

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
PACIFIC NORTHWEST REGION

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10

In the Matter of

HOLDEN MINE SITE,
Washington

INTALCO ALUMINUM CORPORATION,

Respondent.

UNILATERAL ADMINISTRATIVE
ORDER FOR REMEDIAL DESIGN AND
REMEDIAL ACTION

EPA Docket No. CERCLA-10-2012-0127

Proceeding Under Section 106(a) the
Comprehensive Environmental Response,
Compensation, and Liability Act,
as amended, 42 U.S.C. § 9606(a)

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APPENDIX A – STATEMENT OF WORK

**UNILATERAL ADMINISTRATIVE ORDER
FOR REMEDIAL DESIGN AND REMEDIAL ACTION**

I. JURISDICTION AND GENERAL PROVISIONS

- 1.1 This Unilateral Administrative Order for Remedial Design and Remedial Action at the Holden Mine Site (“UAO” or “Order”) is issued pursuant to the authority vested in the President of the United States by Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. § 9606(a). This authority was delegated to the Administrator of the U.S. Environmental Protection Agency (“EPA”) by Executive Order 12580, 52 Fed. Reg. 2926 (January 29, 1987) and further delegated to the EPA Regional Administrators on September 13, 1987, by EPA Delegation No. 14-14-B, and was further delegated to the Director of the Office of Environmental Cleanup, Region 10 Delegation No. R10-14-14-B, and further delegated to the Manager of the Remedial Cleanup Program, Region 10 Delegation No. R10-14-14-B(1). The authority vested in the President of the United States by Section 106(a), as amended, 42 U.S.C. § 9606(a) was also delegated to the Secretary of Agriculture by Executive Order 12580, as amended by Executive Order 13016, 61 Fed. Reg. 45871 (August 30, 1996), and further delegated to the Director of the USDA Office of Procurement and Property Management and the Chief of the Forest Service, to be exercised with the concurrence of the General Counsel. 7 C.F.R. § 2.93(a)(17)(viii).
- 1.2 This Order directs Respondent to develop the Remedial Design for the remedy described in the Record of Decision for the Holden Mine Site dated January 27, 2012 (“ROD”) and to implement the Remedial Design by performing the Remedial Action, Operation and Maintenance, and other Work required by this Order and the Statement of Work

("SOW") attached as Appendix A. This Order is issued to Respondent Intalco Aluminum Corporation ("Respondent"). The Forest Service and EPA have notified the State of Washington of this action pursuant to Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

II. PARTIES BOUND

- 2.1 This Order shall apply to and be binding upon Respondent, and its directors, officers, employees, representatives, agents, successors, receivers, trustees, and assigns. Respondent is responsible for carrying out all activities required by this Order. No change in the ownership, corporate status, or other control of Respondent, or any transfer of assets or real or personal property, shall alter Respondent's responsibilities under this Order.
- 2.2 Respondent shall provide a copy of this Order to any prospective owners or successors before a controlling interest in any of Respondent's assets, property rights, or stock are transferred to the prospective owner or successor. Respondent shall provide a copy of this Order to each contractor, sub-contractor, laboratory, or consultant retained to perform any Work under this Order, within five (5) days after the Effective Date of this Order or on the date such services are retained, whichever date occurs later. Respondent shall also provide a copy of this Order to each person representing Respondent with respect to the Site or the Work and shall condition all contracts and subcontracts entered into hereunder upon performance of the Work in conformity with the terms of this Order. With regard to the activities undertaken pursuant to this Order, each contractor and subcontractor shall be deemed to be related by contract to Respondent within the meaning of Section 107(b)(3) of CERCLA, 42 U.S.C. § 9607(b)(3). Notwithstanding the terms of any

contract, Respondent is responsible for compliance with this Order and for ensuring that its contractors, subcontractors and agents comply with this Order, and perform any Work in accordance with this Order.

III. DEFINITIONS

3.1 Unless otherwise expressly provided herein, terms used in this Order which are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in the statute or its implementing regulations. Whenever terms listed below are used in this Order or in the appendices or documents attached to this Order or incorporated by reference into this Order, the following definitions shall apply:

"Agencies" shall mean the Forest Service and EPA.

"Agency Representative" shall mean a representative of either the Forest Service or EPA.

"CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. §§ 9601, et seq.

"Day" shall mean a calendar day unless expressly stated to be a working day.

"Working day" shall mean a day other than a Saturday, Sunday, or federal holiday. In computing any period of time under this Order, where the last day would fall on a Saturday, Sunday, or federal holiday, the period shall run until the end of the next working day.

"Effective Date" shall be the effective date of this Order as provided in Section XXXII.

"EPA" shall mean the United States Environmental Protection Agency and its successor departments, agencies, or instrumentalities.

"EPA Hazardous Substance Superfund" shall mean the Hazardous Substance Superfund established by the Internal Revenue Code, 26 U.S.C. § 9507.

“Forest Service” shall mean the United States Department of Agriculture, Forest Service, and any successor departments or agencies of the United States.

“Institutional Controls” or “ICs” shall mean Proprietary Controls and state or local laws, regulations, ordinances, zoning restrictions, or other governmental controls or notices that: (a) limit land, water, and/or resource use to minimize the potential for human exposure to Waste Material at or in connection with the Site; (b) limit land, water, and/or resource use to implement, ensure non-interference with, or ensure the protectiveness of the Remedial Action; and/or (c) provide information intended to modify or guide human behavior at or in connection with the Site.

“Institutional Control Implementation and Assurance Plan” or “ICIAP” shall mean the plan for implementing, maintaining, monitoring, and reporting on the Institutional Controls set forth in the ROD, prepared in accordance with the Statement of Work (“SOW”).

“Interest” shall mean interest at the rate specified for interest on investments of the EPA Hazardous Substance Superfund established by 26 U.S.C. § 9507, compounded annually on October 1 of each year, in accordance with 42 U.S.C. § 9607(a). The applicable rate of interest shall be the rate in effect at the time the interest accrues. The rate of interest is subject to change on October 1 of each year.

"National Contingency Plan" or "NCP" shall mean the National Oil and Hazardous Substances Pollution Contingency Plan, promulgated pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, codified at 40 C.F.R. Part 300, including any amendments thereto.

"Operation and Maintenance” or “O&M" shall mean all activities required to maintain the effectiveness of the Remedial Action as required under the Operations and Maintenance Plan or other Plans developed by Respondent pursuant to this Order and the SOW and approved by the Agencies, including, but not limited to, the maintenance, monitoring, and enforcement of Institutional Controls as provided in the ICIAP.

“Order” shall mean this Unilateral Administrative Order and all appendices and documents attached hereto or incorporated by reference into this document, including submissions/deliverables approved by the Agencies. In the event of a conflict between this Order and any appendix, this Order shall control.

"Paragraph" shall mean a portion of this Order identified by an Arabic numeral.

“Parties” shall mean the Forest Service, EPA, and Respondent.

“Performance Standards” shall mean those cleanup standards, and other measures of achievement of the goals of the Remedial Action, set forth in the ROD and the SOW and any modified standards established pursuant to this Order.

“Project Coordinator” shall mean the employee designated by the Agencies to serve as the secondary contact for the Work at the Site. The initial Project Coordinator shall be Dave Einan of EPA. The Agencies shall have the unreviewable right to change the Project Coordinator at any time.

“Project Manager” shall mean Respondent’s Project Manager for the Work at the Site.

“Proprietary Controls” shall mean easements or covenants running with the land that (a) limit land, water, or resource use and/or provide access rights and (b) are created pursuant to common law or statutory law by an instrument that is recorded by the owner in the appropriate land records office.

“RCRA” shall mean the Solid Waste Disposal Act, 42 U.S.C. §§ 6901-6992 (also known as the Resource Conservation and Recovery Act).

“Record of Decision” or “ROD” shall mean the January 27, 2012 Remedial Action Record of Decision for the Holden Mine Site, including all attachments thereto.

“Remedial Action” or “RA” shall mean all activities Respondent is required to perform under the Order to implement the ROD, in accordance with the SOW, the final approved Remedial Design submission, the approved Remedial Action Work Plan, and other plans approved by the Agencies, including implementation of Institutional Controls, until the Performance Standards are met, and excluding performance of the Remedial Design, O&M, and the activities required under Section XX (Record Preservation, Retention and Availability).

“Remedial Action Work Plans” shall mean the documents developed pursuant to Paragraphs 9.5.3 and 9.7.1 of Section IX (Work to be Performed) and approved by the Agencies, and any modifications thereto.

“Remedial Design” or “RD” shall mean those activities to be undertaken by Respondent to develop the final plans and specifications for the Remedial Action pursuant to the Remedial Design Work Plan, and the Preliminary Design Report initially submitted in March 2012 for Agency review and approval.

“Remedial Design Work Plan” shall mean the document developed pursuant to Paragraph 9.6 of Section IX (Work to be Performed) and approved by the Agencies, and any modifications thereto.

“Remedial Project Manager” shall mean the employee designated by the Agencies to coordinate, monitor, or direct remedial or other response actions under subpart E of the NCP. The initial Remedial Project Manager shall be Norm Day of the Forest Service. The Agencies have the unreviewable right to change the Remedial Project Manager at any time.

“Respondent” shall mean Intalco Aluminum Corporation.

"Response Costs" shall mean all costs, including, but not limited to, direct costs, indirect costs, and accrued Interest, that the United States incurs in reviewing or developing plans, reports, and other deliverables submitted pursuant to this Order, in overseeing implementation of the Work or overseeing this Order, including, but not limited to, payroll costs, contractor costs, travel costs, laboratory costs, the costs incurred pursuant to Sections XIV (Additional Response Actions and Failure to Attain Performance Standards), XIX (Access to Property Not Owned by the United States) (including, but not limited to, the cost of attorney time and any money paid to secure access and/or to secure, implement, monitor, maintain, or enforce Institutional Controls including, but not limited to, the amount of just compensation), XVI (Endangerment and Emergency Response), XV (Agencies' Periodic Review), and Paragraph 24.4 (Funding of Work Takeover).

“Section” shall mean a portion of this Order identified by a Roman numeral and includes one or more Paragraphs.

“Site” shall mean the Holden Mine Site located in Chelan County, Washington. The Site includes the Holden Mine and the associated areal extent of contamination including, but not limited to, the underground mine workings, adjacent tailings and waste rock piles, Railroad Creek from adjacent to the mine to Lake Chelan, and Lake Chelan in the immediate vicinity of its confluence with Railroad Creek. The Holden Mine is located approximately 10 miles upstream from Lake Chelan, as depicted on the map attached as Figure 1 to the SOW.

“State” shall mean the State of Washington, in particular the Washington Department of Ecology.

"Statement of Work" or "SOW" shall mean the statement of work for implementation of the “Work” at the Site, including, but not limited to Remedial Design, Remedial Action, and Operation and Maintenance, as set forth in Appendix A to this Order. The SOW is incorporated into this Order and is an enforceable part of this Order.

"United States" shall mean the United States of America.

"USDA" shall mean the United States Department of Agriculture and any successor departments or agencies of the United States.

“Waste Material” shall mean (i) any “hazardous substance” under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); (ii) any pollutant or contaminant under Section 101(33) of CERCLA, 42 U.S.C. § 9601(33); (iii) any “solid waste” under Section 1004(27) of RCRA, 42 U.S.C. § 6903(27); and (iv) any “hazardous substance” under the Washington Model Toxics Control Act (“MTCA”), RCW 70.105D.020(10).

"Work" shall mean all activities and obligations Respondent is required to perform under this Order.

“Yakama Nation” shall mean the Confederated Tribes and Bands of the Yakama Nation.

IV. FINDINGS OF FACT

- 4.1 The Site includes the inactive Holden Mine, located adjacent to Railroad Creek approximately 10 miles upstream from Lake Chelan in Chelan County, Washington, as depicted on the map included as Figure 1 in the SOW. The Holden Mine and associated disturbances are either located on National Forest System land or on private land, surrounded by National Forest System land. The Okanogan-Wenatchee National Forest administers the National Forest System land at the Site.
- 4.2 Howe Sound Company (“Howe Sound”), a predecessor-in-interest to Respondent, operated the Holden Mine from 1938-1957, during which time Howe Sound produced copper, zinc, and gold from mineralized rock removed from more than 57 miles of underground workings. Howe Sound’s on-site mill processed the mineralized rock. Howe Sound’s operations generated waste rock and more than 10 million tons of mill tailings. Howe Sound placed approximately 8.5 million tons of tailings in three impoundments adjacent to Railroad Creek. Howe Sound backfilled the remainder of the tailings in the mine workings. Howe Sound constructed two waste rock piles adjacent to

the mine portal. The tailings piles and waste rock piles collectively cover approximately 90 acres and are up to 120 feet high.

- 4.3 Concentrations of hazardous substances, including cadmium, copper, lead, zinc, iron compounds, and aluminum compounds, in groundwater that discharges to surface water at the Site exceed water quality criteria for protection of aquatic life, at times by factors of 100 to over 10,000 in several areas. The sources of this contaminated groundwater include the mine portal discharge and the tailings and waste rock piles. Railroad Creek is the primary surface water receiving these discharges. The quantity and diversity of aquatic life in Railroad Creek is substantially reduced adjacent to and below the contaminated groundwater discharge points, compared to areas upstream of the discharge points. Soil at the Site, including areas beyond the tailings piles and waste rock, also contains hazardous substances, including aluminum compounds, arsenic, cadmium, copper, and lead, that pose an unacceptable risk to human health and the environment. The ROD and the Administrative Record for the ROD more fully address the nature and extent of contamination, and the risk posed by that contamination, at the Site.
- 4.4 In 2003 and again in 2006, high water in Railroad Creek and Copper Creek eroded Tailings Piles 1 and 2 at the Site. While Intalco conducted time-critical removal actions to mitigate this damage, under current conditions there remains a significant risk that during major flood events Railroad Creek and Copper Creek will erode or cause a partial collapse of the tailings piles.
- 4.5 The mine portal, nearly all of the tailings piles, and the majority of the waste rock piles are located on National Forest System land.

- 4.6 At the Site, releases of hazardous substances on the private land affect the natural resources within the National Forest System land.
- 4.7 In 1960 Howe Sound transferred property it owned at the Site to the Lutheran Bible Institute, which, in 1961, transferred this property to Holden Village. Holden Village currently owns the land with the mill facility ruins, the land containing the ore body, and the portions of the tailings and waste rock piles not located on National Forest System land.
- 4.8 Alumet Corporation is the successor to Howe Sound. *Idaho v. M.A. Hanna*, 819 F. Supp. 1464, 1468-1469 (D.Idaho 1993). In December 1998, Alumet merged into Intalco Aluminum Corporation.
- 4.9 Respondent's predecessor, Alumet Corporation, entered into an Administrative Order on Consent for the performance of a Remedial Investigation and Feasibility Study for the Site on April 11, 1998.
- 4.10 On April 5, 2000, Respondent and the United States entered into a Consent Decree related to the Site, *United States v. Intalco Aluminum Corporation*, Civil Action No. CS-99-0324-RHW. The April 5, 2000, Consent Decree resolved the United States' claim against the Respondent for CERCLA response costs incurred prior to October 1, 1997. Paragraph 12.b. of the April 5, 2000, Consent Decree provides: "In any future action by the United States seeking reimbursement for Response Costs not addressed by this Consent Decree or the AOC, Intalco shall not contest its liability under CERCLA § 107(a), but Intalco reserves all its defenses not otherwise waived under this Consent Decree."

- 4.11 Effective January 27, 2012, the Forest Service and EPA under CERCLA, and the State of Washington under MTCA, approved a Record of Decision (“ROD”) selecting the Remedial Action for the Site. The ROD provides for a comprehensive cleanup of the Holden Mine Site. The Remedial Action Work is set forth more particularly in the SOW. The Remedial Action selected in the ROD will reduce the potential risk of exposure to humans and ecological receptors to soils, groundwater, and surface water contaminated by hazardous substances including arsenic, cadmium, copper, lead, zinc, iron compounds, and aluminum compounds.
- 4.12 Pursuant to CERCLA and Executive Order 12580, the Forest Service is currently the lead agency for response actions at the Site. EPA has concurrent authority under CERCLA.
- 4.13 The Forest Service and EPA have incurred, and continue to incur, response costs associated with the Site.

V. CONCLUSIONS OF LAW AND DETERMINATIONS

- 5.1 Based on the Findings of Fact set forth above, and the Administrative Record supporting the Remedial Action selected in the ROD, the Agencies have determined that:
- 5.1.1 The Holden Mine Site is a "facility" as defined in Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).
- 5.1.2 There are hazardous substances, as defined in Section 101(14) of CERCLA, 42 U.S.C. § 9601(14), present at the Site including, but not limited to arsenic, cadmium, copper, lead, zinc, iron compounds, and aluminum compounds.

- 5.1.3 The conditions described in the Findings of Fact above constitute an actual or threatened "release" of a hazardous substance from the facility, as defined in Section 101(22) of CERCLA, 42 U.S.C. § 9601(22).
- 5.1.4 Respondent is a "person," as defined in Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).
- 5.1.5 Respondent, as the corporate successor to Howe Sound Company, which owned and operated the facility at the time of disposal of hazardous substances, is a "liable party" as defined in Section 107(a)(2) of CERCLA, 42 U.S.C. § 9607(a)(2).
- 5.1.6 The release or threat of release of one or more hazardous substances from the Site may present an imminent and substantial endangerment to the public health, welfare or the environment.
- 5.1.7 The response actions required by this Order are necessary to protect the public health, welfare, or the environment.
- 5.1.8 Respondent is subject to this Order under Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

VI. ORDER

- 6.1 This Order is issued to Intalco, who, through predecessor companies, owned and operated the Site as a mine from approximately 1938 until 1960. During that time, hazardous substances were disposed of at the Site and released from the Site.
- 6.2 Based on the foregoing Findings of Fact, Conclusions of Law and Determinations, and the Administrative Record for this Site, Respondent is hereby ordered to comply with the

provisions of this Order, including but not limited to all appendices to this Order, all documents incorporated by reference into this Order, and all schedules and deadlines in this Order, attached to this Order, or incorporated by reference into this Order.

VII. NOTICE OF INTENT TO COMPLY

7.1 Respondent shall provide, not later than seven (7) days after the Effective Date of this Order, written notice to the Agencies of its irrevocable intent to comply with the terms of this Order. If Respondent does not unequivocally commit to perform the Work as provided in this Order, it shall be deemed to have violated this Order and to have failed to comply with this Order. Such written notice shall be sent to:

James Alexander
333 SW First Avenue, Room 457
Portland, OR 97204-3440
E-mail: james.alexander@ogc.usda.gov

With a copy to:

Jennifer G. MacDonald
Assistant Regional Counsel
U.S. Environmental Protection Agency, Region 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101
E-mail: MacDonald.Jennifer@epa.gov

Respondent's written notice shall describe, using facts that exist on or prior to the Effective Date of this Order, any "sufficient cause" defenses asserted by Respondent under Sections 106(b) and 107(c)(3) of CERCLA, 42 U.S.C. §§ 9606(b) & 9607(c)(3). The absence of a response by the Agencies to a notice required by this Paragraph shall not be deemed to be acceptance of Respondent's assertions.

VIII. AGENCIES' REMEDIAL PROJECT MANAGER AND PROJECT COORDINATOR AND COMMUNICATIONS

8.1 All communications, whether written or oral, from Respondent to the Agencies shall be directed to the Remedial Project Manager and Project Coordinator as indicated below.

The Agencies' Remedial Project Manager shall be:

Norm Day
Remedial Project Manager
Okanogan-Wenatchee National Forest
215 Melody Lane
Wenatchee, WA 98801-5933
Phone: 509-664-9304
E-mail: nday@fs.fed.us

The Agencies' Project Coordinator shall be:

Dave Einan
Project Coordinator
Hanford Office
U.S. Environmental Protection Agency, Region 10
309 Bradley Blvd., Suite 115
Richland, WA 99352
Phone: 509-376-3883
E-mail: einan.david@epa.gov

8.2 Respondent shall submit to the Forest Service three copies and to EPA two copies of all documents, including plans, reports, and other correspondence, which are developed pursuant to this Order, and shall send these documents by certified mail, return receipt requested, or overnight mail, or electronically, if approved by the Remedial Project Manager. Copies to the Forest Service will be sent to the Agencies' Remedial Project Manager at the address listed above. Copies to EPA will be sent to the Agencies' Project Coordinator at the address listed above.

8.3 Respondent shall also submit copies of all documents, including plans, reports, and other correspondence, which are developed pursuant to this Order to the following contacts, and as otherwise instructed by the Remedial Project Manager:

Laura Klasner
Washington Department of Ecology
Toxic Cleanup Program
Central Regional Office
15 W. Yakima Av., Suite 200
Yakima, WA 98902-3452
E-mail: lkla461@ECY.WA.GOV

McClure Tosch
Remediation and Restoration Specialist
Yakama Nation
Fisheries Resource Management Program
PO Box 151
Toppenish, WA 98948
E-mail: tosm@yakamafish-nsn.gov

8.4 The Agencies have the unreviewable right to change their Remedial Project Manager, Project Coordinator, and other contacts. If the Agencies change their Remedial Project Manager, Project Coordinator, or other contact(s), the Agencies will inform Respondent in writing of the name, address, E-mail address, and telephone number of the new Remedial Project Manager, Project Coordinator, or other contact(s).

8.5 The Remedial Project Manager will transmit all comments on all deliverables, reports or other communications to the Respondent. The Remedial Project Manager will also serve as point of contact for Respondent's Project Manager and other authorized representatives, except legal counsel, as Work proceeds under this Order. Approvals required pursuant to this Order shall be communicated to the Respondent in writing by the Remedial Project Manager.

8.6 The Agencies' Remedial Project Manager shall have the authority lawfully vested in a Remedial Project Manager by the NCP, 40 C.F.R. Part 300. The Remedial Project Manager shall have authority, consistent with the NCP, to halt any work required by this Order, and to take any necessary response action when s/he determines that conditions at the Site constitute an emergency situation or may present an immediate threat to public health or welfare or the environment due to release or threatened release of Waste Material and/or hazardous substances.

8.7 Communication from Respondent's legal counsel, and a copy of any written communication, shall be directed to:

James Alexander
USDA Office of the General Counsel
333 SW First Avenue, Room 457
Portland, OR 97204-3440
Phone: 503-808-5976
E-mail: james.alexander@ogc.usda.gov

And:

Jennifer G. MacDonald
Assistant Regional Counsel
U.S. Environmental Protection Agency
1200 Sixth Avenue, Suite 900
Seattle, WA 98101
Phone: 206-553-8311
E-mail: MacDonald.Jennifer@epa.gov

8.8 Communication to Respondent's legal counsel shall constitute receipt by Respondent.

IX. WORK TO BE PERFORMED

9.1 Respondent shall cooperate with the Agencies in providing information regarding the Work to the public. As requested by the Agencies, Respondent shall participate in the

preparation of such information for distribution to the public and in public meetings that may be held or sponsored by the Agencies to explain activities at or relating to the Site.

9.2 The Work performed by Respondent pursuant to this Order shall, at a minimum, achieve the requirements specified in the SOW, and shall be consistent with the ROD.

9.3 Project Manager

9.3.1 All aspects of the Work to be performed by Respondent pursuant to this Order shall be under the direction and supervision of a qualified Project Manager, the selection of which shall be subject to approval by the Agencies. Within ten (10) days after the Effective Date of this Order, Respondent shall notify the Agencies in writing of the name and qualifications of the Project Manager, including primary support entities and staff, proposed to be used in carrying out Work under this Order. Respondent's Project Manager shall be responsible for overseeing Respondent's implementation of this Order.

9.3.2 With respect to any proposed Project Manager, Respondent shall demonstrate that the proposed Project Manager has a quality system that complies with ANSI/ASQC E4-1994, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs," (American National Standard, January 5, 1995), by submitting a copy of the proposed Project Manager's Quality Management Plan ("QMP"). The QMP shall be prepared in accordance with the specifications set forth in "EPA's Requirements for Quality Management Plans (QA/R-2)," (EPA/240/B-01/002 March 2001, Reissued May 2006) or equivalent documentation as determined by the Agencies.

- 9.3.3 Respondent shall have the right to change its Project Manager, subject to the Agencies' right to disapprove. If at any time Respondent proposes to use a different Project Manager, Respondent shall notify the Agencies, in writing, and shall obtain approval from the Agencies before the new Project Manager performs any Work under this Order.
- 9.3.4 The Agencies will review Respondent's selection of a Project Manager according to the terms of this Paragraph. If the Agencies disapprove of the selection of the Project Manager, Respondent shall submit to the Agencies within ten (10) days after receipt of the Agencies' disapproval of the Project Manager previously selected, a list of Project Managers, including primary support entities and staff, that would be acceptable to Respondent. The Agencies will thereafter provide written notice to Respondent of the names of the Project Managers that are acceptable to the Agencies. Respondent may then select any approved Project Manager from that list and shall notify the Agencies of the name of the Project Manager selected within seven (7) days of the Agencies' designation of approved Project Managers. The Agencies retain the right to disapprove of Respondent's designated Project Manager at any time during Respondent's performance of Work. If the Agencies disapprove of the designated Project Manager, Respondent shall retain a different Project Manager and shall notify the Agencies of that person's name, address, telephone number and qualifications within five (5) days following the Agencies' disapproval. Receipt by Respondent's Project Manager of any notice or communication from the Agencies relating to this Order shall constitute receipt by Respondent.

9.4 Remedial Design and Remedial Action. The Remedial Design and Remedial Action, including all documents prepared in support of Remedial Design and Remedial Action, shall comport with EPA’s “Superfund Remedial Design and Remedial Action Guidance, OSWER Directive 9355.0-4A.”

9.5 2012 Remedial Design and Remedial Action.

9.5.1 Respondent submitted a Preliminary Design in March 2012 (“2012 Preliminary Design”) to the Agencies for review and approval. The review and approval by the Agencies of the 2012 Preliminary Design will be conducted pursuant to the terms of this Order.

9.5.2 The Remedial Design submission for the 2012 Remedial Action shall include those elements set forth in the SOW.

9.5.3 Concurrent with the submission of the pre-final/final design for the 2012 Remedial Action, as described in the SOW, Respondent shall submit to the Agencies a work plan for the performance of the 2012 Remedial Action at the Site (“2012 Remedial Action Work Plan”). The 2012 Remedial Action Work Plan shall provide for construction and implementation of the 2012 Remedial Action as described in the SOW, consistent with the ROD, and for achievement of the Performance Standards, in accordance with this Order, the ROD, the SOW and the pre-final/final design for the 2012 Remedial Action.

9.5.4 At the same time as it submits the 2012 Remedial Action Work Plan, Respondent shall submit to the Agencies a Health and Safety Plan for the 2012 field activities set forth in the Remedial Action Work Plan that conforms to the applicable

Occupational Safety and Health Administration and Agency requirements, including but not limited to 29 C.F.R. § 1910.120.

- 9.5.5 The 2012 Remedial Action Work Plan shall include the elements set forth in the SOW.
- 9.5.6 Upon its approval by the Agencies, the 2012 Remedial Action Work Plan shall be incorporated into and enforceable under this Order.
- 9.5.7 Upon approval of the 2012 Remedial Action Work Plan by the Agencies and submission of the Health and Safety Plan for the 2012 field activities to the Agencies, Respondent shall implement the 2012 Remedial Action Work Plan.
- 9.5.8 Respondent shall submit to the Agencies all plans, reports and deliverables required under the approved 2012 Remedial Action Work Plan in accordance with the approved schedule. Any violation of the approved 2012 Remedial Action Work Plan shall be a violation of this Order. Unless otherwise directed by the Agencies, Respondent shall not commence physical Remedial Action activities at the Site prior to approval of the 2012 Remedial Action Work Plan.

9.6 Remedial Design for the Post-2012 Remedial Action

- 9.6.1 In accordance with the schedule set forth in the SOW, Respondent shall submit to the Agencies a work plan for the Remedial Design of the Remedial Action to be conducted at the Site after 2012 (“Remedial Design Work Plan”). The Remedial Design Work Plan shall provide for design of the remedy set forth in the ROD in accordance with the SOW and for achievement of the Performance Standards and other requirements set forth in the ROD, this Order and the SOW.

- 9.6.2 In accordance with the schedule set forth in the SOW, Respondent shall prepare and submit to the Agencies for review, an update to the Site Health and Safety Plan for field design activities that conforms to the applicable Occupational Safety and Health Administration and Agency requirements, including but not limited to 29 C.F.R. § 1910.120.
- 9.6.3 The Remedial Design Work Plan shall include all plans and schedules for implementation of those remedial design and pre-design tasks identified in the SOW.
- 9.6.4 Upon its approval by the Agencies, the Remedial Design Work Plan shall be incorporated into and enforceable under this Order.
- 9.6.5 Upon approval of the Remedial Design Work Plan by the Agencies, and submission of an update of the Health and Safety Plan to the Agencies, Respondent shall implement the Remedial Design Work Plan. Respondent shall submit to the Agencies all plans, reports, and other deliverables required under the approved Remedial Design Work Plan in accordance with the approved schedule. Any violation of the approved Remedial Design Work Plan shall be a violation of this Order. Unless otherwise directed by the Agencies, Respondent shall not perform Work prior to the Agencies' written approval of the Remedial Design Work Plan.
- 9.6.6 The preliminary design submission for the post-2012 Remedial Action shall include those elements set forth in the SOW.
- 9.6.7 The intermediate design submission for the post-2012 Remedial Action shall include those elements set forth in the SOW.

9.6.8 The pre-final/final design submission for the post-2012 Remedial Action shall include those elements set forth in the SOW

9.7 Remedial Action

- 9.7.1 In accordance with the schedule set forth in the SOW, Respondent shall submit to the Agencies a work plan for the performance of the post-2012 Remedial Action at the Site (“Remedial Action Work Plan”). The Remedial Action Work Plan shall provide for construction and implementation of the remedy set forth in the ROD and achievement of the Performance Standards, in accordance with this Order, the ROD, the SOW, and the design plans and specifications developed in accordance with the Remedial Design Work Plan and approved by the Agencies. At the same time as it submits the Remedial Action Work Plan, Respondent shall submit to the Agencies an update to the Health and Safety Plan for field activities required by the Remedial Action Work Plan. The update to the Health and Safety Plan shall conform to the applicable Occupational Safety and Health Administration and Agency requirements, including but not limited to 29 C.F.R. § 1910.120.
- 9.7.2 The Remedial Action Work Plan shall include those elements set forth in the SOW.
- 9.7.3 Upon its approval by the Agencies, the Remedial Action Work Plan shall be incorporated into and enforceable under this Order.
- 9.7.4 Upon approval of the Remedial Action Work Plan by the Agencies, and submission of an update to the Health and Safety Plan to the Agencies, Respondent shall implement the Remedial Action Work Plan.

9.7.5 Respondent shall submit to the Agencies all plans, reports and deliverables required under the approved Remedial Action Work Plan in accordance with the approved schedule. Any violation of the approved Remedial Action Work Plan shall be a violation of this Order. Unless otherwise directed by the Agencies, Respondent shall not commence physical Remedial Action activities at the Site prior to approval of the Remedial Action Work Plan.

9.8 Construction Contractor

9.8.1 If Respondent seeks to retain a construction contractor(s) to assist in the performance of the Remedial Action, then Respondent shall submit a copy of the contractor solicitation documents to the Agencies not later than five (5) days after publishing the solicitation documents.

9.8.2 Concurrent with the submission of the pre-final/final design for the 2012 Remedial Action, Respondent shall notify the Agencies in writing of the name, title, and qualifications of any construction contractor(s) proposed to be used in carrying out Work under this Order. If the Agencies disapprove of the selection of the construction contractor(s), Respondent shall submit to the Agencies within ten (10) days after receipt of the Agencies' disapproval of the construction contractor(s) previously selected, a list of construction contractors that would be acceptable to Respondent. The Agencies will thereafter provide written notice to Respondent of the names of the construction contractors that are acceptable to the Agencies. Respondent may then select any approved construction contractor from that list and shall notify the Agencies of the name of the construction contractor(s) selected within seven (7) days of the Agencies' designation of

approved construction contractors. The Agencies retain the right to disapprove of Respondent's designated construction contractor(s) at any time during Respondent's performance of Work. If the Agencies disapprove of the designated construction contractor(s), Respondent shall retain a different construction contractor(s) and shall notify the Agencies of that person's name, address, telephone number and qualifications within five (5) days following the Agencies' disapproval. If at any time Respondent proposes to change the construction contractor(s), Respondent shall notify the Agencies and shall obtain approval from the Agencies as provided in this Paragraph, before the new construction contractor(s) performs any Work under this Order.

9.9 Performance Standards

9.9.1 Respondent shall continue to implement the Remedial Action until the Performance Standards are achieved. Respondent shall implement O&M for so long thereafter as is required by this Order.

9.9.2 Notwithstanding any action by the Agencies, Respondent remains fully responsible for achievement of the Performance Standards in the ROD and the SOW and for meeting all Order requirements. Nothing in this Order, SOW or in the Agencies' approval of the Remedial Design, or Remedial Action Work Plan(s) or approval of any other submission, shall be deemed to constitute a warranty or representation of any kind by the Agencies that full performance of the Remedial Design or Remedial Action will achieve the Performance Standards set forth in the ROD and in the SOW or the requirements of the SOW. Respondent's compliance with such approved documents does not foreclose the Agencies from

seeking additional work to achieve the requirements of the SOW, ROD, or Performance Standards.

9.10 Operation and Maintenance and Performance Monitoring

9.10.1 In each work plan for remedial action (2012 Remedial Action Work Plan and Remedial Action Work Plan), Respondent must provide for interim Operation and Maintenance for each aspect of the remedy as construction is completed. In addition, Respondent shall develop and submit a final Operation and Maintenance Plan for long-term operation and maintenance to the Agencies in accordance with the SOW. Upon approval by the Agencies, Respondent shall implement the final Operation and Maintenance Plan.

9.11 Off-Site Shipment of Waste Material

9.11.1 Respondent may ship Waste Material from the Site to an off-Site facility only if it verifies, prior to any shipment, that the off-Site facility is operating in compliance with the requirements of Section 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3) and 40 C.F.R. § 300.440, and with all other applicable federal, State, and local requirements, and it obtains the approval of the Agencies. Respondent may ship Waste Material from the Site to an off-Site waste management facility, only if, prior to any shipment, it provides written notice to the appropriate state environmental official in the receiving facility's state and to the Agencies. This notice requirement shall not apply to any off-Site shipments when the total volume of all shipments from the Site to the state will not exceed ten (10) cubic yards.

9.11.1.1 The notification shall be in writing, and shall include the following information, where available: (1) the name and location of the receiving facility; (2) the type and quantity of the Waste Material to be shipped; (3) the expected schedule for the shipment; and (4) the method of transportation. Respondent shall notify the appropriate state environmental official and the Agencies of major changes in the shipment plan, such as a decision to ship the Waste Material to another facility within the same state, or to a facility in another state. Respondent shall provide the written notice after the award of the contract for the Remedial Action construction and before the Waste Material is shipped.

X. CERTIFICATIONS, INCLUDING CERTIFICATION OF COMPLETION

10.1 Completion of the Construction of Each Element of the Remedial Action

10.1.1 For each element of the Remedial Action, as described in the SOW (Remedial Action for Phase 1 - 2012 Work, Remedial Action for Phase 1 – Post – 2012 Work, and Remedial Action for Phase 2), when construction has been completed for that element, Respondent shall arrange for inspections and prepare construction reports in accordance with the procedures and schedule set forth in the SOW.

10.1.2 For each element of the Remedial Action (Remedial Action for Phase 1 - 2012 Work, Remedial Action for Phase 1 – Post – 2012 Work, and Remedial Action for

Phase 2), if, after completion of the pre-final construction inspection and receipt and review of the written report, as required by the SOW, the Agencies determine that the construction for that element of the Remedial Action has not been completed in accordance with this Order, the Agencies shall notify Respondent, in writing, of the activities that must be undertaken to complete the construction for that element of the Remedial Action and shall set forth in the notice a schedule for performance of such activities. Respondent shall perform all activities described in the notice in accordance with the specifications and schedules established therein. If the Agencies conclude, following the initial or any subsequent certification of completion of construction of an element of the Remedial Action by Respondent that the construction for that element has been completed in accordance with this Order, the Agencies may notify Respondent that the Remedial Action construction for that element has been completed. The Agencies' notification shall be based on present knowledge and Respondent's certification to the Agencies, and shall not limit the Agencies' right to perform periodic reviews pursuant to Section 121(c) of CERCLA, 42 U.S.C. § 9621(c), or to take or require action that in the judgment of the Agencies is appropriate at the Site, in accordance with Sections 104, 106, or 107 of CERCLA, 42 U.S.C. §§ 9604, 9606, or 9607.

10.2 Completion of Remedial Action and Achievement of Performance Standards

10.2.1 When the Remedial Action has been fully performed and the Performance Standards have been achieved, Respondent shall arrange for inspections and

prepare reports in accordance with the procedures and schedule set forth in the SOW.

10.2.2 If, after completion of the pre-final construction inspection and receipt and review of the written report, as required by the SOW, the Agencies determine that Performance Standards have not been met or that the Remedial Action, or any portion thereof, has not been fully performed in accordance with this Order, the Agencies shall notify Respondent, in writing, of the activities that must be undertaken to meet Performance Standards and to fully perform the Remedial Action and shall set forth in the notice a schedule for performance of such activities. Respondent shall perform all activities described in the notice in accordance with the specifications and schedules established therein. If the Agencies conclude, following the initial or any subsequent certification of completion by Respondent that the Remedial Action has been fully performed in accordance with this Order, the Agencies may notify Respondent that the Remedial Action has been fully performed. The Agencies' notification shall be based on present knowledge and Respondent's certification to the Agencies, and shall not limit the Agencies' right to perform periodic reviews pursuant to Section 121(c) of CERCLA, 42 U.S.C. § 9621(c), or to take or require action that in the judgment of the Agencies is appropriate at the Site, in accordance with Sections 104, 106, or 107 of CERCLA, 42 U.S.C. §§ 9604, 9606, or 9607.

10.3 Completion of the Work

10.3.1 When all phases of the Work have been fully performed, the Performance Standards have been attained, and all Operation and Maintenance activities have

been completed, Respondent shall arrange for inspections and prepare reports in accordance with the procedures and schedule set forth in the SOW.

10.3.2 The Agencies may require such additional activities as may be necessary to complete the Work or the Agencies may, based upon present knowledge and Respondent's certification to the Agencies, issue written notification to Respondent that the Work has been completed, as appropriate. If the Agencies conclude, following the initial or any subsequent certification of completion by Respondent that the Remedial Action has been fully performed in accordance with this Order, the Agencies may notify Respondent that the Remedial Action and all Operation and Maintenance activities have been fully performed. The Agencies' notification shall not limit the Agencies' right to perform periodic reviews pursuant to Section 121(c) of CERCLA, 42 U.S.C § 9621(c), or to take or require action that in the judgment of the Agencies is appropriate at the Site, in accordance with Sections 104, 106, or 107 of CERCLA, 42 U.S.C. §§ 9604, 9606, or 9607.

10.4 Form of Certification. All draft and final work plans, reports and designs required for submittal under this Order shall be stamped by a Registered Professional Engineer. All draft and final work plans, reports or other items required for submittal under this Order shall include the following certification signed by Respondent's responsible corporate official who supervised or directed the preparation of that report:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the

information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

XI. QUALITY ASSURANCE, SAMPLING, AND DATA ANALYSIS

11.1 Before the commencement of any sampling under this Order, Respondent shall submit to and obtain the Agencies approval of a Quality Assurance Project Plan (“QAPP”) that is consistent with this Order, the SOW, the NCP and applicable guidance documents.

Respondent shall ensure that all field methodologies utilized in collecting samples for analysis pursuant to this Order are conducted in accordance with the procedures set forth in the QAPP approved by the Agencies.

11.2 Respondent shall use the quality assurance, quality control, and chain of custody procedures “EPA Requirements for Quality Assurance Project Plans (QA/R-5)” (EPA/240/B-01/003, March 2001, reissued May 2006,) and “Guidance for Quality Assurance Project Plans (QA/G-5)” (EPA/240/R-02/009, December 2002), and any amendments to these documents, while conducting all sample collection and analysis activities required herein. To provide quality assurance and maintain quality control, Respondent shall:

11.2.1 Use only laboratories that have a documented quality system that complies with ANSI/ASQC E4-1994, “Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs,” (American National Standard, January 5, 1995 or subsequently issued guidance) and “EPA Requirements for Quality Management Plans (QA/R-2)” (EPA/240/B-01/002, March 2001; Reissued May 2006, or subsequently issued guidance) or

equivalent documentation as determined by the Agencies. The Agencies may consider laboratories accredited under the National Environmental Laboratory Accreditation Program (NELAP) to meet the quality system requirements.

11.2.2 Ensure that each laboratory used by Respondent for analyses performs all analyses according to accepted methods. Accepted methods consist of those methods that are documented in the “USEPA Contract Laboratory Program Statement of Work for Inorganic Analysis, ILM05.4,” and the “USEPA Contract Laboratory Program Statement of Work for Organic Analysis, SOM01.2,” and any amendments made thereto during the course of implementation of this Order; however, upon approval by the Agencies, Respondent may use other analytical methods that are as stringent as or more stringent than the CLP-approved methods. Respondent must include all protocols to be used for analyses in the QAPP.

11.2.3 Ensure that the Agencies’ personnel and the Agencies' authorized representatives are allowed access to the laboratory and personnel utilized by Respondent for analyses. In addition, Respondent shall ensure that such laboratories shall analyze all samples submitted by the Agencies pursuant to the QAPP for quality assurance monitoring.

11.3 Respondent shall notify the Agencies not less than fourteen (14) days in advance of any sample collection activity. At the request of the Forest Service, EPA or both Agencies, Respondent shall allow split or duplicate samples to be taken by the Forest Service, EPA or both Agencies, or the State or their authorized representatives, of any samples collected by Respondent with regard to the Site or pursuant to the implementation of this

Order. In addition, the Forest Service, EPA or both Agencies and the State shall have the right to take any additional samples that the Forest Service, EPA or both Agencies deem necessary.

11.4 All results of sampling, tests, modeling, or other data (including raw data) generated by Respondent, or on Respondent's behalf, during the period that this Order is effective, shall be submitted to the Agencies in the next monthly progress report as described in Section XII (Progress Reports).

11.5 Notwithstanding any provision of this Order, the United States retains all of its information gathering and inspection authorities and rights including enforcement actions related thereto, under CERCLA, RCRA, and any other applicable statutes or regulations.

XII. PROGRESS REPORTS

12.1 In addition to the other deliverables set forth in this Order, including the SOW, Respondent shall provide monthly progress reports with respect to actions and activities undertaken pursuant to this Order. The monthly progress reports shall be submitted to the Agencies on or before the 15th day of each month following the Effective Date of this Order for the preceding month. Respondent's obligation to submit monthly progress reports shall continue until the Agencies give Respondent written notice that the Work has been completed.

12.2 Monthly progress reports shall, at a minimum: (1) describe the actions which have been taken to comply with this Order during the prior month; (2) include all results of sampling and tests and all other data received by Respondents and not previously submitted to the Agencies; (3) describe all work planned for the next sixty (60) days with

schedules relating to such work to the overall project schedule for RD/RA completion; and (4) describe all problems encountered and any anticipated problems and actual or anticipated delays, and solutions developed and implemented to address any actual or anticipated problems or delays.

XIII. AGENCIES' REVIEW OF SUBMISSIONS

- 13.1 After review of any deliverable, plan, report or other item, which is required to be submitted for review and approval pursuant to this Order, the Agencies may, after opportunity for review and comment by the State and the Yakama Nation: (a) approve the submission; (b) approve the submission upon conditions and/or with modifications; (c) disapprove the submission and direct Respondent to re-submit the document after incorporating the Agencies' comments; (d) disapprove the submission and assume responsibility for performing all or any part of the response action; or (e) any combination of the above. As used in this Order, the terms "approval by the Agencies," "the Agencies' approval," or a similar term means the action described in (a) or (b), above in this Paragraph.
- 13.2 In the event of approval, approval upon conditions, or modification by the Agencies, pursuant to Paragraph 13.1, Respondent shall proceed to take any action required by the plan, report, or other deliverable, as approved, modified, or conditioned by the Agencies, and in accordance with the schedule approved by the Agencies. Following the Agencies' approval or modification of a submission or portion thereof, Respondent shall not thereafter alter or amend such submission or portion thereof unless directed by the Agencies. In the event that the Agencies modify the submission to cure the deficiencies

pursuant to Paragraph 13.1 and the submission had a material defect, such defect may be considered a violation of this Order and may subject Respondent to civil penalties in accordance with Section XXVII (Enforcement and Reservations).

13.3 Resubmission:

13.3.1 Upon receipt of a notice of disapproval, Respondent shall, within 21 days or such longer time as specified by the Agencies in such notice, correct the deficiencies and resubmit the plan, report, or other deliverable for approval. Respondent may be subject to penalties in accordance with Section XXVII (Enforcement and Reservations) if the resubmission is disapproved or modified due to a material defect, as provided in Paragraphs 13.3.2 and 13.3.3.

13.3.2 Notwithstanding the receipt of a notice of disapproval, Respondent shall proceed to take any action required by any non-deficient portion of the submission, unless otherwise directed by the Agencies. Implementation of any non-deficient portion of a submission shall not relieve Respondent of any liability for penalties under Section XXVII (Enforcement and Reservations) for violations of this Order.

13.3.3 While awaiting the Agencies' approval, approval on condition, or modification of deliverables, Respondent shall proceed with all other tasks and activities which may be conducted independently of these deliverables, in accordance with the schedules set forth under this Order.

13.3.4 The Agencies reserve the right to stop Respondent from proceeding further, either temporarily or permanently, on any task, activity or deliverable at any point during the Work.

- 13.4 If the Agencies disapprove a resubmitted plan, report, or other deliverable, or portion thereof, the Agencies may again direct Respondent to correct the deficiencies. The Agencies shall also retain the right to modify or develop the plan, report, or other deliverable. Respondent shall implement any such plan, report, or deliverable as corrected, modified, or developed by the Agencies.
- 13.5 If upon resubmission, a plan, report, or other deliverable is disapproved or modified by the Agencies due to a material defect, Respondent shall be deemed in violation of this Order for failure to submit such plan, report, or other deliverable timely and adequately. Respondent may be subject to penalties for such violation as provided in Section XXVII (Enforcement and Reservations).
- 13.6 All submissions, including plans, reports, and other deliverables submitted to the Agencies under this Order shall, upon approval or modification by the Agencies, be incorporated into and become fully enforceable under this Order. In the event the Agencies approve or modify a portion of a plan, report, or other deliverable submitted to the Agencies under this Order, the approved or modified portion shall be incorporated into and enforceable under this Order.
- 13.7 Neither failure of the Agencies to expressly approve or disapprove of Respondent's submissions within a specified time period, nor the absence of comments, shall be construed as approval by the Agencies. Whether or not the Agencies give express approval for Respondent's deliverables, Respondent is responsible for preparing deliverables acceptable to the Agencies.
- 13.8 If any submission is not approved by the Agencies, Respondent shall be deemed to be in violation of this Order.

XIV. ADDITIONAL RESPONSE ACTIONS AND FAILURE TO ATTAIN PERFORMANCE STANDARDS

14.1 Additional Response Actions

14.1.1 The Agencies may determine that in addition to the Work identified in this Order and in documents incorporated into this Order, additional response activities may be necessary to protect human health and the environment. If the Agencies determine that additional response activities are necessary, the Agencies may modify the SOW and/or require that Respondent submit a work plan for additional response activities. The Agencies may also require that Respondent modify any plan, design, or other deliverable required by this Order, including any approved modifications.

14.1.2 Not later than thirty (30) days after receiving the Agencies' notice that additional response activities are required pursuant to this Section, Respondent shall submit a work plan for the additional response activities to the Agencies for review and approval. Upon approval by the Agencies, the work plan shall be incorporated into this Order, as a requirement of this Order, and shall be an enforceable part of this Order. Upon approval of the work plan by the Agencies, Respondent shall implement the work plan according to the standards, specifications, and schedule in the approved work plan. Respondent shall notify the Agencies of its intent to perform such additional response activities within seven (7) days after receipt of the Agencies' request for additional response activities.

14.2 Failure to Attain Performance Standards

14.2.1 In the event that the Agencies determine that additional response activities are necessary to meet the Performance Standards, or the requirements set forth in the SOW, or in work plans approved under this Order, the Agencies may notify Respondent that additional response actions are necessary.

14.2.2 Unless otherwise stated by the Agencies, within thirty (30) days of receipt of notice from the Agencies that additional response activities are necessary, Respondent shall submit for approval by the Agencies a work plan for the additional response activities. The plan shall conform to the applicable requirements of Section IX (Work to be Performed), Section XI (Quality Assurance, Sampling and Data Analysis, and Section XVIII (Compliance with Applicable Laws) of this Order. Upon the Agencies' approval of the plan pursuant to Section XIII (Agency Review of Submissions), Respondent shall implement the plan for additional response activities in accordance with the provisions and schedule contained therein.

XV. AGENCIES' PERIODIC REVIEW

15.1 Under Section 121(c) of CERCLA, 42 U.S.C. § 9621(c), and any applicable regulations, the Agencies may review the Site to assure that the Work performed pursuant to this Order adequately protects human health and the environment. Until such time as the Agencies notify Respondent that the Agencies accept Respondent's certification of completion of the Work pursuant to Paragraph 10.3.2, Respondent shall conduct the requisite studies, investigations, or other response actions as determined necessary by the

Agencies in order to conduct the review under Section 121(c) of CERCLA. As a result of any review performed under this Paragraph, Respondent may be required to perform additional Work or to modify Work previously performed.

XVI. ENDANGERMENT AND EMERGENCY RESPONSE

- 16.1 If any incidents, or change in Site conditions, during the actions conducted pursuant to this Order cause or threaten to cause an additional release of hazardous substances from the Site or an endangerment to the public health, welfare, or the environment, Respondent shall immediately take all appropriate action. Respondent shall take these actions in accordance with all applicable provisions of this Order, including, but not limited to the Health and Safety Plan, in order to prevent, abate or minimize such release or endangerment caused or threatened by the release. Respondent shall also immediately notify both Agencies through the Remedial Project Manager and the Project Coordinator. If the Forest Service representative is unavailable, Respondent shall notify the Forest Service Regional Environmental Engineer, Pacific Northwest Region, of the incident or Site conditions. If Respondent fails to take action, and the Forest Service and/or EPA take action instead, Respondent shall reimburse the Agencies for all costs of the response action not inconsistent with the NCP. Respondent shall pay the costs in the manner described in Section XVII (Payment of Response Costs) within thirty (30) days of Respondent's receipt of demand for payment. The Forest Service Regional Environmental Engineer is:

Julie Creed
USDA Forest Service
333 SW First Avenue
P.O. Box 3623
Portland, OR 97204-3623
Phone: 503-808-2526
E-mail: jcreed01@fs.fed.us

- 16.2 In the event of any release of a hazardous substance above a reportable quantity, Respondent shall immediately notify the Agencies' Remedial Project Manager and Project Coordinator, and the National Response Center. Respondent shall submit a written report to the Agencies within seven (7) days after such release, setting forth the events that occurred and the measures taken or to be taken to mitigate any release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release. This reporting requirement is in addition to, not in lieu of, reporting under CERCLA Section 103(c), 42 U.S.C. § 9603(c), and Section 304 of the Emergency Planning and Community Right-To-Know Act of 1986, 42 U.S.C. § 11004, et seq.
- 16.3 Nothing in the preceding Paragraph shall be deemed to limit any authority of the United States to take, direct, or order all appropriate action to protect human health and the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances on, at, or from the Site.

XVII. PAYMENT OF RESPONSE COSTS

- 17.1 Upon written demand by either the Forest Service or EPA, Respondent shall pay all Response Costs incurred or to be incurred in connection with this Order. On a periodic basis, the Forest Service and EPA will each send Respondent an accounting of Response Costs incurred by the United States with respect to this Order, which includes direct and

indirect costs incurred by the Forest Service, EPA, their contractors, and the Office of the General Counsel of the United States Department of Agriculture.

17.2 Respondent shall make all payments within 30 days after receipt of each written demand requiring payment.

17.2.1 For each written demand from the Forest Service, Respondent shall make payment to the Forest Service by Fedwire of New York (“Fedwire”), in accordance with Fedwire instructions provided in a bill from the Forest Service. To wire a payment, the following fields are required in addition to the Respondent's bank account number and other bank information:

<u>Field Tag</u>	<u>Tag Element</u>	<u>Description</u>	<u>Required Entry</u>
3400	n/a	Receiving Bank ABA number	"021030004" (Treasury/New York City)
4200	01	Beneficiary ID Code	"D"
4200	02	Beneficiary Identifier	"12401100"
4200	03	Beneficiary Name	"TREAS NYC"
4320	n/a	Reference for Beneficiary	"File # 4183"
6000	n/a	Bill for Collection number	Example: ["BD RACA1B00119"]

17.2.1.1 To pay more than one bill at a time through Fedwire, list the bill number and related amount for Field Tag 6000. Then list the next bill number and related amount in the same field.

17.2.1.2 Alternatively, Respondent may submit a certified or cashier’s check or checks made payable to “USDA Forest Service,” referencing the name and address of Respondent, and “costs incurred at the Holden Mine Site.” Respondent shall send the check, with the Bill Number and Respondent’s tax identification number on the check to:

USDA Forest Service
c/o Citibank
PO Box 301550
Los Angeles, CA 90030-1550

17.2.2 At the time of each payment to the Forest Service, Respondent shall send notice that such payment has been made to:

Amy Althans
USDA Forest Service
Region 6 Regional Office
Budget and Financial Management
333 S.W. First Avenue
PO Box 3623
Portland, OR 97208-3623
Email: aealthans@fs.fed.us

James Alexander
USDA Office of the General Counsel
333 SW First Avenue, Room 457
Portland, OR 97204-3440
E-mail: james.alexander@ogc.usda.gov

17.3 EPA's Itemized Cost Summary Reports, or such other summary as may be certified by EPA, shall serve as the accounting and basis for EPA's payment demands.

17.3.1 For each written demand from EPA, Respondent shall make payment to EPA by Fedwire Electronic Funds Transfer ("Fedwire") to:

Federal Reserve Bank of New York
ABA = 021030004
Account = 68010727
SWIFT address = FRNYUS33
33 Liberty Street
New York NY 10045
Field Tag 4200 of the Fedwire message should read:
"D 68010727 Environmental Protection Agency"

and shall reference Site/Spill ID Number 101Y and the EPA docket number for this action.

17.3.2 At the time of payment to EPA, Respondents shall send notice that payment has been made to David Einan, EPA Project Coordinator, and to the EPA Cincinnati Finance Office by email at acctsreceivable.cinwd@epa.gov, or by mail to:

EPA Cincinnati Finance Office
26 Martin Luther King Drive
Cincinnati, Ohio 45268

Such notice shall reference Site/Spill ID Number 101Y and EPA docket number for this action.

17.4 In the event that the payments for Response Costs are not made within 30 days of Respondent's receipt of a written demand requiring payment, Respondent shall pay Interest on the unpaid balance from the date of written demand. The Interest on Response Costs shall begin to accrue on the date of the written demand and shall continue to accrue until the date of payment. Payments of Interest made under this Paragraph shall be in addition to such other remedies or sanctions available to the United States by virtue of Respondent's failure to make timely payments under this Section. Respondent shall make all payments required by this Paragraph in the manner described in this Section.

XVIII. COMPLIANCE WITH APPLICABLE LAWS

18.1 All activities by Respondent pursuant to this Order shall be performed in accordance with the requirements of all applicable federal, state, and local laws and regulations. Respondent must also comply with all applicable or relevant and appropriate requirements of all federal and state environmental laws as set forth in the ROD and the

SOW. The Agencies have determined that the activities contemplated by this Order are consistent with the NCP.

- 18.2 As provided in Section 121(e) of CERCLA (42 U.S.C. § 9621(e)) and the NCP, no permit shall be required for any portion of the Work conducted entirely on-Site. Where any portion of the Work requires a Federal, State, or local permit or approval, Respondent shall submit timely applications and take all other actions necessary to obtain and to comply with all such permits or approvals.
- 18.3 This Order is not, and shall not be construed to be, a permit issued pursuant to any Federal, State, or local statute or regulation.

XIX. ACCESS TO PROPERTY NOT OWNED BY THE UNITED STATES

- 19.1 If any property subject to or affected by the cleanup is owned, in whole or in part, by a party or parties other than the United States:
- 19.1.1 Respondent shall use best efforts to secure from such persons:
- 19.1.1.1 An agreement to provide access thereto for the Agencies and Respondent, and their representatives, contractors, and subcontractors. Such agreement shall provide access at all reasonable times to the property to conduct any activity regarding the Order including but not limited to, the following activities:
- 19.1.1.1.1 Monitoring the Work;
- 19.1.1.1.2 Verifying any data or information submitted to the Agencies;

- 19.1.1.1.3 Conducting investigations regarding contamination at or near the Site;
- 19.1.1.1.4 Obtaining samples;
- 19.1.1.1.5 Assessing the need for, planning, or implementing additional response actions at or near the Site;
- 19.1.1.1.6 Assessing implementation of quality assurance and quality control practices as defined in the approved QAPP;
- 19.1.1.1.7 Implementing the Work pursuant to the conditions set forth in Section XXII (Work Takeover).
- 19.1.1.1.8 Inspecting and copying records, operating logs, contracts, or other documents maintained or generated by Respondent or their agents, consistent with Section XX (Record Preservation, Retention and Availability);
- 19.1.1.1.9 Assessing Respondent's compliance with the Order;
- 19.1.1.1.10 Determining whether the Site or other real property is being used in a manner that is prohibited or restricted, or that may need to be prohibited or restricted under the Order; and
- 19.1.1.1.11 Implementing, monitoring, maintaining, reporting on, and enforcing any Institutional Controls and the requirements of the ICIAP.

- 19.1.1.2 An agreement, enforceable by Respondent and the United States, to refrain from using the Site, or such other real property, including land/water use, in any manner that the Agencies determine will pose an unacceptable risk to human health or to the environment due to exposure to Waste Material or interfere with or adversely affect the implementation, integrity, or protectiveness of the Remedial Action.
- 19.1.1.3 The execution and recordation in the appropriate land records office of Proprietary Controls, that (i) grant a right of access to conduct any activity regarding the Order including, but not limited to, those activities listed in Paragraph 19.1.1.1, and (ii) grant the right to enforce the land/water use contemplated by Paragraph 19.1.1.2, including but not limited to, any land/water use restrictions listed in the ICIAP. The Proprietary Controls shall be granted to one or more of the following persons, as determined by the Agencies: (i) the United States, on behalf of the Agencies, and their representatives, (ii) the State and its representatives, (iii) Respondent and its representatives, and/or (iv) other appropriate grantees. If any Proprietary Controls are granted to Respondent pursuant to this Paragraph 19.1.1.3, then Respondent shall monitor, maintain, report on, and enforce such Proprietary Controls. The Proprietary Controls must comply with Washington Law governing environmental covenants and must include the designation of the Agencies as “Agency”.

- 19.1.2 In accordance with the schedule set forth in the ICIAP, Respondent shall submit to the Agencies for review and approval: (i) draft Proprietary Controls that are enforceable under State law; and (ii) a current title insurance commitment, or other evidence of title acceptable to the Agencies, that shows title to the land affected by the Proprietary Controls to be free and clear of all prior liens and encumbrances (except when the Agencies waive the release or subordination of such prior liens or encumbrances or when, despite best efforts, Respondent is unable to obtain release or subordination of such prior liens or encumbrances).
- 19.1.3 Within 15 days of the Agencies' approval and acceptance of the Proprietary Controls and the title evidence, Respondent shall update the title search and, if it is determined that nothing has occurred since the effective date of the commitment, or other title evidence, to affect the title adversely, record the Proprietary Controls with the appropriate land records office. Within 30 days after the recording of the Proprietary Controls, Respondent shall provide the Agencies with a final title insurance policy, or other final evidence of title acceptable to the Agencies, and a certified copy of the original recorded Proprietary Controls showing the clerk's recording stamps.
- 19.1.4 For purposes of this Section, "best efforts" includes the payment of reasonable sums of money to obtain access, an agreement to restrict land/water use, Proprietary Controls, and/or an agreement to release or subordinate a prior lien or encumbrance. If, within 30 days of approval of the 2012 Remedial Action Work Plan, Respondent has not obtained agreements to provide access as required by Paragraph 19.1.1.1, Respondent shall promptly notify the Agencies in writing,

and shall include in that notification a summary of the steps that Respondent has taken to attempt to comply with this Section. If, within 60 days of the Agencies' approval of the ICIAP, Respondent has not: (a) obtained agreements to restrict land/water use, or record Proprietary Controls, as required by Paragraphs 19.1.1.2, or 19.1.1.3; or (b) obtained, pursuant to Paragraph 19.1.2, agreements from the holders of prior liens or encumbrances to release or subordinate such liens or encumbrances to the Proprietary Controls, Respondent shall promptly notify the Agencies in writing, and shall include in that notification a summary of the steps that Respondent has taken to attempt to comply with this Section. The Agencies may, as they deem appropriate, assist Respondent in obtaining access, agreements to restrict land/water use, Proprietary Controls, or the release or subordination of a prior lien or encumbrance. Respondent shall reimburse the Agencies under Section XVII (Payment of Response Costs) for all costs incurred, direct or indirect, by the Agencies in obtaining such access, agreements to restrict land/water use, Proprietary Controls, and/or release of subordination of prior liens or encumbrances including, but not limited to, the cost of attorney time and the amount of monetary consideration paid for just compensation.

19.1.5 Such agreements shall specify that Respondent is not the Forest Service's, EPA's, the State's, nor the Yakama Nation's representative with respect to liability associated with Site activities. Copies of any access agreements shall be provided to the Agencies prior to Respondent's initiation of field activities.

19.2 If the Agencies determine that Institutional Controls in the form of State or local laws, regulations, ordinances, zoning restrictions, or other governmental controls are needed at

or in connection with the Site, Respondent shall cooperate with the Agencies' and the State's efforts to secure and ensure compliance with such governmental controls.

- 19.3 Notwithstanding any provision of the Order, the United States retains all of its access authorities and rights, as well as all of its rights to require Institutional Controls, including enforcement authorities related thereto, under CERCLA, RCRA, and any other applicable statute or regulations.

XX. RECORD PRESERVATION, RETENTION, AND AVAILABILITY

- 20.1 Respondent shall provide to the Agencies upon request, copies, including electronic copies, of all documents and information within, or which come within, its possession and/or control or that of its contractors or agents relating to activities at the Site or to the implementation of this Order, including but not limited to sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information related to the Work. Respondent shall also make available to the Agencies for purposes of investigation, information gathering, or testimony, its employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.
- 20.2 Until ten (10) years after the Agencies provide written notice to Respondent that the Work has been completed pursuant to Section X (Certifications, Including Certification of Completion), Respondent shall preserve and retain, and shall instruct its contractors and agents to preserve and retain, all documents, records, and information of whatever kind, nature, or description, in its possession or control, including the documents in the possession or control of its contractors and agents, on and after the Effective Date of this

Order that relate in any manner to the Site. At the conclusion of this document retention period, Respondent shall notify the Agencies at least ninety (90) calendar days prior to the destruction of any such records or documents, and upon request by the Agencies, Respondent shall deliver any such records or documents to the Agencies.

20.3 Within thirty (30) days after the Effective Date of this Order, Respondent shall submit a written certification to the Agencies that it has not altered, mutilated, discarded, destroyed or otherwise disposed of any records, documents or other information relating to its potential liability with regard to the Site since the earlier of notification of potential liability by the United States or the filing of suit against Respondent regarding the Site. Respondent shall not dispose of any such documents without prior approval by the Agencies. Respondent shall, upon the Agencies' request and at no cost to the Agencies, deliver the documents or copies of the documents to the Agencies. If Respondent is not able to comply with the requirements of this Paragraph, then Respondent must submit a written explanation of why it cannot comply.

20.4 Respondent may assert a business confidentiality claim pursuant to the procedures set forth in 40 C.F.R. § 2.203 with respect to part or all of any information submitted to the Agencies pursuant to this Order, provided such claim is allowed by Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7). Analytical and other data specified in Section 104(e)(7)(F) of CERCLA, 42 U.S.C. § 9604(e)(7)(F), shall not be claimed as confidential by Respondent. The Agencies shall only disclose information covered by a business confidentiality claim to the extent permitted by, and by means of the procedures set forth at 7 C.F.R. § 1.12 (Forest Service) and 40 C.F.R. § 2.203(b) (EPA). If no such claim

accompanies the information when it is received by the Agencies, they may make it available to the public without further notice to Respondent.

- 20.5 Respondent shall maintain a running log of privileged documents on a document-by-document basis, containing the date, author(s), addressee(s), subject, the privilege or grounds claimed (e.g., attorney work product, attorney-client), and the factual basis for assertion of the privilege. Respondent shall keep the “privilege log” on file and available for inspection. The Agencies may at any time challenge claims of privilege through negotiations or otherwise as provided by law or the Federal Rules of Civil Procedure.
- 20.6 No records created or generated pursuant to the requirements of this Order shall be withheld on the grounds that they are privileged or confidential.
- 20.7 No claim of confidentiality shall be made with respect to any data, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, or engineering data, or any other documents or information evidencing conditions at or around the Site.

XXI. DELAY IN PERFORMANCE

- 21.1 Any delay in performance of this Order that, in the Agencies' judgment, is not properly justified by Respondent under the terms of this Section shall be considered a violation of this Order. Any delay in performance of this Order shall not affect Respondent's obligations to fully perform all obligations under the terms and conditions of this Order.
- 21.2 Respondent shall notify the Agencies of any delay or anticipated delay in performing any requirement of this Order. Such notification shall be made by telephone to the Agencies' Remedial Project Manager and Project Coordinator within forty eight (48) hours after

Respondent first knew or should have known that a delay might occur. Respondent shall adopt all reasonable measures to avoid or minimize any such delay. Within five (5) business days after notifying the Agencies by telephone, Respondent shall provide written notification fully describing the nature of the delay, any justification for delay, any reason why Respondent should not be held strictly accountable for failing to comply with any relevant requirements of this Order, the measures planned and taken to minimize the delay, and a schedule for implementing the measures that will be taken to mitigate the effect of the delay. Increased costs or expenses associated with implementation of the activities called for in this Order are not justification for any delay in performance.

XXII. WORK TAKEOVER

- 22.1 In the event that the Agencies determine that Respondent has: (1) ceased implementation of any portion of the Work, or (2) is seriously or repeatedly deficient or late in its performance of the Work, or (3) is implementing the Work in a manner that may cause an endangerment to human health or the environment, the Agencies may issue a written notice (“Work Takeover Notice”) to Respondent. Any Work Takeover Notice issued by the Agencies will specify the grounds upon which such notice was issued and will provide Respondent a period of ten (10) days within which to remedy the circumstances giving rise to the Agencies’ issuance of such notice.
- 22.2 If, after expiration of the ten-day notice period specified in the preceding Paragraph, Respondent has not remedied to the Agencies’ satisfaction the circumstances giving rise to the Agencies’ issuance of the relevant Work Takeover Notice, the Agencies may at

any time thereafter assume the performance of all or any portion(s) of the Work as the Agencies deem necessary (“Work Takeover”). The Agencies will notify Respondent in writing (which writing may be electronic) if the Agencies determine that implementation of a Work Takeover is warranted under this Section. Funding of Work Takeover costs is addressed under Section XXIV (Performance Guarantee), Paragraph 24.4.

- 22.3 The Agencies may in their sole discretion commence and continue a Work Takeover under this Section until the date that Respondent remedies, to the Agencies’ satisfaction, the circumstances giving rise to the Agencies’ issuance of the relevant Work Takeover Notice.
- 22.4 Notwithstanding any other provision of this Order, the Agencies retain all authority and reserve all rights to take any and all response actions authorized by law.

XXIII. INSURANCE

- 23.1 At least seven (7) days prior to commencing any work at the Site pursuant to this Order, Respondent shall secure, and shall maintain for the duration of this Order, comprehensive general liability insurance and automobile insurance with limits of five million dollars, combined single limit. Within the same time period, Respondent shall provide the Agencies with certificates of such insurance and a copy of each insurance policy. Respondent shall submit such certificate and copies of any new policies or amendments to existing policies each year on the anniversary of the Effective Date. In addition, for the duration of the Order, Respondent shall satisfy, or shall ensure that its contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of worker’s compensation insurance for all persons performing Work on behalf of

Respondent in furtherance of this Order. If the Respondent demonstrates by evidence satisfactory to the Agencies that Respondent's contractors and subcontractors have adequate insurance coverage or have indemnification for liabilities for injuries or damages to persons or property which may result from the activities to be conducted by or on behalf of Respondent pursuant to this Order, covering the same risks but in a lesser amount, then the Respondent need provide only that portion of the insurance described above which is not maintained by the contractor or subcontractor.

XXIV. PERFORMANCE GUARANTEE

24.1 In order to ensure the full and final completion of the Work, Respondent shall establish and maintain a performance guarantee, initially in the amount of One Hundred and Twelve Million Dollars (\$112,000,000) (hereinafter "Estimated Cost of the Work"), for the benefit of the Agencies. The performance guarantee, which must be satisfactory in form and substance to the Agencies, shall be in the form of one or more of the following mechanisms:

24.1.1 A surety bond unconditionally guaranteeing payment and/or performance of the Work that is issued by a surety company among those listed as acceptable sureties on federal bonds as set forth in Circular 570 of the U.S. Department of the Treasury, and which shall be accompanied by a stand-by trust fund;

24.1.2 An irrevocable letter of credit, payable to or at the direction of the Agencies, that is issued by an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a federal or state agency, and which shall be accompanied by a stand-by trust fund;

24.1.3 A trust fund established for the benefit of the Agencies that is administered by a trustee which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency; or

24.1.4 A policy of insurance that provides the Agencies with acceptable rights as a beneficiary thereof and is issued by an insurance carrier that has the authority to issue insurance policies in the applicable jurisdiction(s) and whose insurance operations are regulated and examined by a state agency.

24.2 Within 30 days after the Effective Date, Respondent shall obtain and present to the Agencies for approval instruments or other documents required by this Section. Within 14 days of approval by the Agencies, Respondent must submit the original of the executed and/or otherwise finalized instruments or other documents required by this Section to the Remedial Project Manager with a copy to the Project Coordinator and:

James Alexander
USDA Office of the General Counsel
333 SW First Avenue, Room 457
Portland, OR 97204-3440
E-mail: james.alexander@ogc.usda.gov

And

Jennifer G. MacDonald
Assistant Regional Counsel
U.S. Environmental Protection Agency
1200 Sixth Avenue, Suite 900
Seattle, WA 98101
E-mail: MacDonald.Jennifer@epa.gov

24.3 Respondent shall diligently monitor the adequacy of the performance guarantee. In the event that the Agencies determine, or Respondent becomes aware of information indicating, that a performance guarantee provided pursuant to this Section is inadequate

or otherwise no longer satisfies the requirements set forth in this Section, whether due to an increase in the estimated cost of completing the Work or for any other reason, Respondent shall promptly notify the Agencies of the inadequacy and, within 30 days after providing notice to, or receiving notice from, the Agencies, obtain and present to the Agencies for approval a proposal for a revised or alternative form of performance guarantee that satisfies all requirements set forth in this Section.

24.4 Funding of Work Takeover. The Agencies' takeover of the performance of the Work pursuant to Section XXII (Work Takeover) shall trigger the Agencies' right to receive the benefit of any performance guarantee(s) provided pursuant to this Section, and at such time the Agencies shall have immediate access to resources guaranteed under any such performance guarantee(s), whether in cash or in kind, as needed to continue and complete the Work assumed by the Agencies. Upon the commencement of any Work Takeover, if for any reason the Agencies are unable to promptly secure the resources guaranteed under any such performance guarantee(s), whether in cash or in kind, necessary to continue and complete the Work assumed by the Agencies under the Work Takeover, Respondents shall immediately upon written demand from the Agencies deposit into an account, specified by the Agencies, in immediately available funds and without setoff, counterclaim, or condition of any kind, a cash amount determined by the Agencies equal to the Agencies' estimated cost of completing the Work Takeover as of such date. The Agencies reserve the right to bring an action against Respondent under Section 107 of CERCLA, 42 U.S.C. § 9607, for recovery of any costs incurred as a result of takeover of the Work that are not paid for or reimbursed by the performance guarantee. In addition, if at any time either the Forest Service or EPA is notified by the issuer of a performance

guarantee that such issuer intends to cancel the performance guarantee mechanism it has issued, then, unless the Respondent provides a substitute performance guarantee mechanism in accordance with this Section, no later than 30 days prior to the impending cancellation date, the Agencies shall be entitled (as of and after the date that is 30 days prior to the impending cancellation) to draw fully on the funds guaranteed under the then-existing performance guarantee.

24.5 Respondent shall not reduce the amount of, or change the form or terms of, the performance guarantee until Respondent receives written approval from the Agencies to do so. Respondent may petition the Agencies in writing to request such reductions or changes on any anniversary of the Effective Date, or at any other time agreed to by the Parties. Any such petition shall include the estimated cost of the remaining Work and the basis upon which such cost was calculated, and, for proposed changes to the form or terms of the performance guarantee, the proposed revision(s) to the form or terms of the performance guarantee. If the Agencies notify Respondent that they have approved the requested reduction or change, Respondent may reduce or otherwise change the performance guarantee within 30 days of receipt of the Agencies' written decision and shall submit all documents evidencing such reduction or change to the Agencies in accordance with Paragraph 24.2.

24.6 Release of Performance Guarantee. Respondent shall not release, cancel, or discontinue any performance guarantee provided pursuant to this Section until (i) Respondent receives written notice from the Agencies in accordance with Paragraph 10.3 (Completion of Work) that the Work has been fully and finally completed in accordance with the terms of this Order, or (ii) the Agencies otherwise notify Respondent in writing

that it may release, cancel, or discontinue the performance guarantee(s) provided pursuant to this Section.

XXV. MODIFICATION

- 25.1 If Respondent seeks permission to deviate from any approved Work Plan, schedule, or the SOW, or other deliverable, Respondent's Project Manager shall timely submit a written request to the Agencies for approval outlining the proposed modification and its basis. Respondent may not proceed with the requested deviation until receiving approval from the Agencies pursuant to Section XIII (Agencies' Review of Submissions).
- 25.2 No informal advice, guidance, suggestion, or comment by the Agencies' Remedial Project Manager, Project Coordinator or other Agency Representatives regarding reports, plans, specifications, schedules, or any other writing submitted by Respondent shall relieve Respondent of its obligation to obtain any formal approval required by this Order, or to comply with all requirements of this Order, unless it is formally modified.

XXVI. UNITED STATES NOT LIABLE

- 26.1 The United States, by issuance of this Order, assumes no liability for any injuries or damages to persons or property resulting from acts or omissions by Respondent, or its directors, officers, employees, agents, representatives, successors, assigns, contractors, or consultants in carrying out any action or activity pursuant to this Order. Neither the Forest Service, nor the EPA, nor the United States may be deemed to be a party to any contract entered into by Respondent or its directors, officers, employees, agents,

successors, assigns, contractors, or consultants in carrying out any action or activity pursuant to this Order.

XXVII. ENFORCEMENT AND RESERVATIONS

- 27.1 The United States reserves the right to bring an action against Respondent under Section 107 of CERCLA, 42 U.S.C. § 9607, for recovery of any Response Costs incurred by the United States related to this Order or the Site and not reimbursed by Respondent. This reservation shall include, but not be limited to, past costs, direct costs, indirect costs, the costs of oversight, the costs of compiling the cost documentation to support oversight cost demand, as well as accrued Interest.
- 27.2 Notwithstanding any other provision of this Order, at any time during the Remedial Action, the Agencies may perform their own studies, complete the Remedial Action (or any portion of the Remedial Action) as provided in CERCLA and the NCP, and seek reimbursement from Respondent for their costs, or seek any other appropriate relief.
- 27.3 Nothing in this Order shall preclude the United States from taking any additional enforcement actions, including modification of this Order or issuance of additional Orders, and/or additional removal or remedial actions as the Forest Service and/or EPA may deem necessary, or from requiring Respondent in the future to perform additional activities pursuant to Section 106(a) of CERCLA, 42 U.S.C. § 9606(a), or any other applicable law. Respondent shall be liable under Section 107(a) of CERCLA, 42 U.S.C. § 9607(a), for the costs of any such additional actions.

- 27.4 Notwithstanding any provision of this Order, the Forest Service and EPA hereby retain all of their information gathering, inspection and enforcement authorities and rights under CERCLA, and any other applicable statutes or regulations.
- 27.5 Violation of any provision of this Order may subject Respondent to civil penalties of not more than thirty-seven thousand five hundred dollars (\$37,500) per violation per day, as provided in Section 106(b)(1) of CERCLA, 42 U.S.C. § 9606(b)(1), and the Civil Monetary Penalty Inflation Adjustment Rule, 69 Fed. Reg. 7121, 40 C.F.R. § 19.4. Should Respondent violate this Order or any portion hereof, the Forest Service or EPA may carry out the required actions unilaterally, pursuant to Section 104 of CERCLA, 42 U.S.C. § 9604, and/or may seek judicial enforcement of this Order pursuant to Section 106 of CERCLA, 42 U.S.C. § 9606. Failure to comply with this Order, or any portion hereof, without sufficient cause, may result in liability under Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3), for punitive damages in an amount at least equal to, and not more than three times the amount of any costs incurred by the Fund (as defined in CERCLA), as a result of such failure to take proper action.
- 27.6 Nothing in this Order shall constitute or be construed as a release from any claim, cause of action or demand in law or equity against any person for any liability they may have arising out of or relating in any way to the Site.

XXVIII. OTHER CLAIMS

- 28.1 Nothing in this Order constitutes a satisfaction of or release from any claim or cause of action against Respondent or any person not a party to this Order, for any liability such person may have under CERCLA, other statutes, or common law, including but not

limited to any claims of the United States under Sections 106 and 107 of CERCLA, 42 U.S.C. §§ 9606 and 9607.

28.2 Nothing in this Order constitutes a decision on preauthorization of funds under Section 111(a)(2) of CERCLA, 42 U.S.C. § 9611(a)(2).

28.3 No action or decision by the Agencies pursuant to this Order shall give rise to any right to judicial review, except as set forth in Section 113(h) of CERCLA, 42 U.S.C. § 9613(h).

XXIX. ADMINISTRATIVE RECORD

29.1 The Agencies have established an Administrative Record that contains the documents that form the basis for the ROD and the issuance of this Order. The Administrative Record supporting the Remedial Action selected in the ROD, is available for review at:

USDA Forest Service
Wenatchee National Forest
215 Melody Lane
Wenatchee, WA 98801-5933

XXX. SEVERABILITY

30.1 If a court issues an order that invalidates any provision of this Order or finds that Respondent has sufficient cause not to comply with one or more provisions of this Order, Respondent shall remain bound to comply with all provisions of this Order not invalidated or determined to be subject to a sufficient cause defense by the court's order.

XXXI. OPPORTUNITY TO CONFER

- 31.1 Within seven (7) working days after the date that Respondent or Respondent's counsel receives a copy of this Order, Respondent may request, in writing, a conference with the Agencies. Any such conference shall be held within ten (10) working days after the date of such request, unless extended by agreement of the Parties. At any conference held pursuant to the request, Respondent may be represented by an attorney or other representative.
- 31.2 If a conference is held, Respondent may present any information, arguments or comments regarding this Order. Regardless of whether a conference is held, Respondent may submit any information, arguments or comments in writing to the Agencies within fourteen (14) days following the conference, or within twenty-one (21) days following the Effective Date of this Order if no conference is requested. This conference is not an evidentiary hearing, does not constitute a proceeding to challenge this Order, and does not give Respondent a right to seek review of this Order. Requests for a conference, or any written submittal under this Paragraph, shall be directed to:

James Alexander
USDA Office of the General Counsel
333 SW First Avenue, Room 457
Portland, OR 97204-3440
E-mail: james.alexander@ogc.usda.gov

And to:

Jennifer G. MacDonald
Assistant Regional Counsel
U.S. Environmental Protection Agency
1200 Sixth Avenue, Suite 900
Seattle, WA 98101
E-mail: MacDonald.Jennifer@epa.gov

XXXII. EFFECTIVE DATE

- 32.1 This Order shall be effective ten (10) working days after the date that Respondent or Respondent's counsel receives a copy of this Order, unless a conference is requested as provided herein. If a conference is requested, this Order shall be effective on the second (2nd) working day following the day of the conference, unless modified, in writing, by the Agencies.


IT IS SO ORDERED

For the USDA Forest Service:

By: Thomas L. Tidwell
Thomas L. Tidwell
Chief
Forest Service

Date: 6/25/12

For the USDA:

By: 

Lisa M. Wilusz
Director
USDA Office of Procurement
and Property Management

Date: 6/12/12

For the U.S. Environmental Protection Agency:

By: Carmela Grandinetti
Carmela Grandinetti
Manager, Remedial Cleanup Program
Office of Environmental Cleanup
U.S. Environmental Protection Agency, Region 10

Date: 6/11/12

Concurrence:

Ramona Romero

Ramona E. Romero
General Counsel
USDA, Office of the General Counsel

Date: *June 14, 2012*

**APPENDIX A TO THE HOLDEN MINE SITE UNILATERAL ADMINISTRATIVE
ORDER FOR REMEDIAL DESIGN AND REMEDIAL ACTION**

STATEMENT OF WORK FOR REMEDIAL DESIGN AND REMEDIAL ACTION

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ATTACHMENT 1 - SCHEDULE

FIGURES

Figure 1 Site Map

1.0 INTRODUCTION

This Statement of Work (SOW) outlines Work to be performed by the Respondent, Intalco Aluminum Corporation (Intalco), at the Holden Mine Site, Okanogan-Wenatchee National Forest, Chelan County, Washington (the Site) (see Figure 1). This Work is intended to implement the remedy selected (Selected Remedy) in the Record of Decision (ROD) for the Site, dated January 2012, and to achieve the Performance Standards set forth in the ROD, Unilateral Administrative Order (UAO), and this SOW. Performance Standards are requirements that are used to measure the achievement of the remedial action objectives (RAOs) and include, but are not limited to, the cleanup levels established in Section 7 of the ROD, the Statutory Determinations and ARARS in Section 13 of the ROD, and appropriate guidance.

Attachment 1 to this SOW is a schedule for implementing the remedial design and remedial action. The requirements of this SOW shall be further detailed in work plans and other documents that shall be submitted by Intalco for approval by the Agencies as set forth in the UAO and this SOW. It is not the intent of this document to provide specific engineering, geological, biological, or other technical guidance.

Intalco is responsible for performing the Work addressed by this SOW. The United States Department of Agriculture Forest Service (Forest Service) and the United States Environmental Protection Agency (EPA), jointly referred to as the Agencies, will conduct oversight of Intalco's activities throughout the performance of the Work. Intalco shall provide information or other assistance specified by the Agencies that is needed to conduct oversight activities.

Except where noted, all deliverables specified in the UAO and this SOW are subject to review and approval by the Agencies as directed in the UAO. When Intalco submits deliverables and other communications to the Agencies, Intalco will provide copies to the Washington State Department of Ecology (Ecology) and the Confederated Tribes and Bands of the Yakama Nation (Yakama Nation) in accordance with the terms of the UAO. The Agencies will provide an opportunity for review and comment by Ecology and the Yakama Nation. Agency review or approval of a task or deliverable shall not be construed as a guarantee as to the adequacy of such task or deliverable.

2.0 REMEDIAL ACTION OBJECTIVES

The Remedial Action Objectives (RAOs) are to:

1. Reduce concentrations of contaminants of concern to levels that are protective of aquatic life and comply with applicable or relevant and appropriate requirements (ARARs) in Railroad Creek and other surface waters.
2. Reduce exposure to contaminants of concern in sediment, (including the adverse effects of ferricrete on aquatic life in Railroad Creek) to protect aquatic life and comply with ARARs.
3. Prevent migration of contaminants of concern that exceed cleanup levels in groundwater (including the Main Portal discharge) from on-site waste management areas (WMAs), to protect aquatic life and comply with ARARs.
4. Reduce exposure to contaminants of concern in soil (including tailings and other wastes) to protect terrestrial organisms and comply with ARARs. Prevent future releases of tailings and other wastes into surface water to protect aquatic receptors from contaminants of concern.
5. Protect human health and comply with ARARs by reducing human exposure to contaminants of concern in soil and other wastes, controlling exposure to contaminated groundwater, and by restoring groundwater beyond the WMAs to its beneficial use as a drinking water resource.
6. Implement the remedial action in a manner that complies with ARARs and protects human health, welfare, and the environment, including the Holden Village residential community during and after construction.

3.0 SELECTED REMEDY

3.1 Remedial Components

The Selected Remedy includes implementation of the following remedial components:

- Containment, collection, and treatment of groundwater;
- Consolidation and capping of tailings, waste rock, and some impacted soil;
- *In situ* soil remediation of some areas of impacted soil;
- Surface water and sediment cleanup actions (i.e., relocation of a portion of Railroad Creek); and
- Institutional controls.

The remedy also encompasses conducting five-year reviews following remedy implementation as required under 40 CFR § 300.430(f)(4)(ii), complying with Performance Standards set forth in the ROD, and conducting operation and maintenance to document that Performance Standards have been and continue to be achieved.

A description of each component is provided below.

3.1.1 Groundwater Containment, Collection, and Treatment

Groundwater that drains from the mine, AMD (acid mine drainage), shall be contained by three hydraulic barriers (bulkheads) in the 1500 Level Main Portal, the 1500 Level Ventilator Portal, and the 1100 Level adit. The 1500 Level bulkheads shall release groundwater from the mine in a controlled manner so that it can be conveyed by pipeline to a groundwater treatment facility (treatment facility).

A below-grade groundwater barrier wall shall be constructed on the downgradient side of Tailings Pile 1 and the adjoining Lower West Area to contain and collect impacted groundwater. A second groundwater barrier wall and collection system shall be located downgradient of Tailings Piles 2 and 3. Construction of groundwater containment around the tailings piles is necessary to prevent further migration of contaminants in groundwater and to protect downgradient surface water. Because of this containment, the areas within the barrier wall are designated as Waste Management Areas (WMAs).

Containment and treatment of groundwater from the WMAs shall address the effects of acid rock drainage (ARD) at and beyond the WMA boundaries and enable restoration of groundwater quality outside the WMAs. The Selected Remedy establishes two WMAs, with the Lower West Area (including Tailings Pile 1 and the main waste rock piles) as one WMA, and Tailings Piles 2 and 3 as a second WMA, with groundwater points of compliance (POC) associated with each. Groundwater shall comply with drinking water standards (MCLs) at and beyond the edge of the WMAs in accordance with the NCP preamble language, which sets forth EPA's policy that for groundwater, "remediation levels should generally be attained throughout the contaminated plume, or at and beyond the edge of the waste management area when waste is left in place" (55 Fed. Reg. 8713). Groundwater flow from seeps downgradient of the Honeymoon Heights Waste Rock Piles that exceeds water quality criteria shall also be collected and conveyed by pipe to the treatment facility. Groundwater will be monitored downslope of Honeymoon Heights to determine whether additional groundwater should be collected for treatment.

Groundwater discharging to surface water must also meet surface water cleanup standards at a POC before the groundwater-surface water interface. Groundwater cleanup levels protective of aquatic life must be achieved in groundwater before the portion of the hyporheic zone that supports aquatic life, including fish spawning and benthic macroinvertebrates, and not simply in the surface water column after dilution has occurred.

The collected groundwater shall be treated to meet ARARs based on design studies. 3.1.2 Consolidation and Capping of Tailings, Waste Rock, and Impacted Soil

The tailings piles and the main waste rock piles shall be regraded to improve slope stability and precipitation runoff, and to reduce infiltration. Impacted soil shall be removed from several areas of the Site and consolidated into the tailings piles. Stormwater diversion swales shall be constructed upgradient of the tailings piles and the main waste rock piles to reduce surface water run-on and infiltration. The tailings and main waste rock piles shall be capped with soil and/or other materials designed to contain the tailings and waste rock, reduce exposure to the environment, and eliminate unacceptable risk to terrestrial plants and animals. Native vegetation shall be established on the caps to provide long-term erosion resistance and terrestrial habitat.

3.1.3 *In situ* Soil Remediation

Soil shall be treated by *in situ* pH adjustment (e.g., application of agricultural lime) in areas of the Site where soil excavation or capping is not feasible (such as steep slope areas) or where excavation or capping would cause more severe adverse impacts than the existing hazardous substances (e.g., in the Honeymoon Heights waste rock piles and the area downslope of these piles). This *in situ* treatment shall adjust pH and thereby reduce bioavailability and mobility of hazardous substances in areas where critical and sensitive habitat limit or preclude more intrusive actions. This includes the areas downslope of Honeymoon Heights waste rock piles, and areas of late succession riparian habitat (primarily in the Lower West Area). In Holden Village, soil will be remediated using *in situ* treatment to reduce risk to soil invertebrates from zinc.

3.1.4 Surface Water Actions

In addition to the measures described above to prevent the release of hazardous substances into surface water, the Selected Remedy includes relocation of a portion of Railroad Creek to eliminate the effects of ferricrete (formed from hazardous substances entering the creek) on aquatic receptors, and to prevent instability of the tailings pile slopes from erosion and scour. The extent of creek relocation shall be determined during remedial design; since it affects the extent of tailings

regrading required to assure stability of the tailings pile slopes, and to enable construction of the groundwater barrier walls and collection system. The new channel shall have an impervious lining where needed to prevent infiltration of clean water into contaminated groundwater that will be collected adjacent to the tailings piles.

3.1.5 Institutional Controls

The Selected Remedy includes institutional controls that shall:

- Notify the public of contaminated areas that will be left on the Site, and prevent humans from direct contact with hazardous substances by warning of the risk;
- Protect the integrity of the remedy by preventing changes in Site use that would reduce effectiveness of the remedy;
- Include a requirement for consultation with the Agencies prior to changes in land use to ensure that the remedy remains protective;
- Require a soil management plan to address handling of soil with visible tailings that may be excavated in the future;
- Prevent the potential future use of groundwater that exceeds human health risk-based criteria as a drinking water source, for example, within WMAs;
- Provide for permanent access to privately owned land to monitor and maintain the remedy; and
- Implement possible administrative access restrictions to some portions of the Site.

Intalco shall implement the Institutional Controls required by the ROD. The Forest Service will note restrictions on National Forest System land in the Forest Service Land Status Records for the Okanogan-Wenatchee National Forest, and implement administrative restrictions on National Forest System lands. Institutional controls shall be implemented on private property owned by Holden Village through a restrictive covenant.

3.1.6 Sediment Actions

The Selected Remedy includes relocation of a portion of Railroad Creek, which shall eliminate the adverse effects of ferricrete on the aquatic habitat. Also, the wetland east of Tailings Pile 3 shall be

remediated or replaced depending on whether the groundwater treatment system is located there. This wetland has been adversely impacted by runoff and sedimentation (as well as shallow groundwater impacted by leaching of the tailings) from the adjacent tailings pile. The Agencies have determined that other active measures to clean up sediment are not warranted at this time as discussed in the final Feasibility Study (see Section 4.1.1.3.4 of the Supplemental Feasibility Study). Rather, the remedy shall include source controls and relocation of a portion of Railroad Creek to prevent ongoing release of hazardous substances into Railroad Creek. Long-term monitoring shall determine if the remedy is protective of sediment quality.

3.1.7 Five-Year Reviews

Five-year reviews shall be conducted to evaluate the implementation and performance of the Selected Remedy and in order to determine if the remedy continues to be protective of human health and the environment. Five-year reviews shall be conducted as required under CERCLA.

3.1.8 Performance Standards

Intalco shall meet all Performance Standards, as defined in the UAO, including the standards set forth in the ROD.

Intalco shall implement the remedy and all its components until Intalco has demonstrated compliance with the respective Performance Standards, in accordance with the Performance Standards Verification Plan developed pursuant to this SOW.

3.1.9 Compliance Testing

Intalco shall perform compliance testing to ensure that all Performance Standards are met. Testing shall be conducted in accordance with the Performance Standard Verification Plan.

3.2 Phased Approach to Remedy Implementation

The remedy shall be implemented in two phases, as follows:

- Phase 1 of the remedy shall include relocation of Railroad Creek, construction of the groundwater treatment facility, regrading and capping the tailings piles and the main waste rock piles, *in situ* soil treatment, and construction of the groundwater barrier and collection system downgradient of Tailings Pile 1 and the Lower West Area. Some preparatory Work for Phase 1, such as road improvements and site clearing were begun in 2011 and additional construction is

planned for 2012. The major construction for Phase 1 will begin in 2013 and is expected to take two years.

- Construction of Phase 2 shall begin no later than 5 years after completion of the first phase of the remedy. The second phase shall include construction of the groundwater barrier and collection system downgradient of Tailings Piles 2 and 3.¹

4.0 REQUIRED ACTIVITIES AND DELIVERABLES

Intalco shall perform the activities and submit the deliverables outlined in this section. Deliverables shall be subject to Agency review and approval in accordance with the UAO. Review and/or approval of design submittals does not imply acceptance of later design submittals that have not been reviewed, nor that the remedy, when constructed, will meet Performance Standards.

4.1 Task 1 - Remedial Design for Phase 1, 2012 Work

The Remedial Design (RD) shall provide the technical details for implementation of the Remedial Action in accordance with currently accepted environmental protection technologies and standard professional engineering and construction practices.

Although this section addresses the design of remedial components to be constructed in 2012, Intalco shall also at this time design the remainder of Phase 1 components and the Phase 2 components in sufficient detail for the Agencies to ascertain that there will be no conflict between the function of components constructed during each phase.

Unless otherwise specified by the Agencies, Intalco shall perform the following steps for Remedial Design for Work to be conducted in 2012 for Phase 1:

- Preliminary Design;
- Intermediate Design (as specified in Preliminary Design review comments); and
- Prefinal/Final Design.

¹ The ROD allows for the collection of data following implementation of Phase 1 and includes the provision that the Phase 2 barrier wall design could be modified or would not need to be installed if Intalco demonstrates that Phase 1 satisfies ARARs and is protective within a time frame comparable to the Selected Remedy.

These activities are discussed in the following subsections.

4.1.1 Preliminary Design

Preliminary Design shall begin with initial design and shall end with the completion of approximately 30 percent of the design effort.² At this stage, Intalco shall field verify, as necessary, the existing conditions of the Site. The technical requirements of the Remedial Action shall be addressed and outlined so that they may be reviewed to determine if the final design will provide an effective remedy and meet the objectives outlined in the ROD. Supporting data and documentation shall be provided with the design documents defining the functional aspects of the project. Site plans shall be provided as GIS files using the same format that the Forest Service uses for resource management, in addition to engineering drawings which may be in AutoCAD or other format. Agency approval of the Preliminary Design is required before proceeding with further design Work, unless specifically authorized by the Agencies. The Preliminary Design submittal shall consist of the following:

Results of Data Acquisition Activities

Any relevant data gathered during the project planning phase shall be compiled, summarized, and submitted along with an analysis of the impact of the results on design activities. In addition, any surveys conducted to establish topography, rights-of-way, easements, utility lines, etc., shall be documented. Any utility requirements and acquisition of access, through purchases, easements, or other arrangements that are necessary to implement the Remedial Action shall also be discussed.

Design Criteria Report

The concepts supporting the technical aspects of the design shall be defined in detail and presented in the Design Criteria Report. Specifically, the Design Criteria Report shall include the preliminary design assumptions and parameters, including:

- Waste characterization;
- Pretreatment requirements;
- Volume of each media requiring treatment;

² Intalco submitted a preliminary design package that was nominally 30 percent complete (some aspects were more advanced than others) for Agency review on March 6, 2012.

- Treatment schemes (including all media and by-products);
- Input/output rates;
- Influent and effluent qualities;
- Materials and equipment;
- Performance Standards; and
- Long-term monitoring requirements.

Preliminary Construction Drawings and Specifications

Intalco shall submit an outline of the required drawings including preliminary sketches and layouts describing conceptual aspects of the design, unit processes, etc. In addition, an outline of the required specifications, including Performance Standards, shall be submitted. Construction drawings shall reflect organization and clarity, and the scope of the technical specifications shall be outlined in a manner reflecting the final specifications.

4.1.2 Remedial Action Work Plan and Health and Safety Plan for 2012

Intalco shall submit a 2012 Remedial Action Work Plan that includes the separate plan components described herein, and a Health and Safety Plan for the 2012 field activities.

The 2012 Remedial Action Work Plan shall describe how construction and implementation will be accomplished in accordance with the UAO, the ROD, this SOW, and the final design for the 2012 Remedial Action. The 2012 Remedial Action Work Plan shall include the following components:

- Project Communications Plan
- Construction Management Plan
- Construction Schedule
- Construction Quality Assurance Plan
- Construction Contingency Plan
- Spill Prevention, Control and Countermeasures Plan (SPCC)
 - SPCC for Fuel Storage & Dispensing

- Shipboard Oil Pollution Emergency Plan (SOPEP)
- Air Quality Control and Monitoring Plan
- Interim Operations and Maintenance Plan
- ARARs Compliance Plan
- Waters of the United States and Wetlands Plan; and
- Other plans that address specific work components.

The 2012 Remedial Action Work Plan must include each of these, although each of these component plans may be delivered separately. Requirements for these plan components are described below.

Project Communications Plan

The purpose of the Project Communications Plan is to identify the names and responsibilities of Intalco's construction management team that shall be responsible for Work at the Site. Intalco shall provide names and contact information for its Project Manager, Project Engineer, Site Superintendent, Quality Assurance Manager, as well as their primary deputies, and such other persons that will be in responsible charge of the Work. This Plan shall describe the duties of these key personnel and provide an organizational chart. The Project Communications Plan shall include provision for meetings at the Site with the Agencies' Lead Field Representative at least weekly as Work proceeds; monthly written progress reports to the Agencies; and meetings and presentations to the Agencies at the conclusion of each major phase of the Remedial Action. The Agencies' Remedial Project Manager and Intalco's Project Manager will meet, at a minimum, on a monthly basis, unless the Agencies determine that such meeting is unnecessary.

Construction Management Plan

The Construction Management Plan shall provide a description of the construction Work to be performed, along with a detailed plan of action for implementing the Work in 2012. The Plan shall include a process for requesting approval for changes to the design approved by the Agencies; and describe the process for documenting work accomplished

Construction Schedule

Intalco shall provide a construction schedule that shows the anticipated time for the start and completion of each major activity, and submission of each deliverable required by the UAO, including those in this SOW.

Construction Quality Assurance Plan

Intalco shall develop and submit a Construction Quality Assurance Plan to ensure, with a reasonable degree of certainty, that the completed Remedial Action meets or exceeds all design criteria, plans and specifications, and Performance Standards. As used herein, Quality Control (QC) refers to inspection and testing of construction Work and constructed products to identify any defects; whereas, Quality Assurance (QA) covers Intalco's review process and improvements to prevent or mitigate issues that led to the defect(s) in the first place. The Construction Quality Assurance Plan shall incorporate relevant provisions of the Performance Standards Verification Plan (see Task 3). At a minimum, the Construction Quality Assurance Plan shall include the following elements:

- A description of the quality control organization, including a chart showing lines of authority, identification of the members of the Independent Quality Assurance Team (IQAT), and acknowledgment that the IQAT will implement the control system for all aspects of the Work specified and shall report to Intalco's Project Manager and the Agencies. The IQAT members shall be representatives from one or more testing and inspection organizations responsible for the QC/QA of the Remedial Action independent of the construction contractor. The IQAT shall also include a representative of the Supervising Contractor for coordination purposes. The IQAT members responsible for the testing and inspection shall have a good professional and ethical reputation; as well as certification and previous experience in the type of work to be conducted, that are acceptable to the Agencies.
- QC/QA activities to be implemented and the resources (staff and equipment) committed on-site to perform the required activities.
- The name, qualifications, duties, authorities, and responsibilities of each person assigned a QC function. The name, qualifications, duties, authorities, and responsibilities of each person assigned a QA function. Note the QA reviewer(s) shall not be the same person(s) responsible for the QC inspection and tests.

- Description of the observations and quality control testing that will be used to monitor the construction and/or installation of the components of the Remedial Action. This includes information which certifies that personnel and laboratories performing the tests are qualified, and the equipment and procedures to be used comply with applicable standards. All laboratories to be used for on-site or off-site testing shall be specified.
- Acceptance/Rejection criteria and plans for implementing corrective measures shall be addressed.
- A schedule for managing submittals, review of QC test results, review of QC inspection reports, and any other QA function (including those of contractors, subcontractors, fabricators, suppliers, purchasing agents, etc.) that involve assuring quality workmanship, verifying compliance with the plans and specifications, or any other QC objectives. Inspections shall verify compliance with all environmental requirements and include, but not be limited to, water quality, air quality and emissions monitoring records, waste disposal records, etc.
- Reporting procedures and reporting format for QC activities including such items as daily summary reports, QC test results, schedule of data submissions, inspection data sheets, problem identification and corrective measures reports.
- Reporting procedures and reporting format for QA activities including such items as daily or weekly summary reports, evaluation reports, acceptance reports, and final documentation.
- A list of definable features of the Work to be performed. A definable feature of Work is a task which is separate and distinct from other tasks and has separate quality control requirements.

Construction Contingency Plan

Intalco shall submit a Construction Contingency Plan to the Agencies. This plan shall provide direction in the event of emergencies at the Site such as fires, landslide or avalanche, adverse weather conditions or earthquake. The Construction Contingency Plan shall address pre-emergency planning, roles and responsibilities during incidents, and communication and emergency response procedures. The Construction Contingency Plan is a companion document to related plans such as the Spill Prevention, Control, and Countermeasures (SPCC) Plan. The Construction Contingency Plan is to be written for the on-site construction workers and the local affected population.

Spill Prevention, Control, and Countermeasures (SPCC) Plan

Intalco shall prepare and implement a Spill Prevention, Control, and Countermeasures (SPCC) Plan. The SPCC Plan shall address fuel storage and dispensing as well as handling other hazardous materials during the Remedial Action. It shall specifically include SPCC plans for fuel storage and dispensing, and a Shipboard Oil Pollution Emergency Plan for fuel and other petroleum products that are transported on Lake Chelan. The SPCC shall include the following:

- Contingency measures for potential spills and discharges from Work adjacent to surface water, materials handling, and/or transportation.
- A description of the methods, means, and facilities required to prevent contamination of soil, water, atmosphere, and uncontaminated structures, equipment, or material by spills or discharges.
- A description of the equipment and personnel necessary to perform emergency measures required to contain any spillage and to remove spilled materials and soil or liquids that become contaminated due to spillage. This collected spill material must be properly disposed of.
- A description of the equipment and personnel to perform decontamination measures that may be required for previously uncontaminated structures, equipment, or material.

Air Quality Control and Monitoring Plan

Intalco shall prepare and submit an Air Quality Control and Monitoring Plan. The purpose of this Plan is to demonstrate that Intalco's construction dust control measures are effective, and there are no adverse effects from dust or burning vegetation cleared as part of implementing the Remedial Action. Monitoring shall include comparison of air quality with permissible exposure limits for hazardous substances present at the site.

Interim Operations and Maintenance Plan

The Interim Operations and Maintenance Plan shall describe how the various remedial components will be operated and maintained between the time that they are constructed and final completion of Remedial Action.

ARARs Compliance Plan

All activities must be performed in accordance with, and with the goal of achieving, all applicable or relevant and appropriate requirements (ARARs) of federal and state laws and regulations. Intalco shall develop and submit a plan that identifies the requirements of these ARARs (including those requirements spelled out by the plans specified below) and develop a schedule and plan for tracking and documenting compliance with these requirements. Consideration of ARARs shall also be incorporated into RD and Remedial Action Work Plans.

Waters of the US and Wetlands Plan

Intalco shall submit a Waters of the United States and Wetlands Plan (or Plans) describing how it will fully evaluate impacts to waters of the United States and wetlands for the project and ensure that appropriate mitigation is provided for impacted waters and wetlands at the Site. As part of this effort, Intalco shall:

- Prepare and submit a delineation report that includes all waters of the United States and wetlands and associated buffer areas that will or may be impacted by the Remedial Action.
- Intalco shall also delineate additional waters of the United States and wetlands outside the area of potential impacts as necessary to identify potential mitigation areas, and
- Where loss to waters of the United States or wetlands is unavoidable, analyze options for mitigation in one or more mitigation and monitoring plan(s) and submit such plan(s) to the Agencies.

All Work affecting waters of the United States or wetlands must comply with the ARARs at Section 404 of the Clean Water Act, 33 U.S.C. § 1344, and the regulations promulgated thereunder found at 40 C.F.R. Part 230 (Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged for Fill Material).

Delineation of wetlands must be conducted in accordance with the 1987 U.S. Army Corps of Engineers Wetlands Delineation Manual, and the subsequent clarifications and modifications issued in 1991, 1992, and 1997, as well as the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0), May 2010. In addition, the Corps issued a Regulatory Guidance Letter No. 08-03, dated October 10, 2008, relating to Minimum Monitoring Requirements for Compensatory Mitigation Projects Involving Restoration, Establishment, and/or Enhancement of Aquatic Resources that Intalco must follow as it

develops monitoring plans for waters of the United States and wetland compensatory mitigation projects. Site plans shall be provided as GIS files using the same format that the Forest Service uses for its resource management.

Other relevant guidance includes EPA's Considering Wetlands at CERCLA Sites (1994), and Wetland Mitigation in Washington State (Version 1, March 2006, Publication #06-06-011b).

Consideration of requirements related to waters of the United States or wetlands shall be incorporated into RD and Remedial Action Work Plans.

Other Plans That Address Specific Work Components

Intalco shall also submit other plans, listed below, that are required to address specific elements of the Work that will be implemented in 2012.

- Site Access and Traffic Control Plan
- Waste Management Plan that includes
 - Solid Waste Management Plan
 - Hazardous Material Control Plan
 - Hazardous Building Materials Management Plan
- Erosion Control and Storm Water Pollution Prevention Plan
- Noxious Weed and Aquatic Invasive Species Decontamination and Control Plan
- Plan for Discovery of Unanticipated Threatened or Endangered Plant or Wildlife Species
- Plan for Discovery of Unanticipated Cultural Resources
- Noise Monitoring and Mitigation Plan
- Lucerne Dock Implementation Plan
- Quarry Blasting and Operations Plan
- Barrier Wall Geotechnical Investigation Work Plan
- In-situ Soil Treatment Treatability Study Work Plan
- Monitoring Well Abandonment Work Plan
- Work Plan for Installation of Air Restrictions in Honeymoon Heights
- Construction Materials Investigation Work Plan (2012 update)
- Seep Investigation Work Plan

Construction Health and Safety Plan

Intalco shall prepare and submit a Construction Health and Safety Plan in conformance with Intalco's health and safety program, and in compliance with OSHA regulations and protocols, including but not limited to the requirements of 29 C.F.R. § 1910.120.

4.1.3 Intermediate Design

Intermediate design documents (e.g., 60 percent complete) shall be submitted as requested by the Agencies or by Intalco. Intalco shall address comments generated from Agency review of the Preliminary Design and clearly show any modification of the design documents as a result of incorporation of the comments.

4.1.4 Prefinal/Final Design

Intalco shall submit the Prefinal Design when the design work is approximately 90 percent complete in accordance with the schedule specified in the Agencies' comments on the Preliminary Design. Intalco shall address comments generated from the Preliminary (or Intermediate, where applicable) Design Review and clearly show any modification of the design as a result of incorporation of the comments. Site plans shall be provided as GIS files using the same format that the Forest Service uses for resource management in addition to engineering drawings, which may be in AutoCAD or other format. Essentially, the Prefinal Design shall function as the draft version of the Final Design, and shall include plans, specifications, calculations, and design report(s). After Agency review and comment on the Prefinal Design, the Final Design shall be submitted along with a memorandum indicating how the Prefinal Design comments were incorporated into the Final Design. All Final Design documents shall be stamped by a Professional Engineer registered in the State of Washington. Agency written approval of the Final Design is required before initiating the Remedial Action, unless specifically authorized by the Agencies. The following items shall be submitted with or as part of the Prefinal/Final Design:

- Final Design Criteria Report revised to include changes or omissions identified in the Agencies' comments on the draft Design Criteria Report.
- Complete Design Analysis - The selected design shall be presented along with an analysis supporting the design approach. Design calculations shall be included.
- Final 2012 Construction Drawings and Specifications - A complete set of construction drawings and specifications shall be submitted which describe the Work to be constructed in 2012.

4.2 Task 2 - Remedial Action for Phase 1, 2012 Work

Remedial Action for Work to be completed in 2012 on Phase 1 includes the following components:

- 2012 Preconstruction Conference;
- 2012 Construction;
- Prefinal 2012 Construction Inspection; and
- Final 2012 Construction Inspection.

These activities are discussed below in the following subsections.

Upon approval of the Final Design, the Remedial Action Work Plan and review of the 2012 Health and Safety Plan, Intalco shall implement the Remedial Action Work Plan in accordance with the schedule contained therein. Changes to the Remedial Action as set forth in the Remedial Action Work Plan and Final Design shall not be undertaken without the advance approval of the Agencies. As the Remedial Action is accomplished, Intalco shall document the Remedial Action in enough detail to produce as-built construction drawings after the Remedial Action is complete. Site plans shall be provided as GIS files using the same format that the Forest Service uses for resource management in addition to engineering drawings, which may be in AutoCAD or other format. In accordance with the UAO and at the Agencies' request, Intalco shall assist the Agencies in preparing and disseminating information to the public regarding the Remedial Action Work to be performed.

4.2.1 2012 Preconstruction Conference

A Preconstruction Conference shall be held after selection of the construction contractor but before initiation of construction. This conference shall include Intalco, Holden Village, and the Agencies (Ecology, the Yakama Nation and possibly other agencies will be included at this conference, if available), and shall:

- Define the roles, relationships, and responsibilities of all parties;
- Review methods for documenting and reporting inspection data;
- Review methods for distributing and storing documents and reports;
- Review work area security and safety protocols;

- Review the Construction Schedule; and
- Include a site reconnaissance to verify that the design criteria and the plans specifications are understood and to review material and equipment storage locations.

Intalco shall prepare notes documenting the Preconstruction Conference, which shall be submitted to the Agencies and shall include the names of people in attendance, issues discussed, clarifications made, special instructions issued, etc.

4.2.2 2012 Prefinal Construction Inspection

Upon substantial completion of the 2012 Remedial Action, Intalco shall notify the Agencies for the purpose of conducting a Prefinal Construction Inspection. Participants shall include the Agencies and Intalco's Project Manager, Supervising Contractor, and Construction Contractor.

Representatives from Ecology, the Yakama Nation, Holden Village and other agencies may also participate. The Prefinal Inspection shall consist of a walk-through inspection of the entire project site. The objective of the inspection is to determine whether the 2012 construction is complete and consistent with the Unilateral Administrative Order and the ROD. Any outstanding construction items discovered during the inspection shall be identified and noted on a punch list. Additionally, water treatment equipment shall be operationally tested by Intalco. Intalco shall certify that the equipment is performing to effectively meet the specifications. Retesting shall be completed where deficiencies are revealed. A Prefinal Construction Inspection Report shall be submitted by Intalco, which outlines the outstanding 2012 construction items, actions required to resolve the items, completion date for the items, and an anticipated date for the Final 2012 Construction Inspection.

4.2.3 Final 2012 Construction Inspection

Upon completion of all outstanding 2012 construction items identified in the pre-final construction inspection, Intalco shall notify the Agencies for the purpose of conducting a Final 2012 Construction Inspection. The Final 2012 Construction Inspection shall consist of a walk-through inspection of the entire project site. The 2012 Prefinal Construction Inspection Report shall be used as a checklist for the Final 2012 Construction Inspection focusing on the outstanding construction items identified in the 2012 Prefinal Construction Inspection. All tests that were originally unsatisfactory shall be conducted again. Confirmation shall be made during the Final 2012 Construction Inspection that all outstanding items have been resolved. Any outstanding construction items discovered during the inspection still requiring correction shall be identified and noted on a punch list. If any items are still unresolved, the inspection shall be considered another

Prefinal Construction Inspection requiring another Prefinal Construction Inspection Report to be submitted by Intalco and a subsequent Final 2012 Construction Inspection.

4.3 Task 3 - Interim Operations and Maintenance for the Phase 1, 2012 Work

Intalco shall implement the approved Interim Operations and Maintenance Plan for the various remedial components constructed for Phase 1 in 2012 between the time they are constructed and final completion of Remedial Action. (Once Remedial Action is completed for the Site, operation and maintenance will be performed in accordance with the final Operation and Maintenance Plan as specified herein.)

4.4 Task 4 - Remedial Design for Phase 1, Post-2012 Work

Intalco shall complete the following steps as part of the Remedial Design for Phase 1, post-2012 Work:

- Remedial Design Planning;
- Preliminary Design;
- Intermediate Design; and
- Prefinal/Final Design.

The requirements for the Remedial Design for Phase 1, post-2012 Work are the same as those presented in Section 4.1 for Phase 1, 2012 Work except as noted in the following subsections. Remedial Design for Phase 1 shall include all those elements of the remedy that will be constructed in Phase 1 as well as sufficient design for elements that will be constructed in Phase 2 so that the Agencies can determine whether the Phase 1 design is adequate. For each design phase, site plans shall be provided as GIS files using the same format that the Forest Service uses for resource management, in addition to engineering drawings, which may be in AutoCAD or other format.

4.4.1 Remedial Design Planning

Intalco shall submit an RD Work Plan, including a Design Management Schedule, a Sampling and Analysis Plan, and a Health and Safety Plan update to the Agencies. The RD Work Plan and Design Management Schedule must be reviewed and approved by the Agencies before any other design Work is conducted. The Sampling and Analysis Plan must be reviewed and approved by the Agencies and the Health and Safety Plan reviewed by the Agencies before initiation of field activities. Upon approval of the RD Work Plan, Intalco shall implement the RD Work Plan in accordance with the design management schedule contained therein.

RD Work Plan

Intalco shall submit an RD Work Plan to the Agencies. The Work Plan shall be developed in conjunction with the Sampling and Analysis Plan and the Health and Safety Plan, although each plan may be delivered under separate cover. The Work Plan shall include a comprehensive description of the design Work to be performed and the plans and specifications to be prepared. A comprehensive design management schedule for completion of each major activity and submission of each deliverable shall be included.

Specifically, the RD Work Plan shall present the following:

- A statement of the problem(s) and potential problem(s) posed by the Site and the objectives of the RD/Remedial Action.
- A background summary setting forth the following information for each element of design:
 - Brief description of the portion of the site the design is applicable to, including physical parameters of the affected media;
 - Description of the design Work to be performed including technical and organizational approach, referenced standards and guidance, and method(s) of analysis;
 - Input parameters and the source(s) of these parameters, assumptions to be used, and additional data acquisition required (if any) and how these data will be obtained;
 - Areas of uncertainty and how these will be addressed in the design; and
 - The information that will be produced.
- A schedule with specific dates for completion of each required activity and submission of each deliverable required by the UAO (including this SOW). This schedule shall also include information regarding timing, and initiation and completion of all critical path milestones for each activity and/or deliverable.
- A project management plan, including a data management plan, and provision for monthly reports, meetings, and presentations to the Agencies at the conclusion of each major phase of the RD/Remedial Action. The data management plan shall address the requirements for project management systems, including tracking, sorting, and retrieving the data along with an

identification of the software to be used, minimum data requirements, data format and backup data management. The plan shall address both data management and document control for all activities conducted during the RD/Remedial Action.

- Descriptions of the community relations support activities to be conducted during the RD. In accordance with the UAO, and at the Agencies' request, Intalco will assist the Agencies in preparing and disseminating information to the public regarding the RD Work to be performed.

Sampling and Analysis Plan

Where additional data collection is required to inform the design, for baseline monitoring, and/or for performance monitoring of partially or fully constructed remedial components, Intalco shall prepare and submit a Sampling and Analysis Plan (SAP) to ensure that sample collection and analytical activities are conducted in accordance with technically acceptable protocols and that the data generated will meet the data quality objectives (DQOs) established. The SAP shall include a Quality Assurance Project Plan (QAPP).

The SAP shall define, in detail, the sampling and data-gathering methods that shall be used on the project. It shall include sampling objectives, sample location (horizontal and vertical) and frequency, sampling equipment and procedures, and sample handling and analysis. The Sampling and Analysis Plan shall be written so that a field sampling team unfamiliar with the Site would be able to gather the samples and field information required. The QAPP shall describe the project objectives and organization, functional activities, and quality assurance and quality control (QA/QC) protocols that shall be used to achieve the desired DQOs. The DQOs shall, at a minimum, reflect use of analytical methods for obtaining data of sufficient quality to meet National Contingency Plan requirements as identified at 40 C.F.R. 300.435(b) and 300.430(b)(8). In addition, the QAPP shall address personnel qualifications, sampling procedures, sample custody, analytical procedures, and data reduction, validation, and reporting. These procedures must be consistent with the requirements and guidance documents specified in the UAO and this SOW.

Intalco shall demonstrate in advance and to the Agencies' satisfaction that each laboratory it may use is qualified to conduct the proposed Work and meets the requirements specified in the UAO. The Agencies may require that Intalco submit detailed information to demonstrate that the laboratory is qualified to conduct the Work, including information on personnel qualifications, equipment and material specification, and laboratory analyses of performance samples (blank and/or spike samples). In addition, the Agencies may require submittal of data packages equivalent to those generated by the EPA Contract Laboratory Program (CLP).

Health and Safety Plan

A Health and Safety Plan shall be prepared for all field Work in conformance with Intalco's health and safety program, and in compliance with OSHA regulations and protocols, and submitted to the Agencies. The Health and Safety Plan shall include a health and safety risk analysis, a description of monitoring and personal protective equipment, medical monitoring, and provisions for site control.

4.4.2 Preliminary Design

Intalco shall follow Section 4.1.1 above except that references to the 2012 calendar year shall refer to Phase 1 RD. Intalco shall submit updated versions of all the Plans listed in Section 4.1 except where the Agencies have specified in writing that the 2011 or 2012 submittal does not need to be updated.

4.4.3 Intermediate Design

Intalco shall submit the Intermediate Design when the design Work is approximately 60 percent complete in accordance with the approved design management schedule. Intalco shall address comments generated from Agency review of the Preliminary Design and clearly show any modification of the design documents as a result of incorporation of the comments. The Agencies may in their discretion, and in writing, waive the requirement for submitting Intermediate Design of certain remedial components.

4.4.4 Prefinal/Final Design

Intalco shall follow Section 4.1.4 above except that references to the 2012 calendar year shall refer to Phase 1 RD.

4.4.5 Remedial Action Work Plan

Intalco shall prepare and submit a Remedial Action Work Plan for Phase 1 construction that will be accomplished following the 2012 calendar year. The Remedial Action Work Plan shall include the components specified in Section 4.1.2, except as agreed to by the Agencies. The Remedial Action Work Plan interim Operations and Maintenance Plan shall be titled "Phase 1 Operations and Maintenance Plan" and shall describe how all of the Phase 1 remedial components will be operated and maintained between completion of Phase 1 and completion of Phase 2.

4.4.6 Institutional Controls Implementation and Assurance Plan

Intalco shall prepare and submit an Institutional Controls Implementation and Assurance Plan (ICIAP). The ICIAP will be a plan to implement the Institutional Controls set forth in the ROD. The ICIAP shall include, but not be limited to:

- Description of the areas where human activities should be restricted, including legal descriptions for such areas, sample maps, and a plan for preparing final survey maps;
- A description of the pathways for potential human exposure to waste materials that may remain during and/or after completion of construction of the Remedial Action;
- List of properties where Proprietary Controls are needed;
- Description of the proposed Institutional Controls and their purpose;
- Description of the proposed duration of each Institutional Control and an explanation for such duration;
- Schedule for implementing each Institutional Control;
- Description of how signage would be used to warn people of potential exposure to hazardous substances that will remain on site, proposed text for signs, and map showing proposed location of signs;
- Schedule for completing title Work;
- Draft Proprietary Controls enforceable under state law to implement the proposed land/water use restrictions;³

³ Intalco shall implement the Institutional Controls required by the ROD. Provided, however, that the Forest Service will note restrictions on National Forest System land in the Forest Service Land Status Records for the Okanogan-Wenatchee National Forest, and implement administrative restrictions on National Forest System lands. Institutional controls shall be implemented on private property owned by Holden Village through a restrictive covenant.

- Description of the authority of each affected property owner to implement each Proprietary Control, including title insurance commitments or other title evidence acceptable to the Agencies for proposed Proprietary Controls;
- Description of all prior liens and encumbrances existing on any real property that may affect the Proprietary Controls or the protectiveness of the remedy, and a plan for the release or subordination of any such liens and encumbrances (unless the Agencies waive the release or subordination of such liens or encumbrances);
- Plan for monitoring, maintaining, reporting on, and insuring the continued efficacy of the Institutional Controls and a contingency plan in the event ICs are ineffective; and
- Schedule for annual certifications regarding whether the Institutional Control remain in place, whether the Institutional Controls have been complied with, and enforcement of the Institutional Controls.

The ICIAP will be effective upon the Agencies' approval and an enforceable requirement of the Unilateral Administrative Order.

4.5 Task 5 - Remedial Action for Phase 1, Post-2012 Work

For the Remedial Action for implementing Phase 1, post-2012 Work, Intalco shall follow the requirements presented in Section 4.2 for Phase 1, 2012 Work, except that references to calendar year 2012 shall refer to post-2012 Phase 1 RD, and as noted in the following subsections.

4.5.1 Preconstruction Conference

Intalco shall follow Section 4.2.1 except that references to calendar year 2012 shall refer to post-2012 Phase 1 RD.

4.5.2 Phase 1 Prefinal Construction Inspection

Intalco shall follow Section 4.2.2 except that references to calendar year 2012 shall refer to post-2012 Phase 1 RD.

4.5.3 Phase 1 Final Construction Inspection

Intalco shall follow Section 4.2.3 except that references to calendar year 2012 shall refer to post-2012 Phase 1 RD.

4.5.4 Phase 1 Construction Report

Within 90 days following the conclusion of the Final Construction Inspection, Intalco shall submit a Phase 1 Construction Report. The Phase 1 Construction Report shall include the following:

- Brief description of how outstanding items noted in the Prefinal Inspection were resolved.
- Explanation of modifications made during the Remedial Action to the original RD and Remedial Action Work Plans and why these changes were made.
- As-built drawings. Site plans shall be provided as GIS files using the same format that the Forest Service uses for resource management in addition to the engineering drawings, which may be in AutoCAD or other format.
- Synopsis of the construction Work defined in the SOW and certification that the construction Work has been completed.

4.6 Task 6 - Operations and Maintenance for Post-2012 Phase 1

As construction of the Phase 1 components is complete, Intalco shall implement the approved Phase 1 Operations and Maintenance Plan for the remedial components constructed for Phase 1.

4.7 Task 7 - Performance Monitoring for Phase 1

Intalco shall submit a Phase 1 Performance Standards Verification Plan that includes a Sampling and Analysis Plan and Quality Assurance Project Plan. Performance monitoring shall be conducted to ensure that all Performance Standards are met and shall be conducted in accordance with the approved plan.

The purpose of the Performance Standards Verification Plan is to provide a mechanism to ensure that both short-term and long-term Performance Standards for the Remedial Action are met.⁴ The requirements and guidance documents set forth in Section 4.4.1 and used in developing the Sampling and Analysis Plan during the Remedial Design phase shall be followed in developing the Performance Standards Verification Plan.

The Performance Standards Verification Plan shall include:

- A description of performance verification monitoring to assess whether soil and water quality achieves cleanup levels based on implementation of the Phase 1 Remedial Action. The Plan shall describe the points of compliance that will be monitored to determine compliance with ARARs and protectiveness of the Remedial Action consistent with the ROD.
- The Performance Standards Verification Field Sampling and Analysis Plan that describes in detail the sampling and analysis methods to be used, and sampling frequency. The Performance Standards Verification Field Sampling and Analysis Plan shall be written so that a field sampling team unfamiliar with the Site would be able to gather the samples and field information required.
- The Performance Standards Verification Quality Assurance Project Plan shall describe the data quality objectives and quality assurance and quality control protocols which will be followed in demonstrating compliance with performance standards.
- Specification of those tasks to be performed by Intalco to demonstrate compliance with the Performance Standards and a schedule for the performance of these tasks.

4.8 Task 8 - Remedial Design for Phase 2

For the Remedial Design for Phase 2, Intalco shall follow the requirements presented in Section 4.4 for Phase 1, post-2012 Work except that references to Phase 1 shall refer to Phase 2, and as noted in the following subsections.

⁴ The ROD allows Intalco to collect additional data following Phase 1 and provides that the Phase 2 barrier wall design could be modified or may not need to be installed if Phase 1 is demonstrated to satisfy ARARs and be protective of human health and the environment. If Intalco chooses to collect data to attempt to make such a demonstration, then the Performance Standards Verification Plan shall also address these data requirements.

4.8.1 Remedial Design Planning

Intalco shall follow Section 4.4.1.

4.8.2 Preliminary Design

Intalco shall follow Section 4.4.2.

4.8.3 Intermediate Design

Intalco shall follow Section 4.4.3.

4.8.4 Prefinal/Final Design

Intalco shall follow Section 4.4.4.

4.8.5 Update Remedial Action Work Plan

Intalco shall follow Section 4.4.5.

4.8.6 Update Institutional Controls Implementation and Assurance Plan

The Plan developed for Phase 1, described in Section 4.4.6, shall be updated as needed to address any changes that may have arisen in the interim between then and completion of Phase 2.

4.9 Task 9 - Remedial Action for Phase 2

For the Remedial Action implementing Phase 2 Work, Intalco shall follow the requirements presented in Section 4.5 for Phase 1 post-2012 Work, except as noted in the following subsections.

4.9.1 Remedial Action Planning

Intalco shall follow Section 4.5, except that the Remedial Action Work Plan shall not include a Phase 1 Operations and Maintenance Plan but shall include an Operations and Maintenance Plan for the entire remedy (Phases 1 and 2).

4.9.2 Remedial Action Phase 2 Construction

Preconstruction Conference

Intalco shall follow Section 4.5.

Prefinal Phase 2 Construction Inspection

Intalco shall follow Section 4.5.

Final Phase 2 Construction Inspection

Intalco shall follow Section 4.5.

Phase 2 Construction Report

Intalco shall follow Section 4.5.

4.9.6 Remedial Action Report

Achievement of Performance Standards with Continuing Requirements for Operations and Maintenance

Within 30 days after the Remedial Action has been fully performed (i.e., when all phases of the Work have been fully performed and the Performance Standards have been attained) but continuing Operation and Maintenance activities are required to assure ongoing protection of human health and the environment, Intalco shall so certify to the United States and shall schedule and conduct a pre-certification inspection to be attended by the Agencies and Intalco. Representatives from Ecology, the Yakama Nation, Holden Village, and other agencies may also participate. If after the pre-certification inspection Intalco still believes that the Remedial Action has been fully performed and the Performance Standards have been attained, Intalco shall submit a Remedial Action Report in accordance with EPA guidance "Closeout Procedures for NPL Sites" OERR 540-R-98-016, and with Section X of the Unilateral Administrative Order. The Remedial Action Report shall include the following:

- A copy of the Final Phase 1 and Phase 2 Construction Reports;

- Synopsis of the Work defined in this SOW and a demonstration in accordance with the Performance Standards Verification Plan that Performance Standards have been achieved;
- Certification that the Remedial Action has been completed in full satisfaction of the requirements of the UAO, and
- A description of how Intalco will implement any remaining part of the Agency-approved Operation and Maintenance Plan and the Agency-approved Performance Monitoring Plan.

After Agency review, Intalco shall address any comments and submit a revised report.

Achievement of Performance Standards with No Continuing Requirements for Operations and Maintenance

Within 90 days after the Remedial Action has been fully performed (i.e., when all phases of the Work have been fully performed, the Performance Standards have been attained, and all Operation and Maintenance activities have been completed), Intalco shall so certify to the United States and shall schedule and conduct a pre-certification inspection to be attended by the Agencies and Intalco. Representatives from Ecology, the Yakama Nation, Holden Village, and other agencies may also participate. If, after the pre-certification inspection, Intalco still believes that the Remedial Action has been fully performed, the Performance Standards have been attained, and there is no justification for continuing operations and maintenance, Intalco shall submit a Remedial Action Report in accordance with EPA guidance “Closeout Procedures for NPL Sites” OERR 540-R-98-016, and with Section X of the Unilateral Administrative Order. The Remedial Action Report shall include the following:

- A copy of the Final Phase 1 and Phase 2 Construction Reports;
- Synopsis of the Work defined in this SOW and a demonstration in accordance with the Performance Standards Verification Plan that Performance Standards have been achieved; and
- Certification that the Remedial Action has been completed in full satisfaction of the requirements of the UAO.

After Agency review, Intalco shall address any comments and submit a revised report.

4.10 Task 10 - Operations and Maintenance for Entire Remedy

Intalco shall implement the approved Operations and Maintenance Plan for the entire remedy (Phases 1 and 2). In the event that the need for operations and maintenance activities changes over time, either the Agencies or Intalco may give notice and propose amending the Operations and Maintenance Plan. Intalco shall submit a revised Operations and Maintenance Plan that describes how the various remedial components will be operated and maintained until the Performance Standards are achieved, and shall obtain Agency approval prior to implementing any changes.

4.11 Task 11 - Performance Monitoring for Entire Remedy

Performance monitoring shall be conducted to ensure that all Performance Standards are met and continue to be met and shall be conducted in accordance with the approved Performance Standards Verification Plan. In the event that the need for Performance Monitoring activities changes over time, either the Agencies or Intalco may give notice and propose amending the Performance Monitoring Plan. Intalco shall submit a revised Performance Monitoring Plan that satisfies the objectives and conform to the requirements specified above, and obtain Agency approval prior to implementing any changes.

5.0 SITE SPECIFIC WATER QUALITY CRITERIA

Intalco has proposed to conduct a water effects ratio study in an effort to develop site specific water criteria for the Site.⁵ This proposal, the WER Study Work Plan, will be reviewed by the Agencies under the UAO In accordance with Section XIII of the UAO. If Intalco chooses to discontinue its effort to develop site specific criteria for the Site, it must submit a written notice to the Agencies to terminate its effort.

6.0 SELECTED GUIDANCE DOCUMENTS

The following list, although not comprehensive, comprises many of the regulations and guidance documents that apply to the RD/Remedial Action process. Intalco shall review this material and

⁵ Intalco submitted a document entitled "Proposed Work Plan for Performance of a Water Effects Ratio Study (WER) for Copper, Cadmium, and Zinc in Railroad Creek in the Vicinity of the Holden Mine" dated November 21, 2010.

shall use the information provided therein in performing the RD/Remedial Action and preparing all deliverables under this SOW.

1. A Compendium of Superfund Field Operations Methods, U.S. EPA, Office of Emergency and Remedial Response, EPA/540/P-87/001a, December 1987, OSWER Directive No. 9355.0-14.
2. American National Standards Practices for Respiratory Protection, American National Standards Institute Z88.2-1980, March 11, 1981.
3. ARARs Q's and A's: General Policy, RCRA, CWA, SDWA, Post-ROD Information and Contingent Waivers, OSWER 9234.2-01 FSA, July 1991.
4. CERCLA Compliance with Other Laws Manual, Two Volumes, U.S. EPA, Office of Emergency and Remedial Response, Part I August 1988, Part II August 1989, (Interim Final), OSWER Directive No. 9234.1-01 and -02.
5. Closeout Procedures for National Priorities List Sites, OSWER Directive 9320.2-22, EPA May 2011.
6. Contract Laboratory Program Guidance for Field Samplers, OSWER 9240.0-47, EPA 540-R-09-03, January 2011.
7. Contractor Signing of Uniform Hazardous Waste Manifests for Materials Leaving a Superfund Site (February 6, 1989) OSWER memorandum.
8. EPA NEIC Policies and Procedures Manual, EPA-330/9-78-001-R, May 1978, revised February 1983.
9. Guidance on EPA Oversight of Remedial Designs and Remedial Actions Performed by Potentially Responsible Parties - Interim Final (April 1990), EPA/540/G-90/001, OSWER 9355.5-01.
10. EPA Requirements for Quality Assurance Project Plans (QA/R-5), EPA/240/B-01/003, March 2001, Reissued May 2006.
11. Expediting Remedial Construction (October 1989) OSWER 9355.5-02/FS.

12. Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, Interim Final, U.S. EPA, Office of Emergency and Remedial Response, October 1988, EPA/540/G-89/004, OSWER Directive No. 355.3-01.
13. Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, OSWER No. 9200.1-85, EPA 540-R-08-005, January 13, 2009.
14. Guidance for Quality Assurance Project Plans (G-5), EPA/240/R-02/009, December 2002.
15. Guidance for Scoping the Remedial Design (March 1995) OSWER 9355.0-43, EPA/540/R-95/025.
16. Guidance on Expediting Remedial Design and Remedial Action (August 1990) OSWER 9355.5-02, EPA/540/G-90/006.
17. Guidance on Remedial Actions for Contaminated Ground Water at Superfund Sites, U.S. EPA, Office of Emergency and Remedial Response, (Interim Final), EPA/540/G-88/003, OSWER Directive No. 9283.1-2, December 1988.
18. Guidance on Systematic Planning Using the Data Quality Objectives Process (QA/G-4), EPA/240/B-06/001, February 2006.
19. Guide for Conducting Treatability Studies Under CERCLA, U.S. EPA, EPA/540/R-92/071a, OSWER Directive No. 9380.3-10, November 1992.
20. Health and Safety Roles and Responsibilities at Remedial Sites (July 1991) OSWER 9285.1-02.
21. National Oil and Hazardous Substances Pollution Contingency Plan (NCP) 40 CFR Part 300.
22. NIOSH Manual of Analytical Methods, (NMAM®), 4th ed. DHHS (NIOSH) Publication 94-113 (August, 1994), 1st Supplement Publication 96-135, 2nd Supplement Publication 98-119, 3rd Supplement 2003-154, Schlecht, P.C. & O'Connor, P.F. (pfo1@cdc.gov), Eds..
23. Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, National Institute of Occupational Safety and Health/Occupational Health and Safety Administration/United States Coast Guard/ Environmental Protection Agency, October 1985.

24. Permits and Permit "Equivalency" Processes for CERCLA On-site Response Actions (February 19, 1992) OSWER 9355.7-03.
25. Policy on Siting Temporary Areas for Handling Contaminated Waste from Superfund Remedial Cleanups, OSWER (March 22, 2010).
26. Quality in the Constructed Project, Third Edition, Manual of Practice, MOP 73, American Society of Civil Engineers, 2012.
27. Remedial Design/Remedial Action Handbook (June 1995) OSWER 9355.0-04B, EPA 540/R-95/059.
28. Scoping the Remedial Design (March 1995) OSWER 9355.5-21FS, EPA 540/F-95/008.
29. Standard Operating Safety Guides, U.S. EPA, Office of Emergency and Remedial Response, OSWER Directive No. 9285.1-01B, November 1984.
30. Occupational Health and Safety Standards, 29 C.F.R. Part 1910, Occupational Health and Safety Administration.
31. Safety and Health Regulations for Construction, 29 C.F.R. Part 1926, Occupational Health and Safety Administration.
32. Systematic Planning: A Case Study for Hazardous Waste Site Investigations, (QA-CS-1), EPA/240/B-06/004, February 2006.
33. Summary of Key Existing EPA CERCLA Policies for Groundwater Restoration (June 26, 2009), OSWER Directive 9283.1-33
34. 2012 TLVs and BEIs, American Conference of Governmental Industrial Hygienists.
35. USEPA Contract Laboratory Program Statement of Work for Inorganic Superfund Methods, ISM01.2, January 2010.
36. Value Engineering Fact Sheet OSWER 9355.5-24FS (November 2005).
37. Value Engineering for Fund-Financed Remedial Design and Remedial Action Projects, OSWER Directive No. 9355.5-24 (April 14, 2006).

ATTACHMENT 1

**SCHEDULE FOR REMEDIAL DESIGN AND REMEDIAL ACTION AT THE HOLDEN
MINE SITE**

Schedule for Remedial Design and Remedial Action at the Holden Mine Site

Phase 1

2012

<u>Submission/Action</u>	<u>Due Date</u>
1. Intalco submits monthly progress reports.	Before the 15th day of each month throughout RD/RA following the Effective Date of the UAO.
2. Intalco submits Preliminary (approximately 30 percent) Design.	Not applicable. Intalco delivered this submission on March 16, 2012, pursuant to a 1998 Administrative Order on Consent, as amended in 2010 and 2011.
3. Intalco submits Prefinal (90 percent) Design for 2012 Remedial Action.	21 days after the date of the Agency comments on the Preliminary Design. The 2012 Remedial Action Work Plan and Health and Safety Plan shall be submitted prior to or concurrent with the Prefinal Design for 2012.
4. Intalco submits Final (100 percent) Design, Remedial Action Work Plan, and Health and Safety Plan for 2012.	7 days after the date of Agency comments on the Prefinal Design for 2012.
5. Intalco mobilizes for 2012 Remedial Action.	The date specified in the schedule in the approved 2012 Remedial Action Work Plan.
6. Intalco submits a draft Remedial Design Work Plan for the post-2012 Remedial Action.	21 days after the Effective Date of the UAO.

Schedule for Remedial Design and Remedial Action at the Holden Mine Site

	Submission/Action	Due Date
7.	Intalco submits a final Remedial Design Work Plan for the post-2012 Remedial Action.	21 days after the date of the Agency comments on the draft Remedial Design Work Plan for post-2012 Remedial Action.
8.	Intalco submits Intermediate (60 percent) Design for remainder (post-2012) of Phase 1.	60 days after the date of the Agency comments on the Final Remedial Design Work Plan for post-2012 Remedial Action.
9.	Intalco submits the draft post-2012 Remedial Action Work Plan, draft Phase 1 Health and Safety Plan update, and draft Institutional Controls Implementation and Assurance Plan (ICIAP).	60 days after the date of the Agency comments on the Final Remedial Design Work Plan for post-2012 Remedial Action.
10.	Intalco submits Prefinal (90 percent) Design for remainder (post-2012) of Phase 1 RA.	60 days after the date of the Agency comments on the 60 percent Design for post-2012 Remedial Action.
11.	Intalco submits Final (100 percent) Design for remainder of Phase 1 (post-2012 RA).	21 days after the date of the Agency comments on Prefinal Design for post-2012 Remedial Action.
12.	Intalco submits the final post-2012 Remedial Action Work Plan, final Phase 1 Health and Safety Plan update, and final Institutional Controls Implementation and Assurance Plan (ICIAP).	Prior to or concurrent with the Final Phase 1 Design for post-2012 Remedial Action.
13.	2012 Prefinal Construction Inspection.	Upon substantial completion of the 2012 RA, but no later than November 1, 2012.
14.	2012 Final Construction Inspection.	Upon completion of the 2012 RA, but no later than November 15, 2012.

Schedule for Remedial Design and Remedial Action at the Holden Mine Site

2013

Submission/Action	Due Date
1. Intalco mobilizes for 2013 RA.	The date specified in the schedule in the approved Remedial Action Work Plan for post-2012 Remedial Action.

2014

Submission/Action	Due Date
1. Intalco mobilizes for 2014 RA.	The date specified in the schedule in the approved Remedial Action Work Plan for post-2012 Remedial Action.

Phase 2

2017

Submission/Action	Due Date
1. Intalco submits proposal, if any, to modify or eliminate Phase 2 groundwater barrier and collection system.	December 31, 2017.

2018

Submission/Action	Due Date
1. Intalco submits Preliminary Design for Phase 2.	June 1, 2018.
2. Intalco submits Intermediate Design for Phase 2, draft Phase 2 Remedial Action Work Plan, draft Health and Safety Plan.	21 days after the date of the Agency comments on Preliminary Design for Phase 2.
3. Intalco submits Prefinal/Final Design for Phase 2.	In accordance with the schedule established in the Agency comments on the Intermediate Design for Phase 2.

Schedule for Remedial Design and Remedial Action at the Holden Mine Site

2019

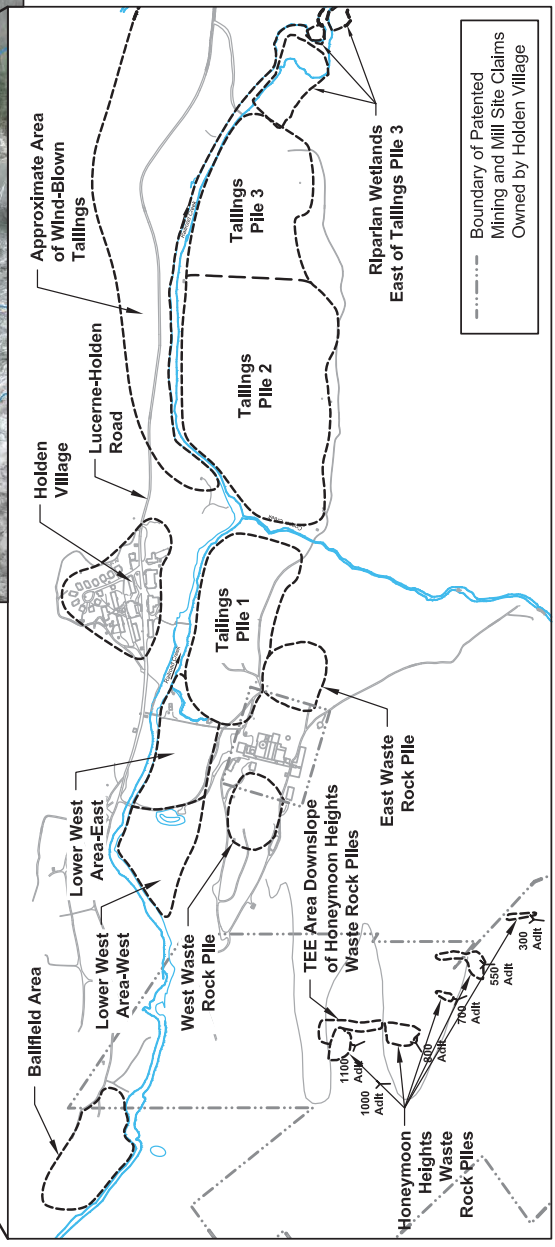
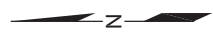
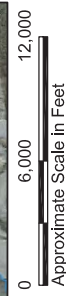
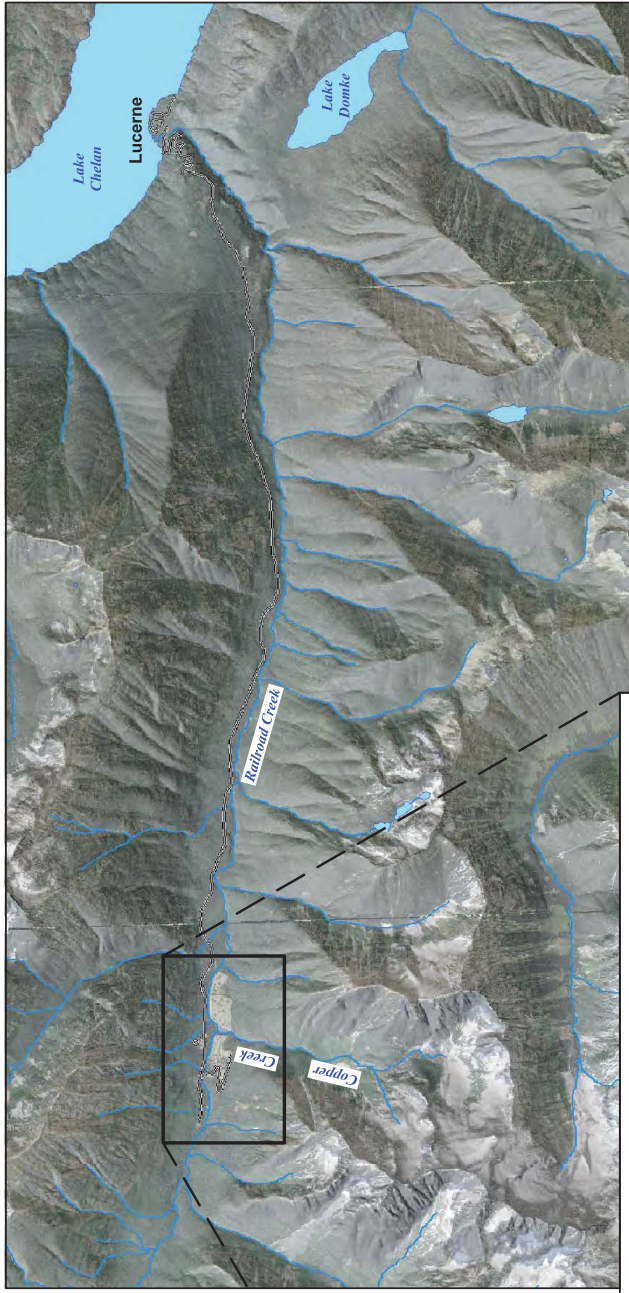
Submission/Action	Due Date
1. Intalco mobilizes for 2019 RA.	The date specified in the schedule in the approved Remedial Action Work Plan for Phase 2.

Other

2012

Submission/Action	Due Date
1. Intalco submits revised "Proposed Work Plan for Performance of a Water Effects Ratio Study (WER) for Copper, Cadmium, and Zinc in Railroad Creek in the Vicinity of the Holden Mine" (WER Study Work Plan)	30 days after date of Agency comments on Intalco's November 21, 2010 draft WER Study Work Plan
2. Intalco implements the WER Study	In accordance with the schedule in the Agency approved WER Study Work Plan
3. Intalco submits WER Study Report	In accordance with the schedule in the Agency approved WER Study Work Plan

Site Map



Holden Mine Features

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