that will be used to monitor construction, and the frequency of performance of these activities;

4. The sampling activities, sample size, sample locations; frequency of testing, acceptance and rejection criteria, and plans for implementing corrective measures as addressed in the plans and specifications; and

5. Description of the reporting requirements for quality assurance activities including such items as daily summary reports, schedules of data submissions, inspection data sheets, problem identification and corrective measures reports, evaluation reports, acceptance reports, final documentation, and description (consistent with this Agreement) of final storage of all records .

K. Construction Quality Control Plans -- The Construction Quality Control Plan is prepared by the Remedial Action Constructor and it should be indicative of the scope and complexity of the work as well as the project requirements. It is the Remedial Action Constructor's tool and shall include but not be limited to:

1. A description of the organization providing quality control, including the lines of authority;

2. The name, qualifications, duties, responsibilities, and authorities of each person assigned a quality control function;

3. A copy of a signed letter which describes the responsibilities and delegates the authorities of the quality control manager;

4. Methods of performing the quality control inspections, including when inspections should be made an what to look for;

5. Control testing procedures for each specific test. This includes information which authenticates that personnel and laboratories performing the tests are qualified and the equipment and procedures to be used complies with applicable standards;

6. Procedures for scheduling and managing submittals including those of subcontractors, off-site fabricators, suppliers, and purchasing agents; and

7. Reporting procedures including frequency of reports and report formats.

Project Close Out Report -- The Project Close Out Report is not a primary document but shall be provided by the Air Force pursuant to Section 30 (Termination) of the FFA. As set forth in Section 30, at the completion of the Remedial Action and correction of all punch list items, the Air Force shall prepare a Project Close-Out Report which certifies that all items contained in this Agreement and any incorporated documents (e.g. plans and specifications) have been completed. The report includes documentation (e. g. test results) substantiating that the performance standards have been met and also includes "Record Drawings" of the project so as to provide a means to verify all changes and variations from the original plans and specifications were made to the "Record Drawings."

II. Secondary Documents:.

A. Site Characterization Summaries -- (part of RI)

B. Sampling and Data Results --

C. Treatability Studies -- (only if generated)

D. Initial Screening of Alternatives --

E. Risk Assessment Report (including Ecological Assessment) -- The objective of the Risk Assessment is to evaluate the potential risks and hazards to public health and the environment. The Risk Assessment process will be conducted in accordance with the NCP and the most current EPA Guidance. (e.g., Risk Assessment Guidance for Superfund, Vol. I, December, 1989 and Risk Assessment Guidance for Superfund, Vol. II, Environmental Evaluation Manual, March 1989.) The Risk Assessment for the final remedy will be conducted from a Base wide perspective and will address the risks associated with all operable units. Tasks shall include, but not limited, to the following:

1. Data Collection and Evaluation;

   a. Gather and analyze relevant site data;

   b. Identify potential chemicals of concern;

2. Exposure Assessment;

   a. Analyze contaminant releases;

b. Identify exposed populations;

c. Identify potential exposure pathways;

d. Estimate exposed concentrations for pathways;

e. Estimate contaminant intakes for pathways;

3. Toxicity Assessment;

a. Collect qualitative and quantitative toxicity information;

b. Determine appropriate toxicity values;

4. Risk Characterization;

a. Characterize potential for adverse health effects to occur;

b. Estimate cancer risks;

c. Estimate non-cancer hazard quotients;

d. Evaluate uncertainty; and

e. Summarize risk information.

5. The Ecological Assessment for the final remedy will be conducted from a Base wide perspective. Tasks shall include, but not be limited, to the following:

a. Determination of need, objectives, and level of effort;

b. Evaluation of site characteristics;

c. Contamination evaluation;

d. Potential for exposure;

e. Selection of assessment and measurement endpoints; and

f. Sampling and analysis plan.

F. Well closure methods and procedures -- (As appropriate)

G. Detailed Analyses of Alternatives --

H. Preliminary Remedial Design --

ATTACHMENT E

RI/FS WORKPLAN OUTLINE

ATTACHMENT E: RI/FS WORKPLAN OUTLINE

The following outline lists topics to be included, at a minimum, in the RI/FS Workplans for the Site. The workplan shall also include additional topics and tasks, as appropriate, for example, as set forth in the Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA (OSWER Directive 9355.3-01, Interim Final, October 1988, and as amended) and applicable State Law.

I. ELEMENTS OF A WORKPLAN

A. INTRODUCTION - A general explanation of the reasons for the RI/FS and the expected results or goals of the RI/FS process are presented.

B. SITE BACKGROUND AND PHYSICAL SETTING - The current understanding of the physical setting of the site, the site history, and the existing information on the conditions of the site are described.

C. INITIAL EVALUATION - The conceptual site model developed during scoping is presented, describing the potential migration and exposure pathways and the preliminary assessment of public health and environmental impacts.

D. WORKPLAN RATIONALE - Data requirements for both the risk assessment and the alternatives evaluation identified during the formulation of the Data Quality Objectives (DQOs) are documented, and the workplan approach is presented to illustrate how the activities will satisfy data needs.

E. RI/FS TASKS - The tasks to be performed during the RI/FS are presented. If an RI/FS is divided into distinct operable units, each operable unit should be monitored and reported on separately. This description incorporates RI site characterization tasks identified in the Quality Assurance Project Plan (QAPP) and the Field Sampling Plan (FSP), the data evaluation methods identified during scoping and the preliminary determination of tasks to be conducted after site characterization.

II. STANDARD RI/FS WORKPLAN TASKS

A. Task 1. Project Planning (Project Scoping) -- This task includes efforts related to initiating a project. The project planning task is defined as complete when the workplan and supplemental plans are approved (in whole or in part). The following typical elements are included in this task:

1. Workplan memorandum;
2. Kickoff meeting (RI/FS brainstorming meeting);
3. Site visit/meeting;
4. Obtaining easements/permits/site access;
5. Site reconnaissance and limited field investigation;
6. Site survey/topographic map/review of existing aerial photographs;
7. Collection and evaluation of existing data;
8. Development of conceptual site model;
9. Identification of data needs and DQOs;
10. Identification of preliminary remedial action objectives and potential remedial alternatives;
11. Identification of treatability studies that may be necessary;
12. Identification of RCRA/CERCLA Integration requirements;
13. Conduct RCRA Facility Assessment (RFA) or equivalent to identify Solid Waste Management Units (SWMUs) using EPA RFA Guidance or other means negotiated with the EPA Remedial Project Manager;
14. Screening of expedited response alternatives;

15. Preliminary identification of ARARs;

16. Preparation of plans (e.g., workplan, health and safety plan, QAPP, FSP);

17. Initiation of coordination with analytical laboratories (CLP and non-CLP); and

18. Task management and quality control.

B. Task 2. Response Action Taken -- This task identifies removal actions previously taken at the base and analyzes the consistency of those removal actions with remedial action currently under consideration.

C. Task 3. Community Relations -- This task incorporates all efforts related to the preparation and implementation of the community relations plan for the site and is initiated during the scoping process. It includes time expended by both technical and community relations personnel. This task ends when community relations work under Task 13 is completed, but the task does not include work on the responsiveness summary in the ROD (see Task 12). The following are typical elements included in this task:

1. Conducting community interviews;

2. Preparing a community relations plan;

3. Preparing fact sheets;

4. Providing public meeting support;

5. Providing technical support for community relations;

6. Implementing community relations; and

7. Managing tasks and conducting quality control.

D. Task 4. Field Investigation -- This task involves efforts related to field work in conducting the RI. The task begins when any element, as outlined in the workplan, is approved (in whole or in part) and field work is authorized. Field investigation is defined as

complete when the contractor and subcontractors are demobilized from the field. The following activities are typically included in this task:

1. Procurement of contractors;

2. Mobilization;

3. Media sampling;

4. Source testing;

5. Geology/hydrogeological investigations;

6. RCRA Facility Investigations;

7. Geophysics;

8. Site survey/topographic mapping (if not performed in project planning task);

9. Field screening/analyses;

10. RI waste disposal; and

11. Task management and quality control.

E. Task 5. Sample Analysis/Validation -- This task includes efforts related to the analysis and validation of samples after they leave the field. Separate monitoring of close support laboratories may be required. Any efforts associated with laboratory procurement are also included in this task. The task ends on the date that data validation is complete. The following typical activities are usually included in this task:

1. Sample management;

2. Non-contract Laboratory Program (CLP) analysis;

3. Use of mobile laboratories;

4. Data validation;

5. Testing of physical parameters; and

6. Task management and quality control.

F. Task 6. Data Evaluation This task includes efforts related to the analysis of data once it has been verified that the data are of acceptable accuracy and precision. The task begins on the date that the first set of validated data are received by the project team and ends during preparation of the RI report when it is deemed that no additional data are required. The following are typical activities:

1. Data evaluation;

2. Data reduction and tabulation;

3. Environmental fate and transport modeling and evaluation; and

4. Task management and quality control.

G. Task 7. Assessment of Risks -- This task includes efforts related to conducting the baseline risk assessment. The task will include work to assess the potential human health and environmental risks associated with the site. Work will begin during the RI and is completed once the baseline risk assessment is completed. The following are typical activities.

1. Data collection and evaluation;

2. Exposure assessment;

3. Toxicity assessment;

4. Risk characterization;

5. Task management and quality control; and

6. Ecological Assessment. The Ecological Assessment should address:

   a. Determination of need, objectives and level of effort;

b. Evaluation of site characteristics;

c. Contamination evaluation;

d. Potential for exposure;

e. Selection of assessment and measurement endpoints; and

f. Sampling and analysis plan.

H. Task 8. Treatability Study/Pilot Testing -- As appropriate, this task includes efforts to prepare and conduct pilot, bench, and treatability studies. This task begins with the development of workplans for conducting the tests and is complete once the report has been completed. The following are typical activities:

1. Workplan preparation or workplan amendment;

2. Test facility and equipment procurement;

3. Vendor and analytical service procurement;

4. Equipment operation and testing;

5. Sample analysis and validation;

6. Evaluation of results;

7. Report generation; and

8. Task management and quality control.

I. Task 9. Remedial Investigation Reports -- This task covers all efforts related to the preparation of the finding once the data have been evaluated under tasks 6 and 7. The task covers all draft and final RI reports as well as task management and quality control. The task ends when the RI document is submitted as final to EPA. The following are typical activities:

1. Preparation of a preliminary site characterization summary;

2. Data presentation (formatting tables, preparing graphics);

3. Writing the report;

4. Reviewing and providing quality control efforts;

5. Printing and distributing the report;

6. Holding review meetings;

7. Revising the report on the basis of agency comments; and

8. Providing task management and control.

J. Task 10. Remedial Alternatives Development/Screening -- This task includes efforts to select the alternatives to undergo full evaluation. The task is initiated once sufficient data are available to develop response actions and begin the initial evaluation of potential technologies. This task is defined as complete when a final set of alternatives is chosen for detailed evaluation. The following are typical activities:

1. Identifying/screening potential technologies;

2. Screening technologies;

3. Assembling potential alternatives;

4. Identifying action-specific ARARs;
5. Evaluating each alternative on the basis of screening criteria (effectiveness, implementability, grossly inappropriate cost);

6. Reviewing and providing quality control of work effort;

7. Holding review meetings; and

8. Refining the list of alternatives to be evaluated.

K. Task 11. Detailed Analysis of Remedial Alternatives -- This task applies to the detailed analysis and comparison of alternatives. The evaluation activities in-

cludes performing detailed public health, environmental, and institutional analyses. The task begins when the alternatives to undergo detailed analysis have been identified and agreed upon and ends when the analysis is complete. The following are typical activities:

1. Evaluate each alternative and compare the relative performance of each alternative according to the following criteria:

   a. Overall protection of human health and the environment;

   b. Compliance with ARARs;

   c. Long-term effectiveness;

   d. Reduction of toxicity, mobility and volume;

   e. Short-term effectiveness;

   f. Implementability;

   g. Cost;

   h. State acceptance, if known; and

   i. Community acceptance, if known.

2. Review of quality control efforts;

3. Review meetings; and

4. Task management and quality control

L. Task 12. Feasibility Study (or RI/FS) Reports -- Similar to the RI reports task, this task is used to report FS deliverables. However, this task should be used in lieu of the RI reports task to report costs and schedule for combined RI/FS deliverables. The task ends when the FS (or RI/FS) is released to the public. The following are typical activities:

1. Presenting data (formatting tables, preparing graphics);

2. Writing the report;

3. Printing and distributing the report;

4. Holding review meetings;

5. Revising the report on the basis of agency comments; and

6. Providing task management and quality control.

M. Task 13. Post RI/FS Support -- This task includes efforts to prepare the responsiveness summary, support the ROD, conduct any predesign activities, and close out the work assignment. All activities occurring after the release of the FS to the public should be reported under this task. The following are typical activities:

1. Preparing the predesign report;

2. Preparing the conceptual design;

3. Attending public meetings;

4. Writing and reviewing the responsiveness summary;

5. Supporting ROD preparation and briefings;

6. Reviewing and providing quality control of the work efforts; and

7. Providing task management and quality control.

N. Task 14. ATSDR Coordination -- This task is used to report coordination efforts with the Agency for Toxic Substances and Disease Registry (ATSDR). All necessary environmental investigation results, including that of the remedial investigation will be provided to ATSDR so that they will be able to conduct a health assessment for the site.

ATTACHMENT F

REMOVAL ACTIONS

ATTACHMENT F

REMOVAL ACTIONS

I. The Air Force intends to take removal actions (1) at the North Fire Training Area location and (2) where river bank soil is eroding at the Waste Treatment Annex Landfill location. The Air Force targets the the following schedules for completion.

A.	Draft Engineering Evaluation/Cost Analysis (EE/CA) for North Fire Training Area Removal.	11/15/90
	Draft Final EE/CA	60 days after public comments.
	Final EE/CA	30 days after Draft Final.
	Commence Construction	06/15/91
	Removal Complete	Consistent w/ EE/CA schedule.
B.	Commence design of soil erosion control at Waste Treatment Annex Landfill river bank	10/15/90
	Commence Construction	11/15/90
	Removal Complete	01/15/91