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Martin Pesaresi
Assistant Regional Counsel
United States Environmental Protection Agency
75 Hawthorne Street
San Francisco, California 94105
(415) 744-1337

Attorney for EPA

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 9

IN THE MATTER OF: Western Pacific Railroad Oroville, Butte County, California EPA ID No. CAD 980894679 Site #R4 RESPONDENT: Union Pacific Railroad Company Proceeding Under Sections 104, 106, and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. §§ 9604, 9606, and 9622, as amended by the Superfund Amendments and Reauthorization Act of 1986.	U.S. EPA Region IX CERCLA Docket No. 94-06

ADMINISTRATIVE CONSENT ORDER
FOR
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

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INTRODUCTION

A. This Administrative Order on Consent ("Consent Order") is entered into voluntarily by the United States Environmental Protection Agency ("EPA") and Union Pacific Railroad Company (Respondent" or "UPRR"). The Consent Order concerns the preparation of, performance of, and reimbursement of all costs incurred by EPA in connection with, a Remedial Investigation and Feasibility Study ("RI/FS") for the Western Pacific Railroad Superfund Site located in the City of Oroville, California, as well as for past response costs.

I. AUTHORITY

A. This Consent Order is issued under the authority vested in the President of the United States by Sections 104, 106 and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (as amended by the Superfund Amendments and Reauthorization Act of 1986) ("CERCLA"), 42 U.S.C. §§ 104, 106, and 122. The President delegated this authority to the Administrator of the United States Environmental Protection Agency ("EPA" or "Agency") by Executive Order 12580, 52 Fed. Reg. 2923, and further delegated to the Assistant Administrator for Solid Waste and Emergency Response and the Regional Administrators by EPA Delegation Nos. 14-8-A and 14-14-C. This authority has been redelegated to the Director, Hazardous Waste Management Division, EPA, Region 9.

B. Respondent agrees to undertake all actions required by the terms and conditions of this Consent Order. However, Respondent's participation in this Consent Order shall not

constitute or be construed as an admission of liability or of EPA findings or determinations contained in this Consent Order except in a proceeding to enforce its terms. In any action by EPA or the United States to enforce the terms of this Consent Order, Respondent consents to and agrees not to contest the authority or jurisdiction of the Regional Administrator to issue or enforce this Consent Order, and agrees not to contest the validity of this Consent Order or its terms. The activities undertaken pursuant to this Consent Order if conducted consistent with this Order shall be deemed to be consistent with the National Contingency Plan.

II. STATEMENT OF PURPOSE

In entering into this Consent Order, the mutual objectives of EPA and Respondent are:

A. To conduct the Remedial Investigation ("RI") described in the Remedial Investigation and Feasibility Study Statement of Work ("RI/FS SOW"), a copy of which is attached as Attachment A and by this reference made a part of this Consent Order, in order to determine fully the nature and extent of contamination and the potential for harm to the public health or welfare or the environment caused by the release or threatened release of hazardous substances, pollutants, or contaminants at or from the Respondent's facility (the "Site"), as defined in Section III(A) below. The RI/FS SOW specifies work to be performed during the RI. It also includes a list of reports, documents, and other deliverables Respondent will provide for EPA review, comment and/or approval.

B. To conduct a Feasibility Study ("FS") on selected remedial alternatives, in accordance with the intent of EPA's Superfund Accelerated Cleanup Model program for evaluating remedial action alternatives to prevent, mitigate or otherwise respond to the release or threatened release of hazardous substances, pollutants, or contaminants at or from the Site.

C. To undertake all actions required by the terms and conditions of this Consent Order in accordance with the provisions of CERCLA and the National Contingency Plan ("NCP"), 40 C.F.R. Part 300 et seq., as amended.

III. FINDINGS OF FACT

Site Description

A. The Western Pacific Railroad Superfund Site is located immediately southwest of the City of Oroville in Butte County, California. The Site is approximately 90 acres and consists of two distinct areas separated by the main railroad tracks. The western portion of the rail yard, known as the "Pond Area," includes a former surface impoundment, and the eastern portion, known as the "Fueling Area," includes the former fueling, servicing and maintenance areas.

B. The Site is located in a mixed-use area, with a residential area located directly across Baggett Marysville Road to the east and industrial areas to the north, west and south. The Louisiana-Pacific Corporation Superfund site is located approximately one mile west-southwest of the Western Pacific Superfund Site. The Koppers Company, Inc., Superfund site is located one mile southwest of the Western Pacific Superfund Site.

C. On the Site just west of the Fueling Area is a public drinking water supply well. Union Pacific Railroad leases this well to California Water Service which currently uses it to supply drinking water to the Oroville area.

Site History and Operations

D. Western Pacific Railroad ("WPRR") first developed the Site in the late 1880s to repair, service and clean railcars. Specific activities included welding, machining, fabricating and fueling of locomotives. Over the century various structures were built, including a roundhouse and turntable, concrete inspection pits, a fueling area, storage tanks and an oil-water separator.

E. In 1970 Solano Railcar Company ("Solano") leased the roundhouse area from WPRR. Solano's primary activities included sandblasting, painting, welding and machining railcars. The roundhouse reportedly burned to the ground in 1976.

F. In 1982, Respondent acquired Western Pacific Railroad and continued to lease to Solano. Solano continued to operate an independent rail car repair and maintenance facility at the Site until 1990, when it filed for bankruptcy.

G. A former surface impoundment west of the railroad tracks in the Pond Area received wastewater, grease and oil and may have received solvents from the fueling area operations. The discharge of wastewater into the surface impoundment, an unlined pond, took place from the 1950s until 1987.

H. An underground storage tank in the southeast section of the Fueling Area held waste oil and solvents. This tank was removed in 1989 by UPRR.

Enforcement History

I. In 1986 the California Regional Water Quality Control Board, Central Valley Region ("RWQCB") listed the surface impoundment as a toxic pit under the Toxic Pits Cleanup Act. UPRR complied with the RWQCB request to stop discharging to the pond. Four monitoring wells were installed in the pond area by Union Pacific Railroad.

J. In 1989 the RWQCB issued an order to UPRR and Solano to close the waste pond, remove all of the soil in it and clean up all contaminated soil around the fueling area. A waste classification study of the waste pond sludge revealed that the material contained arsenic, barium, copper, nickel and chromium; total petroleum hydrocarbons ("TPH") up to 13,000 mg/kg; and benzene, toluene, phenanthrene, acetone, methylene chloride and chlorobenzene. In addition, background constituents of metals in soils were not determined.

K. In late 1989 UPRR excavated the soil and residues from the pond and backfilled the pond with soil from off-site.

L. The Western Pacific Railroad Site was placed on the EPA National Priorities List in August 1990.

M. In August 1993 UPRR entered into an Administrative Order on Consent with EPA to conduct a removal action to contain and clean up a small VOC plume near the former underground storage tank southeast of the roundtable.

Respondent

N. Respondent UPRR is a Utah corporation and is the owner and operator of the Western Pacific Railroad Superfund Site.

Threat to Public Health or Welfare or the Environment

O. The presence of detectable levels of chlorinated compounds in the California Water Supply ("CWS") drinking water well in 1986 led to a RWQCB directive to UPRR to investigate potential contaminants in soil and groundwater in the Fueling Area. Results of the investigation revealed the presence of volatile organic compounds ("VOCs") in groundwater. Lead and chromium were detected above federal and State of California Maximum Contaminant Levels ("MCLs") in unfiltered groundwater samples. Metals have not been detected above MCLs in filtered groundwater samples, and naturally occurring background metals concentrations have not been determined. High levels of petroleum hydrocarbons were detected in soils throughout the Fueling Area.

E. In 1989 an underground storage tank ("UST") was removed; it contained toluene, dichlorobenzene ("1,4 DCB" and "1,2, DCB") and trichloroethylene ("TCE"). A monitoring well near the UST detected elevated levels of VOCs, primarily 1,1-dichloroethylene (1,1-"DCE") and, in one or two sampling events, low levels of aromatic hydrocarbons, including benzene, toluene, ethyl benzene and xylene were also detected.

F. The CWS well is located 650 feet in a generally downgradient direction (west) from the site of the UST. The VOC plume associated with the UST is assumed to be located in the same aquifer as the CWS well and poses a threat to the drinking water supply well.

IV. EPA'S CONCLUSIONS OF LAW

A. The Western Pacific Railroad Site is a "facility" as defined in Section 101 (9) of CERCLA, 42 U.S.C. § 9601 (9).

B. Respondent is a "person" as defined in Section 101 (21) of CERCLA, 42 U.S.C. § 9601 (21).

C. Chemicals and their constituents at the Site are "hazardous substances" as defined in Section 101 (14) of CERCLA, 42 U.S.C. § 9601(14).

D. The past, present, and potential migration of hazardous substances from the Site constitutes an actual or threatened "release" as defined in Section 101(22) of CERCLA, 42 U.S.C. § 9601(22).

E. Respondent is the "owner" and/or "operator" of the facility, as defined by Section 101(2) of CERCLA, 42 U.S.C. § 9601(20), and within the meaning of section 107(a) of CERCLA, 42 U.S.C. § 9607(a).

V. DETERMINATIONS

A. The actual or threatened release of hazardous substances from the Site may present an imminent and substantial endangerment to the public health or welfare or the environment.

B. The actions required by this Consent Order are necessary to protect the public health, welfare and the environment.

VI. WORK TO BE PERFORMED

A. All response work performed pursuant to this Consent Order shall be under the direction and supervision of a qualified professional engineer or a certified geologist with expertise in

hazardous waste site investigation. Within 30 days of the effective date of this Order, and before the work outlined below begins, Respondent shall notify EPA in writing of the names, title and qualification of the personnel, including contractors, subcontractors, consultants and laboratories to be used in carrying out such work. If personnel change during the course of the work, Respondent shall notify EPA in writing within 10 business days of making such changes.

B. The qualifications of the persons undertaking the work for Respondent shall be subject to EPA's review, for verification that such persons meet minimum technical background and experience requirements. This Order is contingent on Respondent's demonstration to EPA's satisfaction that Respondent is qualified to perform properly and promptly the actions set forth in this Consent Order.

C. If EPA subsequently disapproves of replacement personnel, EPA reserves its right under CERCLA and the NCP to conduct a complete RI/FS, and to seek reimbursement for costs from Respondent.

D. Respondent shall perform the tasks and submit the reports contained in the RI/FS SOW (Attachment A). All such work shall be conducted in accordance with Attachment A, CERCLA, the NCP, and EPA guidance. UPRR will prepare the Risk Assessment ("RA") portion of the FS pursuant to EPA Guidance. All deliverables must contain sufficient information to allow for EPA's detailed technical review and comment.

E. Failure to submit sufficient information will be deemed a failure to submit that deliverable. Open discussions between Respondent and EPA will be necessary to assure that deliverables contain sufficient detail. Any reports, plans, specifications, schedules, and attachments required by this Consent Order are, upon approval by EPA, incorporated into this Consent Order.

F. Any non-compliance with such EPA-approved reports, plans, specifications, schedules, and attachments shall be considered a violation of this Consent Order and will subject Respondent to stipulated penalties in accordance with Section XII of this Consent Order. For the purposes of this Consent Order, "day" means calendar day unless otherwise specified in this Consent Order.

G. The required work shall be consistent with all applicable requirements of CERCLA and the NCP and shall be conducted in accordance with EPA RI/FS guidances ("Guidance on Remedial Investigations Under CERCLA," June, 1985; "Guidance on Feasibility Studies Under CERCLA," June, 1985; and "Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA," October, 1988) and any EPA updates or revisions to those guidances, and with the standards, specifications, and schedule contained in the approved RI/FS SOW. The RI/FS SOW is not subject to Dispute Resolution (Section XI) procedures.

H. EPA will, as indicated above, review, comment upon, and approve or disapprove each report, document or other deliverable. Within the time period scheduled for review of Respondent's submittals, EPA will notify Respondent in writing of EPA's

approval, disapproval or if additional review time is required. In the event of any disapproval, EPA will specify the reasons for such disapproval and recommended modifications. EPA disapproval of timely submitted deliverables shall subject Respondent to Section XII (Stipulated Penalties) only after Respondent has had the opportunity to amend deliverables pursuant to EPA comment as set forth immediately below.

1) Within 30 days, or more if needed, of receipt of Respondent's deliverables, EPA will submit to Respondent its comments, if any. Respondent shall submit its final deliverable incorporating EPA's comments within 30 days of receiving EPA's comments.

2) Respondent may begin Dispute Resolution (Section XI) procedures, if appropriate, after it receives EPA's approval or disapproval of the amended deliverable.

3) Respondent's deadlines will be extended for an amount equal to any extra time needed by EPA beyond the time specified above to review and comment on the above deliverables.

I. In the event of unanticipated or changed circumstances at the Site, Respondent shall notify the EPA Project Coordinator by telephone, at least with a voicemail message, within 24 hours of the discovery of the unanticipated or changed circumstances. This notification must be confirmed in writing.

J. EPA may determine that additional tasks, including, but not limited to, remedial investigatory work, engineering evaluation, interim response measures or tasks added in response to public comment are necessary as part of the RI/FS. Respondent

agrees to implement any additional tasks which EPA determines are necessary as part of the RI/FS. The additional work shall be completed in accordance with the standards, specifications, requirements, and schedules determined or approved by EPA.

K. All documents, including progress and technical reports, approvals, disapprovals, and other correspondence to be submitted pursuant to this Consent Order, shall be sent to the following addressee or to such other addresses as the parties hereafter may designate in writing, and shall be deemed submitted on the date received by EPA or Respondent.

1) Documents to be submitted to EPA shall be sent to:

Holly Hadlock
Remedial Project Manager (H-7-3)
U.S. EPA, Region 9
75 Hawthorne Street
San Francisco, CA 94105
(415) 744-2244

2) Documents to be submitted to Respondent shall be sent to:

Glenn Thomas
Manager-Environmental Site Remediation
Union Pacific Railroad Company
1416 Dodge Street - Room 930
Omaha, Nebraska 68179-0930
(402) 271-2234

VII. DESIGNATED PROJECT COORDINATORS

A. EPA has designated Holly Hadlock as its Project Coordinator for overseeing implementation of this Consent Order. Ms. Hadlock shall have the authorities, duties, and responsibilities vested in the Remedial Project Manager by the National Contingency Plan. Respondent shall also designate a Project Coordinator who shall be responsible for overseeing the

implementation of this Consent Order. The EPA Project Coordinator will be EPA's designated representative at the Site. To the maximum extent possible, all communications between Respondent and EPA concerning the activities performed pursuant to this Order shall be directed through the Project Coordinators. All documents, including progress and technical reports, approvals, and other correspondence concerning the activities performed pursuant to the terms and conditions of this Consent Order, shall be delivered in accordance with paragraph VI(D) above.

B. EPA and Respondent may change their respective Project Coordinators. Such a change shall be accomplished by notifying the other party in writing at least 10 business days prior to the change.

C. Consistent with the provisions of this Consent Order, the EPA Project Coordinator shall also have the authority vested in the On-Scene-Coordinator ("OSC") by the NCP, unless EPA designates a separate individual as OSC, who shall then have such authority. This includes, but is not limited to, the authority to halt, modify, conduct, or direct any tasks required by this Consent Order and/or under take any response actions (or portions of the response action) when conditions present or may present a threat to public health or welfare or the environment as set forth in the NCP.

D. The absence of the EPA Project Coordinator or OSC from the Site shall not be cause for the stoppage of work.

E. EPA shall arrange for a qualified person to assist in its oversight and review of the conduct of the RI/FS, as required by Section 104(a) of CERCLA, 42 U.S.C. §9604(a). The oversight assistant may observe work and make inquiries in the absence of EPA, but is not authorized to modify the work plan.

VIII. SITE ACCESS

A. To the extent that Respondent requires access to land other than land it owns, Respondent will use its best efforts to obtain access agreements from the present owners or lessees within 60 days of the effective date of this Consent Order or within 30 days from the determination that access to such land is required to conduct the work. Such agreements shall provide reasonable access for EPA, its contractors and oversight officials, the state and its contractors, and Respondent or its authorized representatives. In the event that Respondent is not able to obtain site access to property owned or controlled by persons or entities other than Respondent, Respondent shall notify EPA promptly regarding both the lack of, and efforts to obtain, such access.

B. No conveyance of title, easement, or other interest in the property comprising the Site shall be consummated without a provision permitting the continuous implementation of the provisions of this Consent Order.

C. Respondent shall permit EPA, or its authorized representatives, to have reasonable access at all times to the Site to monitor any activity conducted pursuant to the RI/FS SOW or conduct such tests or investigations as EPA deems necessary.

EPA may be accompanied by a UPRR representative. Nothing in this Consent Order shall be deemed a limit upon EPA's authority under federal law to gain access to the Site.

IX. SAMPLING, ACCESS, AND DATA/DOCUMENT AVAILABILITY

A. Upon request, Respondent shall provide EPA with all information regarding hazardous substance contamination at, or released from, the Site, including:

1. The results and Quality Assurance/Quality Control (QA/QC) documentation of sampling and/or tests or other technical data generated by Respondent or on Respondent's behalf related to the RI/FS being conducted pursuant to this Consent Order. If requested by EPA, details and documentation of all specific sampling and analysis data collection shall be provided by Respondent.

2. Previous studies or reports;

3. Communications between Respondent and local, state or other federal authorities during the term of this Consent Order;

4. Permits obtained by Respondent within the last 5 years from local, state or federal authorities regarding hazardous substance use or contamination at the Site.

B. At the request of EPA, Respondent shall provide split or duplicate samples to EPA and/or its authorized representatives of any samples collected by Respondent as part of the RI/FS SOW. Respondent shall notify EPA of any planned sample collection activity in the preceding monthly report.

C. Respondent shall use quality assurance, quality control, and chain of custody procedures described in the "EPA NEIC Policies and Procedures Manual," May 1978, revised November 1984, EPA-330/9-78-001-R and "Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans, " December 1980, QAMS-005/80, and any EPA updates or revisions to these guidances, while conducting all sample collection and analysis activities required by the Consent Order. Respondent shall consult with EPA in planning for and prior to all sampling and analysis as detailed in the RI/FS SOW. To provide quality assurance and maintain quality control, Respondent shall:

1. Use a laboratory which has a documented Quality Assurance Program that complies with EPA guidance document QAMS-005/80.

2. Ensure that EPA personnel and/or EPA authorized representatives are allowed reasonable access to the laboratory and personnel utilized by Respondent for analysis.

3. Ensure that the laboratory used by Respondent for analysis performs according to a method or methods deemed satisfactory to EPA and submits all protocols to be used for analysis to EPA at least 10 days before beginning analysis.

D. Respondent shall permit EPA, and its authorized representative to have reasonable access at all times to the Site to monitor any activity conducted pursuant to the RI/FS SOW or conduct such tests or investigations as EPA deems necessary. EPA may be accompanied by a UPRR representative.

E. Respondent shall permit EPA and/or its authorized representative to inspect and copy all records, documents, and other writings, including all sampling and monitoring data, that in any way concern soil, ground water, surface water or air contamination at the site. Nothing in this Consent Order shall be interpreted as limiting EPA's inspection authority under federal law.

F. Respondent may assert a confidentiality claim, covering part or all of the information requested by this Consent Order pursuant to 40 C.F.R. § 2.203(b). Analytical data and data covered by Section 104(e)(7)(F) of CERCLA,42 U.S.C. § 9604(e)(7)(F), shall not be claimed as confidential by Respondent and shall be provided to EPA by Respondent. Information determined to be confidential by EPA will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no such claim accompanies the information when it is submitted to EPA, it may be made available to the public by EPA without further notice to Respondent.

G. If, at any time during the RI/FS process, Respondent becomes aware of the need for additional data beyond the scope of the RI/FS SOW, Respondent shall have an affirmative obligation to submit to the EPA Project Coordinator within 30 days a memorandum documenting the need for additional data.

H. All data, factual information, and documents submitted by Respondent to EPA pursuant to this Consent Order shall be subject to public inspection.

X. RECORD PRESERVATION

Respondent agrees that it shall preserve, during the pendency of this Consent Order and for a minimum of ten (10) years after the completion of the work and termination of the Consent Order, a central depository of the records and documents required to be prepared under the RI/FS SOW. Respondent shall acquire and retain copies of all non-privileged documents that relate to hazardous waste contamination at the Site and are in the possession of its employees, agents, accountants, contractors, or attorneys. After this ten (10) year period, Respondent shall notify EPA at least 30 days before the documents are scheduled to be destroyed. If EPA requests that the documents be saved, Respondent shall, at no cost to EPA, provide EPA with the documents or copies of the documents.

XI. DISPUTE RESOLUTION

A. If Respondent objects to any EPA decision pursuant to Section VI Respondent shall notify EPA in writing of its objections within seven (7) calendar days of receipt of the decision. EPA and Respondent will then have an additional seven (7) calendar days from receipt by EPA of the notification of objection to reach agreement.

B. At the end of the seven (7) day discussion period, EPA shall provide a written statement addressing Respondent's objections and its decision from the Deputy Director for Superfund to Respondent. EPA's initial written decision statement, Respondent's written objections, and any other documents or material submitted or exchanged during Dispute

Resolution shall become part of the administrative record. Respondent shall then implement EPA's decision. Use of the dispute resolution provision will not relieve Respondent's duty to complete the other tasks in a timely manner in accordance with the schedule. This dispute resolution provision or EPA's decision pursuant to this provision does not grant or imply jurisdiction to any court to review EPA's decisions pursuant to this Consent Order.

XII. STIPULATED PENALTIES

A. Except with respect to any extensions allowed by EPA in writing, or excused by the provisions of Section XIII (Force Majeure), Respondent shall be liable for stipulated penalties in accordance with Section XII for each day that the Respondent fails to comply with the requirements of paragraphs C, D, and E of this Section.

B. Penalties shall accrue commencing upon the earliest of the following occurrences: Respondent's receipt of the written determination of disapproval, as specified in Section VI; the failure of Respondent to meet the schedule specified or modified by EPA in the RI/FS SOW (Attachment A); or Respondent's receipt of written notice from EPA that a violation of this Consent Order has occurred. These penalties are not subject to Dispute Resolution (Section XI). Dispute Resolution shall not stay the accrual of these stipulated penalties. Stipulated penalties shall be assessed in accordance with the schedules set forth below.

C. For purposes of this Order only, Class I Noncompliance with the terms of this Consent Order shall be defined as the failure to submit to EPA Monthly Status Reports on-time or otherwise in compliance with the terms of the Consent Order.

D. For purposes of this Order only, Class II Noncompliance and Class III Noncompliance with the terms of this Consent Order shall be defined as the failure to submit to EPA, on-time or otherwise in compliance with the terms of the Consent Order, those deliverables identified as Class II and Class III deliverables in the attached Statement of Work (Attachment A).

E. For purposes of this Consent Order, Class III noncompliance with the terms of this Consent Order shall also be defined as the failure to perform work agreed to in the RI/FS Statement of Work, or additional work that may be required pursuant to Section VI (Work to be Performed) and Section XX (Effective Date and Subsequent Modification).

F. Stipulated penalties shall be calculated according to the schedules below:

Class I Noncompliance Penalty Schedule

Period of Failure to Comply	Penalty per day per event
1st day and beyond	$1,000

Class II Noncompliance Penalty Schedule

Period of Failure to Comply	Penalty per day per event
1st through 7th day	$2,000
8th day and beyond	$5,000

Class III Noncompliance Penalty Schedule

Period of Failure to Comply	Penalty per day per event
1st through 15th day	$5,000
16th day through 30th day	$10,000
31st day and beyond	$15,000

G. Respondent's payment of stipulated penalties shall be due within 20 days following demand by the Director, Hazardous Waste Management Division, U.S. EPA, Region 9, by certified check made payable to the United States Treasury and addressed to:

U.S. Environmental Protection Agency
Region 9, Attn: Superfund Accounting
P.O. Box 360863M
Pittsburgh, PA 15251

Respondent shall send a cover letter with any check, and the letter shall identify the Site by name and make reference to this Consent Order. Respondent shall send simultaneously to the EPA Project Coordinator a notification of any penalty paid, including a photocopy of the check.

H. The stipulated penalties provisions do not preclude EPA from pursuing any other remedies or sanctions which are available to EPA because of Respondent's failure to comply with this Consent Order. EPA will notify Respondent of its determination to pursue other remedies or sanctions.

XIII. FORCE MAJEURE

A. If an event occurs which causes delay in the achievement of the requirements of this Consent Order, Respondent shall have the burden of proving that the delay was caused by circumstances beyond the control of Respondent, its contractors,

and agents and that cannot be overcome by their due diligence. Economic hardship, normal inclement weather, and increased costs of performance shall not be considered events beyond the control of Respondent, its contractors, and agents and shall not trigger the force majeure clause.

B. In the event of a force majeure, the time for performance of the activity delayed by the force majeure shall be extended for the time period of the delay attributable to the force majeure. The time for performance of any activity dependent on the delayed activity shall be similarly extended, except to the extent that the dependent activity can be implemented in a shorter time. EPA shall determine whether subsequent requirements are to be delayed and the time period granted for any delay. Respondent shall adopt all reasonable measures to avoid or minimize any delay caused by a force majeure.

C. When an event occurs or has occurred that may delay or prevent the performance of any obligation under this Consent Order, which Respondent believes is due to force majeure, Respondent shall notify by telephone the EPA Project Coordinator, or, in his/her absence, his/her supervisor(s), or in their absence, the Director of the Hazardous Waste Management Division of EPA, Region 9, or, in all of their absence, by urgent voicemail message, within 24 hours of the commencement of such event. Oral notification shall be followed by written notification, made within five (5) business days of when Respondent knew or should have known of the event causing the delay or anticipated delay.

D. The written notification shall fully describe: the reasons for the delay; the reasons the delay is beyond the control of Respondent, its contractors, and agents; the anticipated duration of the delay; actions taken or to be taken to prevent or minimize the delay; the schedule for implementation of any measures to be taken to mitigate the effect of the delay; and any aspects of the event which may cause or contribute to an endangerment to public health, welfare, or the environment.

E. Failure of Respondent to comply with the force majeure notice requirements will be deemed a forfeiture of its right to request a delay at EPA's discretion.

F. If EPA and Respondent cannot agree that any delay in compliance with the requirements of this Consent Order has been or will be caused by the circumstances beyond the control of Respondent, its contractors, and agents, or on the duration of any delay necessitated by a force majeure event, the dispute shall be resolved according to the dispute resolution provisions in Section XI. Respondent shall have the burden of demonstrating that the delay was caused by circumstances beyond the control of Respondent, its contractors, and agents; that reasonable measures were taken to avoid or minimize delay; and the necessity of the duration of the delay.

XIV. RESERVATION OF RIGHTS

A. Notwithstanding compliance with the terms of this Consent Order, including the completion of an EPA approved Remedial Investigation and Feasibility Study, Respondent is not released from liability, if any, for any actions beyond the terms

of this Consent Order taken by EPA respecting the Site. Except as expressly provided herein, each party reserves all rights and defenses it may have. EPA reserves the right to take any enforcement action pursuant to CERCLA and/or any other legal authority, including the right to seek injunctive relief, stipulated penalties, statutory penalties, and punitive damages for any violation of law or this Consent Order. Respondent reserves all rights it may have to oppose and defend against such claims and penalties and to assert any claims it may have against EPA and/or any person or government agency.

B. EPA expressly reserves all rights and defenses that it may have, including EPA's right both to disapprove of work performed by Respondent and to request that Respondent perform tasks in addition to those detailed in the RI/FS SOW, as provided in this Consent order. EPA reserves the right to undertake removal actions and/or remedial actions at any time. EPA reserves the right to seek reimbursement from Respondent for such costs incurred by the United States. Respondent reserves all rights it may have to oppose and defend against such claims and penalties and to assert any claims it may have against EPA and/or any person or government agency.

XV. <u>REIMBURSEMENT OF RESPONSE AND OVERSIGHT COSTS</u>

A. Respondent will submit to EPA payment of $296,879.61 (TWO HUNDRED NINETY-SIX THOUSAND EIGHT HUNDRED SEVENTY-NINE DOLLARS AND 61/100 CENTS) in full settlement for all response and oversight costs, including indirect costs, incurred by EPA associated with this site prior to the effective date of the

Consent Order. Respondent shall submit payment of this amount as specified below within 30 (thirty) days of effective date of this Consent Order. In addition, no more often than annually, EPA shall submit to Respondent documentation for all response and oversight costs incurred by the U.S. Government with respect to this Consent Order. EPA's Agency Integrated Financial Management System summary data (SCORES Reports) shall serve as the initial documentation for payment demands. Upon Respondent's request, EPA shall provide additional information supporting and describing the response and oversite costs incurred consistent with the information provided with EPA's past cost claim. Respondent shall, within 30 calendar days of receipt of each accounting, remit a check for the amount of those costs made payable to the Hazardous Substance Response Trust Fund. Checks should specifically reference the identity of the site and be addressed to:

U.S. Environmental Protection Agency
Region 9, Attn: Superfund Accounting
P.O. Box 360863M
Pittsburgh, PA 15251

B. A copy of the transmittal letter shall be sent simultaneously to the EPA Project Coordinator. EPA reserves the right to bring an action against Respondent pursuant to Section 107 of CERCLA, 42 U.S.C. § 9607, for recovery of all response and oversight costs incurred by the United States related to this Consent Order and not reimbursed by Respondent as well as any other unreimbursed past and future costs incurred by the United States in connection with response activities conducted pursuant to CERCLA at this site.

XVI. OTHER CLAIMS

A. This Consent Order does not release Respondent from any claim, cause of action or demand in law or equity except as set forth in Section XXIV (Covenant Not to Sue).

B. In entering into this Consent Order, Respondent waives any right to seek reimbursement or present any claim under Sections 106, 111, or 112 of CERCLA, 42 U.S.C. §§ 9606, 9611, or 9612, for any work performed pursuant to this Consent Order and any modifications thereto.

C. Respondent shall bear its own attorneys fees and costs with respect to all matters associated with this Consent Order.

XVII. OTHER APPLICABLE LAWS

A. Respondent shall undertake all actions required by this Consent Order in accordance with the requirements of all applicable local, state, and federal laws and regulations unless an exemption from such requirements is specifically provided in this Consent Order.

XVIII. INDEMNIFICATION OF THE UNITED STATES GOVERNMENT

A. Respondent agrees to indemnify and hold the United States Government, its agencies, departments, agents, contractors, and employees, harmless from any and all claims or causes of action arising from or on account of acts or omissions of Respondent, its officers, employees, receivers, trustees, agents, or assigns, in carrying out the activities pursuant to this Consent Order. EPA is not a party in any contract involving the Respondent at the Site.

XIX. COMMUNITY RELATIONS/PUBLIC COMMENT

A. EPA will implement a Community Relations Program in accordance with Agency policies, guidance documents, and public comment policy. Respondent shall participate in the community relations activities when deemed appropriate by EPA.

XX. EFFECTIVE DATE AND SUBSEQUENT MODIFICATION

A. This Order is effective on the date signed by EPA.

B. This Consent Order may be amended by the mutual agreement of EPA and Respondent. Amendments shall be in writing and shall be effective when signed by EPA. EPA project coordinators do not have the authority to sign amendments to the Consent Order.

B. No informal advice, guidance, suggestions, or comments by EPA regarding reports, plans, specification, schedules, and any other writing submitted by Respondent will be construed as relieving Respondent of its obligation to obtain such formal approval as may be required by this Consent Order.

C. Any deliverables, plans, technical memoranda, reports (other than progress reports), specifications, schedules and attachments required by this Consent Order are, upon approval by EPA, incorporated into this Consent Order. Any non-compliance with such EPA approved reports, plans, specifications, schedules, and attachments shall be considered a failure to achieve the requirements of this Consent Order and may subject the Respondent to the penalties set forth in Section XII.

XXI. DISCLAIMER

A. By signing this Consent Order and taking actions under this Order, Respondent does not admit any of EPA's Findings of Fact and Conclusions of Law. Furthermore, the participation of Respondent in this Consent Order shall not be considered an admission of liability and is not admissible in evidence against Respondent in any judicial or administrative proceeding other than a proceeding by the United States, including EPA, to enforce this Consent Order or a judgment relating to it. Respondent retains its rights to assert claims against other potentially responsible parties at the Site. However, Respondent agrees not to contest the validity of the terms of this Consent Order, or the procedures underlying or relating to it in any action brought by the United States, including EPA to enforce its terms.

XXII. PARTIES BOUND

A. This Consent Order shall apply to and be binding upon Respondent and EPA, their agents, successors, and assignees. No change in ownership or corporate or partnership status will alter Respondent's obligations under this Consent Order. The signatories to this Consent Order certify that they are authorized to execute and legally bind the parties they represent to this Consent Order. No change in the ownership or corporate status of the Respondent or of the facility or site shall alter Respondents' responsibilities under this Consent Order.

B. Respondent shall provide a copy of this Consent Order to all contractors, sub-contractors, laboratories, and consultants retained to conduct any portion of the work performed

pursuant to this Consent Order within 14 calendar days of the effective date of this Consent Order or date of such retention. Respondent shall condition any such contracts upon satisfactory compliance with this Consent Order.

C. Notwithstanding the terms of any contract, Respondent is responsible for compliance with this Consent Order and for ensuring that its subsidiaries, employees, contractors, consultants, subcontractors, agents and attorneys comply with this Consent Order. Respondent shall provide a copy of this Consent Order to any subsequent owner(s) or successor(s) before ownership rights are transferred.

XXIII. NOTICE TO THE STATE

A. By providing a copy of this Consent Order to the State of California, EPA is notifying the State that this Order is being issued and that EPA is the lead agency for coordinating, overseeing, and enforcing the response action required by the Consent Order.

XXIV. TERMINATION AND SATISFACTION

A. The provisions of the Consent Order shall be deemed satisfied upon Respondent's receipt of written notice from EPA that Respondent has demonstrated, to the satisfaction of EPA, that all of the terms of this Consent Order, including any additional tasks which EPA has determined to be necessary, have been completed.

XXV. COVENANT NOT TO SUE

A. Upon termination of this Consent Order, pursuant to Section XXV (Termination and Satisfaction) hereof, EPA covenants not to sue, issue any order against, or assert any claim against Respondent for the work performed by Respondent in Compliance with this Consent Order, for EPA's response and oversight costs reimbursed by Respondent pursuant to Section XV (Reimbursement of Response and Oversight Costs).

IT IS SO AGREED:

UNION PACIFIC RAILROAD COMPANY

By: James V. Dolan Date: 3/8/94

James V. Dolan
Vice President-Law

The above being agreed and consented to, IT IS SO ORDERED.

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY

By: Date: 3/15/94

Jeffrey Zelikson, Director,
Hazardous Waste Management Division
Region 9

STATEMENT OF WORK

REMEDIAL INVESTIGATION/FEASIBILITY STUDY

WESTERN PACIFIC RAILROAD SUPERFUND SITE
OROVILLE, CALIFORNIA

March 1994

Statement of Work

I. PURPOSE

The purpose of this statement of work (SOW) is to outline the procedures for Union Pacific Railroad ("UPRR" or "Respondent") to 1) complete the remedial investigation/feasibility study (RI/FS) at the Western Pacific Railroad Superfund site ("the Site"); 2) perform a baseline risk assessment; and 3) develop and evaluate remedial alternatives in accordance with the EPA Superfund Accelerated Cleanup Model (SACM).

UPRR has conducted considerable field investigation pursuant to a 1989 Regional Water Quality Control Board order. This prior work will be used as much as possible for site characterization and as the basis for planning and conducting the RI/FS activities included in this SOW. Background information and supporting data from previous investigations will be summarized in an existing data report.

The deliverables will be reviewed by EPA as they are submitted and revised by Respondent as directed by the EPA Project Coordinator. When conducting the RI/FS and related activities, the contractor is responsible for identification of and compliance with all current applicable EPA guidance, including , but not limited to, the most recent SACM guidance methodologies.

II. BACKGROUND

Site Description

The Western Pacific Railroad Superfund Site is located in south Oroville in Butte County, California. The Site is approximately 90 acres and consists of two distinct operating areas separated by the main railroad tracks. The western portion of the rail yard, known as the "Pond Area," includes a former surface impoundment, and the eastern portion, known as the "Fueling Area," includes the former fueling, servicing and maintenance areas.

The Site is located in a mixed-use area, with a residential area located directly across Baggett Marysville Road to the east and industrial areas to the north, west and south. The Louisiana-Pacific Corporation Superfund site is located approximately one mile west-southwest of the Western Pacific Superfund Site. The Koppers Company, Inc., Superfund site is located one mile southwest of the Western Pacific Superfund Site.

On the Site just west of the Fueling Area is a public drinking water supply well. Union Pacific Railroad leases this well to California Water Service (CWS) which currently uses it to supply drinking water to the Oroville area.

Site History and Operations

Western Pacific Railroad ("WPRR") first developed the Site in the early 1900s to repair, service and clean railcars. Specific activities included welding, machining, fabricating and fueling of locomotives. Over the century various structures were built, including a roundhouse and turntable, concrete inspection pits, a fueling area, storage tanks and an oil-water separator.

In 1970, Solano Railcar Company leased the roundhouse area from WPRR. Solano's primary activities included sandblasting, painting, welding and machining rail cars. The roundhouse reportedly burned to the ground in 1976.

In 1982, Union Pacific Railroad ("UPRR") acquired Western Pacific Railroad and continued to lease to Solano. Solano continued to operate an independent rail car repair and maintenance facility at the Site until 1990, when it filed for bankruptcy.

A former surface impoundment west of the railroad tracks in the Pond Area received wastewater, grease and oil and may have received overflow from the fueling area operations. The discharge of wastewater into the surface impoundment, an unlined pond, took place from the 1950's until 1987.

An underground storage tank in the southeast section of the Fueling Area held waste oil and solvents. This tank was removed in 1989 by UPRR.

In 1989, UPRR conducted a preliminary investigation of the Fueling Area. A subsequent investigation was conducted in 1991. These investigations included the analyses of soil and groundwater samples collected from 8 exploratory test pits, 17 soil borings and 9 monitoring wells. During these activities, UPRR also performed several interim remedial measures including abandonment of 2 former on-site water wells, removal of an UST and back-filling of an oil/water separator, the turntable area and the inspection bays.

The results of these investigations revealed that on-site soils are affected by hydrocarbons, primarily diesel, and groundwater is affected by Volatile Organic Compounds, primarily 1,1-dichloroethene (1,1-DCE). The known soil hydrocarbon impacts are associated with three former operations source areas: (1) the fueling drip pan area; (2) an above ground fuel tank; and (3) an oil/water separator. These areas are all in the central portion of the site. In each, the extent of hydrocarbon contamination

both horizontally and vertically have been characterized. The estimated volume of contaminated soil is 70,000 cubic yards.

Known affected groundwater is associated with the former UST and appears limited to the area within the vicinity of the former tank. The extent of groundwater impacts was evaluated during a quarterly groundwater monitoring program voluntarily initiated by UPRR in 1991. Subsequent groundwater sampling was performed in 1993. The results of the groundwater monitoring programs suggest that groundwater contamination is primarily 1,1-DCE in the area of the former UST.

Enforcement History

In 1986 the California Regional Water Quality Control Board, Central Valley Region ("RWQCB") listed the surface impoundment as a toxic pit under the Toxic Pits Cleanup Act. UPRR complied with the RWQCB request to stop discharging to the pond. Four monitoring wells were installed in the pond area by UPRR.

In 1989 the RWQCB issued an order to UPRR and Solano Railcar Company to close the waste pond, remove all of the residue in it and clean up all contaminated soil around the fueling area. The waste classification study revealed that the pond residue contained arsenic, barium, copper, nickel and chromium; total petroleum hydrocarbons (TPH) up to 13,000 mg/kg; and benzene, toluene, phenanthrene, acetone, methylene chloride and chlorobenzene. In late 1989, UPRR excavated the residues and some surrounding soil from the pond and backfilled the pond with soil from off-site.

In August 1993, UPRR entered into an agreement with EPA to install a system to pump and treat a small groundwater plume of VOCs southeast of the former roundhouse area.

The Western Pacific Railroad Site was placed on the EPA National Priorities List in August 1990.

Nature and Extent of Contamination

Groundwater

The aquifer of concern varies in thickness on-site but is continuous across the fueling/roundhouse area. The top of the aquifer varies across the site from about 35 feet bgs to approximately 60 feet bgs and extends down to 120 feet bgs. Groundwater flow at the water table is primarily southwest. The public drinking water well leased to CWS is assumed to draw from this aquifer.

In the summer of 1993 UPRR conducted groundwater monitoring in

the fueling area. 1,1-DCE, 1,1-DCA, 1,1,1-TCA and TCE were detected at the water table. Low levels of benzene, ethyl benzene, toluene and xylene were detected at the base of the aquifer. Low levels of barium, chromium and lead were detected in filtered samples. Diesel petroleum hydrocarbon (TPHd) was detected at 250 $\mu g/l$ in one well. Past groundwater monitoring has detected varying amounts of TPHd in various wells, with some inconsistencies from one sampling to another.

Samples from one monitoring well have consistently had high levels of chlorinated solvents, with up to 350 ppb 1,1-DCE. This well is adjacent to an underground storage tank that was removed in 1989. UPRR has agreed to contain and clean up this small plume (see Enforcement History section).

Soil

UPRR has conducted soil sampling in the fueling/roundhouse area east of the main rail line. The primary contaminant in soils on site is diesel range petroleum hydrocarbons, the maximum concentration detected being 24,000 ppm. Most of the petroleum hydrocarbon is in the upper 15 feet of the soil except in the areas immediately surrounding the old oil/water separator, the above ground tank and the fueling area, where TPHd was detected to a depth of 28 feet.

Low levels of toluene, 1,1-DCA, 2-methylnapthalene and phenanthrene were also detected

III. SCOPE

The RI/FS activities are divided into eight separate tasks:

- Task 1: Existing Data Report
- Task 2: Project Planning
- Task 3: Baseline Risk Assessment
- Task 4: ARARs Identification
- Task 5: Meetings, Teleconferences and Reporting
- Task 6: Field Investigations
- Task 7: Remedial Investigation Evaluation
- Task 8: Feasibility Study

Each task is described below, with deliverables specified.

TASK 1: EXISTING DATA REPORT

An existing data report will be prepared. This report will provide a basis from which to conduct the baseline risk assessment. The existing data report will include a site historical data search, a list of existing site soils data, a preliminary site conceptual model, a list of preliminary Data Quality Objectives (DQOs), and a list of identified data gaps.

UPRR will consult with EPA when identifying preliminary DQOs. A draft report will be submitted to EPA for comments and finalized after resolution of EPA comments. This report will be incorporated in the risk assessment and be expanded and revised to form the basis of the RI Report as appropriate. The documents and subsequent investigations in the Scope of Work will be scaled as appropriate in accordance with the findings of the existing data report.

TASK 2: PROJECT PLANNING

UPRR shall prepare a sampling and analysis plan (SAP), quality assurance project plan (QAPP), health and safety plan (HASP) and RI/FS work plan. These documents and subsequent investigations in this SOW will be scaled in accordance with the findings of the existing data report.

The SAP shall describe all sampling and analysis to be performed pursuant to this SOW. UPRR shall use the following guidance: "Preparation of a US EPA Region 9 Field Sampling Plan for Private and State-Lead Superfund Projects," August 1993. The work performed under Task 1 shall be presented and discussed. The findings shall be used to develop the SAP.

The QAPP shall describe the project objectives and quality assurance and quality control protocols that will be used to achieve the desired data quality objectives (DQOs). It will include sample custody procedures and data documentation and tracking procedures. UPRR shall use the following guidance: "US EPA Region 9 Guidance for Preparing Quality Assurance Project Plans for Superfund Remedial Projects," September 1989. Upon request by EPA, UPRR shall allow EPA or its authorized representatives to take split and/or duplicate samples of any samples collected by UPRR while performing work pursuant to this SOW.

Pursuant to SARA Title 1 Section 126A, the HASP shall ensure the protection of the surrounding community and personnel involved in site activities during performance of on-site work under this SOW. The HASP prepared pursuant to the August 27, 1993 Administrative Order on Consent for Removal Action can be amended as necessary and submitted for this deliverable.

The RI/FS work plan shall include the following elements:

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

- Site Background and Physical Setting - A brief description of the current understanding of the physical setting of the site, the history of operations at the site, and the existing information on the site.

- Work Plan Rationale - Documentation of data requirements and presentation of the work plan approach to illustrate how the activities will meet data needs.

- RI/FS tasks - Description of the performance of SOW Tasks 1 through 8. The level of detail used to describe the tasks is dependent on the amount and quality of existing data. Where additional data is needed to adequately scope the development and evaluation of tasks, the level of detail to describe these tasks will be limited, noting that the scope of these activities will be refined later in the process. As the RI/FS progresses and a better understanding of the site is achieved, these task descriptions can be refined.

- Project schedule and deliverable due dates

TASK 3: BASELINE RISK ASSESSMENT

A baseline risk assessment will be prepared in accordance with the Risk Assessment Guidance for Superfund (EPA, 1989a; 1989b; 1991). Risk assessment guidance specific to EPA Region IX will be used in conjunction with the general guidance listed. Specifically, the risk assessment will include an Average Case Exposure scenario and a Reasonable Maximum Exposure scenario as recommended by Region IX (EPA Region IX, 1989c). This will provide a range of risks which will be useful for risk management decisions at the site. All complete pathways of exposure will be evaluated and site-specific exposure parameters will be used where adequate data is available. The baseline risk assessment will include a section evaluating the potential risks posed by the chemicals of concern identified at the site to non-human species. The level of effort required to perform the environmental risk assessment will be evaluated following a review of the site data and a visit to the site.

Data used in the risk assessment will be of sufficient quality to meet the requirements set forth in the Guidance on Data Useability in Risk Assessments (EPA, 1992).

If the baseline risk assessment establishes that the no action alternative results in risks greater than those accepted by the EPA, risk based Remedial Action Objectives (RAOs) will be calculated in accordance with guidance (EPA, 1991) and a feasibility study conducted as outlined in Task 8.

TASK 4: ARARs IDENTIFICATION

UPRR will identify applicable or relevant and appropriate requirements (ARARs), compare those ARARs to human health based RAOs and develop RAOs for the CERCLA constituents. In doing this, UPRR will develop a list of potential chemical-specific, action-specific and location specific ARARs for the site. This initial identification of ARARs will be refined as a better understanding of site conditions and remedial action alternatives is gained.

UPRR will develop remedial action objectives for soil and groundwater. Remedial action objectives are medium- or operable-unit specific goals that are protective of human health and the environment.

TASK 5: MEETINGS AND REPORTING

Task 5.1 Scoping Meeting

UPRR and EPA shall have a scoping meeting after UPRR submits the RI/FS Work Plan. The purpose of this meeting is to answer questions and provide clarification regarding the Work Plan.

Task 5.2 Monthly Teleconference Status Reports

Monthly teleconference status reports will be conducted to describe the technical progress at the site. During each teleconference the following items may be discussed:

- a description of the progress made during the reporting period
- difficulties encountered and recommended solutions
- activities planned for the next reporting period
- a description of anticipated problems and recommended solutions

The above items will be provided in writing upon request by EPA.

TASK 6: FIELD INVESTIGATIONS

Field investigations will proceed only after EPA approval of the Task 2 deliverables. Upon EPA approval of the deliverables, UPRR will conduct those investigations necessary to supplement data collected in previous site investigations in order to characterize the site and enable UPRR to conduct a baseline risk assessment to evaluate the actual or potential risk to human health and the environment that the site may pose. The UPRR Risk Assessment Team in conjunction with EPA staff will determine the level of analytical data that is required for the risk assessment.

The investigation activities will produce data of adequate technical content to evaluate potential risks and to support development and evaluation of remedial alternatives during the FS in accordance with the intent of the EPA SACM program. The sampling plan will include collection of data needed for potential pilot studies and/or treatability testing as early as practical in the RI/FS.

UPRR shall follow EPA guidance specified by the Project Coordinator to develop sampling protocol. UPRR will develop a data management system following the QAPP. This system will include field logs, sample management and tracking procedures, and document control and inventory procedures for both laboratory data and field measurements so that the data collected during the investigation are of adequate quality and quantity to support the risk assessment and the FS. All records should be maintained throughout the RI/FS so that only final and approved analytical data are used in the site analyses.

Based on the remedial action objectives, and an assessment of existing data, UPRR will identify data needs and sampling strategies for remedial investigation activities. Sufficient data must be obtained to supplement the existing data in order to define:

- physical characteristics of the site
- physical and chemical characteristics of contaminant sources
- volume of contamination and extent of migration
- potential receptors and associated exposure pathways

The information will be used by UPRR to:

- determine contaminant fate and transport mechanisms
- assess the risk posed by the site
- refine ARARs
- develop proposed cleanup levels
- identify the need for treatability studies
- develop and evaluate remedial alternatives

UPRR shall submit 10% of the data packages generated from the field investigations along with maps and drawings indicating sample locations.

<u>DELIVERABLE</u>

- 10% of data packages (EPA Project Coordinator will specify where these packages should be sent)

TASK 7: REMEDIAL INVESTIGATION DATA EVALUATION

TASK 7.1 Data Summary Technical Memorandum

UPRR shall prepare a technical memorandum (TM) that evaluates both existing data and data collected during Task 6 and assesses the need for additional site characterization to complete the FS.

TASK 7.2 RI Report

UPRR shall prepare an RI Report that discuses the activities conducted and the conclusions drawn during the remedial investigation. UPRR will submit a draft RI report to EPA for review. Once comments on the draft RI report are received, the contractor will prepare a final RI report addressing these comments. The RI Report should include the following:

- Introduction
- Physical Characteristics of the Site
- Nature and Extent of Contamination
- Contaminant Fate and Transport
- Summary and Conclusions

TASK 7 DELIVERABLES

- Data Summary TM
- Draft RI Report
- Final RI Report

TASK 8: FEASIBILITY STUDY

UPRR shall conduct an FS to identify remedial alternatives following the intent of the EPA SACM program for the site. The FS shall be accomplished through the following tasks:

TASK 8.1 Remedial Alternatives Identification and Screening

UPRR will identify remedial alternatives that are applicable to contaminated media at the site in order to provide adequate protection of human health and the environment. The remedial alternatives selected shall be those that have demonstrated ability to reduce the toxicity, mobility or volume of wastes. The following alternatives will be identified in the selection of the remedial alternatives:

- one(s) that involve containment with little or no treatment
- a no-action alternative
- "limited action" alternative(s), i.e., site fencing and deed restrictions

The following steps will be conducted in the process of selecting remedial alternatives for this site:

- establish Remedial Action Objectives and General Response Actions
- identify and screen remedial alternatives
- select 2 to 4 remedial alternatives depending on the type(s) of CERCLA contamination

TASK 8.2: Pilot Studies and/or Treatability Studies

Pilot and/or treatability study(ies) may be needed to assess the suitability of selected remedial alternatives to site conditions and problems. Remedial alternatives that may be suitable to the site should be identified as early as possible to determine the advisability of conducting pilot and/or treatability studies to better estimate costs and performance capabilities. Should be determined to be necessary, a testing plan identifying the types and goals of the studies and a schedule for completion should be submitted to EPA for review and approval.

Upon completion of the studies, UPRR will evaluate the results to assess the technologies with respect to the goal identified in the test plan. The results will be reported to EPA in a letter report and will be included in the detailed analysis of selected alternatives technical memorandum of the FS.

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- Treatability Report

TASK 8.3 Detailed Analysis of Alternatives

Following completion of pilot and/or treatability studies, UPRR will conduct a detailed analysis of the selected alternatives which will consist of an individual analysis of each alternative against a set of evaluation criteria and a comparative analysis of all options against the evaluation criteria with respect to one another. The nine evaluation criteria are as follows:

- *Overall Protection of Human Health and the Environment* addresses whether or not a remedy provides adequate protection and describes how risks posed through each pathway are eliminated, reduced, or controlled through treatment, engineering controls, or institutional controls.

- *Compliance with ARARs* addresses whether or not a remedy will meet all of the applicable or relevant and appropriate requirements of other Federal and State environmental statutes and/or provide grounds for invoking a waiver.

- *Long-Term Effectiveness and Permanence* refers to the ability of a remedy to maintain reliable protection of human health and the environment over time once cleanup goals are met.

- *Reduction of Toxicity, Mobility, or Volume Through Treatment* is the anticipated performance of the treatment technologies a remedy may employ.

- *Short-Term Effectiveness* addresses the period of time needed to achieve protection and any adverse impacts on human health and the environment that may be posed during the construction and implementation period until cleanup goals are achieved.

- *Implementability* is the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement a particular option.

- *Cost* includes estimated capital and operations and maintenance costs, and net present worth costs.

- *State Acceptance* addresses the technical or administrative issues and concerns the support agency may have regarding each alternative.

- *Community Acceptance* addresses the issues and concerns the public may have to each of the alternatives.

The individual analysis should include:(1) a technical description of each alternative that outlines the waste management strategy involved and identifies the key ARARs associated with each alternative and (2) a discussion that profiles the performance of the selected remedial alternative with respect to each of the evaluation criteria. Results of any pilot and/or treatability studies should also be included.

TASK 8.4 FS Report

UPRR will present the results of Tasks 8.2 and 8.3 in an FS report. Support data, information and calculations will be included in appendices to the report. UPRR will prepare and submit a draft FS report to EPA for review. Once comments on the draft FS have been received, UPRR will prepare a final FS report addressing the comments. Copies of the final report will be made and distributed to those individuals identified by EPA.

TASK 8 DELIVERABLES:

- Remedial Alternatives Identification and Screening Letter Report
- Pilot and Treatability Test Plans, if applicable
- Pilot and/or treatability study letter reports, if applicable
- Draft FS Report
- Final FS Report

ATTACHMENT A
SCHEDULE OF DELIVERABLES (PROPOSED)
REMEDIAL INVESTIGATION/FEASIBILITY STUDY (RI/FS)
ADMINISTRATIVE ORDER ON CONSENT
WESTERN PACIFIC RAILROAD SITE
OROVILLE, CALIFORNIA

Task No.	Deliverable	Stipulated Penalty Class	Due Date
1	Draft Existing Data Report (EDR)	II	60 days after effective date of RI/FS order.
	Final EDR	III	30 days after receipt of the EPA's written comments to the Draft EDR.
2	Sampling and Analysis Plan (SAP)	I	60 days after receipt of the EPA's written approval of the Final EDR.
	Quality Assurance Project Plan	I	60 days after receipt of the EPA's written approval of the Final EDR.
	Health and Safety Plan	I	60 days after receipt of the EPA's written approval of the Final EDR.
	Draft RI/FS Work Plan	II	90 days after receipt of the EPA's written approval of the Final EDR.
	Final RI/FS Work Plan	III	45 days after receipt of the EPA's written comments to the Draft RI/FS Work Plan.
3	Baseline Risk Assessment Report	III	120 days after receipt of all validated RI analytical data (Task 6).
4	ARARs Identification Letter Report	II	60 days after receipt of the EPA's written approval of the Baseline Risk Assessment Report.
5	Scoping Meeting	N/A	2 weeks after submittal of the Draft RI/FS Work Plan.
	Monthly Telephone/Status Reports	N/A	At the end of each calendar month following receipt of the EPA's written approval of the RI/FS Work Plan.

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ATTACHMENT A
SCHEDULE OF DELIVERABLES (PROPOSED)
REMEDIAL INVESTIGATION/FEASIBILITY STUDY (RI/FS)
ADMINISTRATIVE ORDER ON CONSENT
WESTERN PACIFIC RAILROAD SITE
OROVILLE, CALIFORNIA
(Continued)

Task No.	Deliverable	Stipulated Penalty Class	Due Date
7	Data Summary Technical Memorandum (TM)	I	30 days after receipt of all validated RI analytical data.
	Draft Remedial Investigation (RI) Report	II	90 days after receipt of all validated RI analytical data.
	Final RI Report	III	45 days after receipt of the EPA's written comments to the Draft RI Report.
8	Remedial Alternative Identification and Screening Letter Report	I	45 days after receipt of all validated RI data
	Pilot and/or Treatability Study Test Plans	I	30 days after deemed appropriate by UPRR and the EPA (follows screening report).
	Pilot and/or Treatability Study Letter Reports	I	60 days after completion of the study
	Draft Feasibility Study (FS) Report	II	60 days after receipt of the EPA's written approval of the Remedial Alternative Identification and Screening Letter Report.
	Final FS Report	III	45 days after receipt of the EPA's written comments to the Draft FS Report.

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