

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 9

In The Matter Of:)
)
Aerojet Superfund Site, Operable Unit 3)
)
Aerojet-General Corporation)
and)
Cordova Chemical Company,)
RESPONDENTS)
)
)U.S. EPA
)Docket No.2002-13
)
Proceeding Under Section 106(a) of the)
Comprehensive Environmental Response,)
Compensation, and Liability Act of 1980,)
as amended (42 U.S.C. § 9606(a)))
and Section 7003(a) of the Resource)
Conservation and Recovery Act (42 U.S.C.)
§ 6973(a)), as amended by the Hazardous and)
Solid Waste Amendments of 1984)

ADMINISTRATIVE ORDER
FOR REMEDIAL DESIGN AND REMEDIAL ACTION

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ATTACHMENTS

- Attachment 1 Western Groundwater Operable Unit Record of Decision
- Attachment 2 Statement of Work

INTRODUCTION AND JURISDICTION

1. This Order directs Aerojet-General Corporation (Aerojet) and Cordova Chemical Company ("Cordova") (collectively Respondents) to perform a remedial design for the remedy described in the Record of Decision dated July 20, 2001, for the Western Groundwater Operable Unit (also referred to as Operable Unit 3), at the Aerojet Superfund Site, in Sacramento, California, and to implement the design by performing a remedial action. This Order is issued to Respondents by the United States Environmental Protection Agency (EPA) under 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 (CERCLA), 42 U.S.C. § 9606(a). This authority was delegated to the Administrator of EPA on January 23, 1987, by Executive Order 12580 (52 Fed. Reg. 2926, January 29, 1987), and was further delegated to EPA Regional Administrators on September 13, 1987, by EPA Delegation No. 14-14-B. This authority was further delegated to the Director of the Superfund Division, EPA Region 9, by an Order dated September 29, 1997.

2. This Order is also issued under the authority vested in the Administrator of EPA by Section 7003 of the Solid Waste Disposal Act, commonly referred to as the Resource Conservation and Recovery Act of 1976 (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984, 42. U.S. C. § 6901 et. seq. (the Act), which authority has been duly delegated to the Regional Administrator of EPA Region 9, and further delegated to the Director of the Superfund Division.

II. FINDINGS OF FACT

3. The Aerojet facility is a 8,500 acre former rocket

manufacturing operation located outside of Sacramento in Rancho Cordova, California. Aerojet has operated the facility since 1953. Aerojet operations on the facility have included manufacturing liquid and solid propellants for rocket engines for military and commercial applications and formulating a number of chemicals, including rocket propellant agents, agricultural pesticides, pharmaceuticals, and other industrial chemicals.

4. Cordova, a subsidiary of Aerojet, operated chemical manufacturing facilities on the Aerojet facility from 1974 to 1979.

5. Chemicals used by Respondents in the manufacturing and testing areas on the Aerojet facility have included chlorinated solvents, propellants, metals, oxidizers, and a variety of chemicals produced in the chemical operations areas. Historical operations and waste practices by Respondents on the Aerojet facility, e.g., surface impoundments, landfills, deep injection wells, leachate fields, open burn areas, have resulted in the discharge of these chemicals to the vadose zone and the underlying groundwater. Although numerous types of chemicals have been used historically by Respondents, trichloroethylene (TCE), perchlorate and N-Nitrosodimethylamine (NDMA) comprise the primary chemicals of concern. TCE was utilized for cleaning and degreasing purposes. Perchlorate was combined with a cation, generally ammonium or potassium, and utilized as an oxidizer in solid rocket propellants. NDMA is a semi-volatile organic compound (SVOC) that was either an impurity in hydrazine-based liquid rocket fuels or was formed as a combustion product of these fuels. Other chemicals of concern include breakdown products and contaminants of TCE and other solvents like carbon tetrachloride, tetrachloroethene (PCE), 1,1-dichloroethene (1,1-DCE), 1,2-dichloroethene (1,2-DCE), vinyl chloride, 1,1,2-trichloroethane (1,1,2-TCA), 1,2-dichloroethane (1,2-DCA) and 1,1-dichloroethane (1,1-DCA). Freon, chloroform, nitrate and

nitrite are also chemicals of concern.

6. The aquifer beneath the Aerojet facility and the Rancho Cordova area is part of the San Joaquin groundwater basin. The San Joaquin groundwater basin provides drinking water to over a million residents in Sacramento County and nearby areas. Given the absence of dependable alternative to the aquifer as the region's primary water supply, the groundwater is expected to remain as the residents' primary source of drinking water indefinitely. Numerous water supply wells draw water directly from the aquifer, including the portion of the aquifer that has been contaminated above drinking water standards by Respondents.

7. The Aerojet facility was placed on the National Priorities List on August 8, 1983.

8. Between 1983 and 1987, Aerojet installed five groundwater extraction and treatment (GET) systems, primarily to prevent further migration of the groundwater plume off the Aerojet facility.

9. Sometime in 1988, the United States of America, on behalf of the Administrator of EPA, filed a complaint against Respondents pursuant to Sections 106 and 107 of CERCLA, 42 U.S.C. 9606, 9607, seeking, inter alia: (1) reimbursement of costs, together with interest, incurred by EPA and the United States Department of Justice for response actions at the Aerojet Superfund Site; and (2) an injunction requiring Respondents to abate and remedy the imminent and substantial endangerment to public health or welfare or the environment presented by the Aerojet Superfund Site and the effects of actual or threatened releases of hazardous substances, solid and hazardous wastes, contaminants and pollutants from the Aerojet Superfund Site.

10. The State of California ("State") also filed a complaint against Respondents in federal court under Section 107 of CERCLA, 42 U.S.C. 9607, as well as an action in the Superior Court of California, County of Sacramento, seeking injunctive relief,

abatement and other equitable relief.

11. On June 23, 1989, the United States, the State, and Respondents entered into a partial settlement (hereinafter "Partial Consent Decree") to settle some of the claims relating to payment of certain costs and implementation of a Remedial Investigation/Feasibility Study ("RI/FS") for the Aerojet Superfund Site.

12. The Partial Consent Decree obligates Aerojet to perform a site-wide RI/FS at the Aerojet Superfund Site and to take interim measures for protection of water supply wells. The operation, maintenance and effectiveness evaluation of the GET systems were also incorporated in the Partial Consent Decree.

13. RI/FS work for the Aerojet Superfund Site has proceeded at a very slow pace. EPA estimates that the site-wide RI/FS, which began in 1989, will not be completed until 2008. The GET systems have also not been fully effective in containing the groundwater contamination and the groundwater plume has continued to migrate off the Aerojet facility. The interim measures taken by Aerojet pursuant to the Partial Consent Decree have been limited, consisting primarily of sampling of water supply wells and the preparation of an Alternative Water Supply Contingency Plan. Aerojet is not required to implement the recommendations of the Alternative Water Supply Contingency Plan. To date, more than 10 years after the Partial Consent Decree was entered, no remedial action has been undertaken pursuant to CERCLA at the Aerojet Superfund Site. This is because the Partial Consent Decree envisions completion of a single site-wide RI/FS before remediation can be initiated.

14. In 1997, using an improved detection method, perchlorate was detected in monitoring wells and in nine water supply wells off the Aerojet facility. Perchlorate is a hazardous substance that can cause a number of adverse effects on animals and humans, including neurological effects on a

developing human embryo. NDMA, a potential animal and human carcinogen, was also discovered in some of the water supply wells.

15. To address the extensive groundwater contamination on and off the Aerojet facility, the State has issued several cleanup and abatement orders to Aerojet pursuant to its authority. In 1995, the California Department of Toxic Substances and Control (DTSC) issued an order to Aerojet, requiring soil and groundwater cleanup at the Inactive Rancho Cordova Test Site (IRCTS), a part of the Aerojet Superfund Site. To address the contamination on the north side of the Aerojet facility, in 1996, the Central Valley Regional Water Quality Control Board ("Water Board") issued an order to Aerojet, requiring groundwater control and remediation of groundwater contamination not remediated by GET D. In the same year, the Water Board issued an order to Aerojet requiring abatement and remediation of perchlorate that has migrated off the Aerojet facility. From 1997 through 2001, the Water Board issued two more cleanup and abatement orders to Aerojet.

16. On July 29, 1998, the Partial Consent Decree was modified to add perchlorate to the list of contaminants that Aerojet has to monitor pursuant to the interim measures for protection of water supply wells. The modification also lowered the detection level for NDMA.

17. To accelerate RI/FS work and to allow early implementation of response actions pursuant to CERCLA, EPA and the State determined that it was necessary to divide the Aerojet Superfund Site into Operable Units (OUs). Thus, on April 15, 2002, after approximately four (4) years of negotiations with Aerojet, the Partial Consent Decree was modified again, dividing the Aerojet Superfund Site into OUs.

18. The April 2002 modification of the Partial Consent Decree also clarified that surface soils of approximately 2,600

acres of land had never been contaminated and were not part of the Aerojet Superfund Site. The contaminated groundwater underlying these lands, however, remain part of the Aerojet Superfund Site.

19. Due to the impact of contaminated groundwater on public drinking water supplies, EPA and the State have concluded that the best cleanup strategy for the Aerojet Superfund Site is to give priority to containing and remediating the contaminated groundwater which is migrating off the Aerojet facility. The containment and remediation of contaminated groundwater off the Aerojet facility is being divided into two OUs. The first OU, which is the subject of this Order, is Western Groundwater OU (also referred to as OU3). Western Groundwater OU addresses the contamination of drinking water supplies in the most populated areas. The second OU is Perimeter Groundwater OU which will address the remaining contaminated groundwater off the Aerojet facility. Remediation of the soil on the Aerojet facility and the groundwater beneath these soils will be addressed in subsequent OUs. Due to the size of the Aerojet facility, EPA anticipates that there will be at least 7 additional OUs.

20. OU3 is approximately 14 square miles in land area overlying nine square miles of contaminated groundwater, commencing from the western side of the Aerojet facility and extending two miles beyond the Aerojet facility to areas in the community of Rancho Cordova. The depth from the surface soil to shallow groundwater varies from 40 to 50 ft in the east and to 100 ft in the west. The depth from surface soil to groundwater in the deepest layer of the aquifer that may be contaminated (Layer E) varies from 350 to 400 ft.

21. Pursuant to the Partial Consent Decree, from about July 1, 1998, to about October 13, 2000, under EPA's oversight, Respondents undertook an RI/FS for OU3 pursuant to CERCLA and the National Contingency Plan, 40 C.F.R. Part 300.

22. The OU3 RI data revealed that the GET systems installed by Aerojet had not succeeded in containing the groundwater contamination on the Aerojet facility. A network of monitoring wells confirm that a plume of contaminants, primarily TCE, perchlorate and NDMA, has migrated westward from the Aerojet facility. In addition, the contaminants have migrated vertically, contaminating several layers of the aquifer.

23. The sources of these contaminants in the groundwater in OU3 include Chemical Plants 1 and 2, Manufacturing lines 1, 3, 4, and 5 at the Aerojet facility, the former GET F Spray fields, and the Propellant Burn Area on the Inactive Rancho Cordova Test Site, all of which are upgradient of OU3.

24. The groundwater contamination in OU3 has forced the closure of nine wells which previously had the capacity to produce thousands of gallons per minute of potable water. Eight of these wells are owned by Southern California Water Company; one well is owned by Sacramento County Water Agency. One of the wells owned by California-American Water Company, another water purveyor, is in the path of the groundwater plume and is threatened by contamination in the next two years.

25. The primary pathway of exposure to the public is exposure to contaminated water, including direct ingestion, dermal contact while showering or bathing, and inhalation of volatile chemicals during non-ingestion use of groundwater.

26. Pursuant to section 117 of CERCLA, 42 U.S.C. § 9617, EPA published notice of the completion of the FS and of the proposed plan for remedial action for the OU3 Site on November 30, 2000, and provided opportunity for public comment on the proposed remedial action.

27. The decision by EPA on the remedial action to be implemented for OU3 is embodied in a final ROD, executed on July 20, 2001, on which the State has given its concurrence. The ROD is attached to this Order as Attachment 1 and is incorporated by

reference. The ROD is supported by an administrative record that contains the documents and information upon which EPA based the selection of the response action.

28. The remedy will contain the migration of groundwater contamination, both at the Aerojet facility boundary and at the leading edge of the groundwater contaminant plume, which is approximately two miles to the west of the Aerojet facility. In addition, the remedy calls for restoration of groundwater throughout the plume to drinking water standards and health protective levels. The remedy also requires Respondents to have a Groundwater Management Zone Plan to prevent interference with the groundwater remediation which may result from the operation of other water supply wells in the aquifer. Respondents are also required to have short-term and long-term plans for replacing additional water supplies that will be lost due to continued migration of the contaminated groundwater.

29. The remedy will therefore reduce exposure to the contaminated groundwater by limiting the spread of the contamination, by reducing contaminant concentrations in the aquifer, and by providing a supply of potable water to the residents.

III. CONCLUSIONS OF LAW AND DETERMINATIONS

30. OU3 at the Aerojet Superfund Site is a "facility" as defined in section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

31. The substances listed in Paragraphs 6 and 16 above are found at the Site and are "hazardous substances" as defined in section 101(14) of CERCLA, 42 U.S.C. § 9601 (14), and are "solid wastes" as defined in Section 1004(27) of RCRA, 42 U.S.C. § 6903(27).

32. These hazardous substances and solid wastes have been disposed of at the Aerojet Superfund Site, including OU3, and have migrated or threaten to migrate from the Site into the soil and groundwater.

33. Respondents are "persons" as defined in section 101(21) of CERCLA, 42 U.S.C. § 9601(21). Respondents are "persons" as defined in Section 1004(15) of RCRA, 42 U.S.C. § 6903 (15), whose past or present handling, storage, treatment, transportation or disposal of "solid wastes" as defined by Section 1004(27) of RCRA, 42 U.S.C. § 6903(27), may present an imminent and substantial endangerment to health or the environment under Section 7003 of RCRA, 42 U.S.C. § 6973.

34. Respondents are liable parties as owners/operators as defined in section 107(a)(1) of CERCLA, 42 U.S.C. § 9607(a)(1), and are subject to this Order under section 106(a) of CERCLA, 42 U.S.C. § 9606(a). Respondents are liable under Section 7003 of RCRA, 42 U.S.C. § 6973, because they contributed to the handling, storage, treatment, transportation or disposal of solid wastes at the OU3 area.

35. There have been releases of hazardous substances at or from the Site as defined in Section 101(22) of CERCLA, 42 U.S.C. § 9601(22), including, but not limited to, the past disposal of hazardous substances at the Site and migration of hazardous substances from the Site.

36. The potential for future migration of hazardous substances from the Site poses a threat of a "release" as defined in Section 101(22) of CERCLA, 42 U.S.C. 9601(22).

37. The release or threat of release of one or more hazardous substances from a facility may present an imminent and substantial endangerment to the public health or welfare or the environment under Section 106(a) of CERCLA, 42 U.S.C. § 9606(a). The substances listed in Paragraphs 5 and 14 are solid wastes that may present an imminent and substantial endangerment to health or the environment under Section 7003 of RCRA, 42 U.S.C. § 6973.

38. The contamination and endangerment at this Site constitute an indivisible injury. The actions required by this

Order are necessary to protect the public health, welfare and the environment. Respondents are jointly and severally responsible for all of the contamination at the Site.

IV. NOTICE TO THE STATE

39. On August 7, 2002, prior to issuing this Order, EPA notified the State of California that EPA would be issuing this Order.

V. ORDER

40. Based on the foregoing, Respondents are hereby ordered, jointly and severally, to comply with the following provisions, including but not limited to all attachments 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:

VI. DEFINITIONS

41. Unless otherwise expressly provided herein, terms used in this Order which are defined in CERCLA and RCRA or in regulations promulgated under CERCLA and RCRA 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 documents attached to this Order or incorporated by reference into this Order, the following definitions shall apply:

- A. "CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. § 9601 et seq.
2. "RCRA" shall mean the Resource Conservation and Recover Act, as amended by the Hazardous and Solid Waste Amendments of 1984, 42 U.S.C. § 6901 et. seq.
3. "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.

4. "EPA" shall mean the United States Environmental Protection Agency.
5. "State" shall mean the State of California, including the Central Valley Regional Water Quality Control Board and the Department of Toxic Substances and Control.
6. "National Contingency Plan" or "N.C.P." shall mean the National 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.
7. "Operation and Maintenance" or "O&M" shall mean all activities required under the Operation and Maintenance Plan developed by Respondent(s) pursuant to this Order and Section G of the Statement of Work, and approved by EPA.
8. "Paragraph" shall mean a portion of this Order identified by an Arabic numeral.
9. "Performance Standards" shall mean those cleanup standards, standards of control, and other substantive requirements, criteria or limitations, identified in the Record of Decision and Statement of Work, that the Remedial Action and Work required by this Order must attain and maintain.
10. "Record of Decision" or "ROD" shall mean the EPA Record of Decision relating to the Western Groundwater Operable Unit, also referred to as Operable Unit 3, at the Aerojet Superfund Site, signed on July 20, 2001, by the Director, Superfund Division, EPA Region 9, and all attachments thereto.
11. "Remedial Action" or "RA" shall mean those activities, except for Operation and Maintenance, to be undertaken by Respondents to implement the final plans and

specifications submitted by Respondents pursuant to the Remedial Design Work Plan approved by EPA, including any additional activities required under Sections IX, X, XI, XII, XIII, and XIV of this Order.

12. "Remedial Design" or "RD" shall mean those activities to be undertaken by Respondent(s) to develop the final plans and specifications for the Remedial Action pursuant to the Remedial Design Work Plan.
13. "Remedial Design/Remedial Action (RD/RA) Work Plan" shall mean the work plan setting forth the Work to be performed by Respondents under this Order, as more fully described in Section IX of this Order and in the SOW.
14. "Response Costs" shall mean all costs, including direct costs, indirect costs, and accrued interest incurred by the United States to perform or support response actions at the Site. Response costs include but are not limited to the costs of overseeing the Work, such as the costs of reviewing or developing plans, reports and other items pursuant to this Order and costs associated with verifying the Work.
15. "Statement of Work" or "SOW" shall mean the statement of work for implementation of the Remedial Design, Remedial Action, and Operation and Maintenance at the Site, as set forth in Attachment 2 to this Order. The Statement of Work is incorporated into this Order and is an enforceable part of this Order.
16. "Section" shall mean a portion of this Order identified by a Roman numeral and includes one or more Paragraphs.
17. "Site" shall mean the Western Groundwater Operable Unit, also known as OU3, encompassing approximately nine square miles and consisting of contaminated groundwater beneath the western perimeter of the

Aerojet facility extending to the unincorporated City of Rancho Cordova in Sacramento County, California, as described in the Record of Decision.

18. "United States" shall mean the United States of America.
19. "Work" shall mean all activities Respondents are required to perform under this Order to implement the ROD for the Western Groundwater Operable Unit, also known as OU3, including Remedial Design, Remedial Action and Operation and Maintenance for OU3 and any activities required to be undertaken pursuant to this Order.

VII. NOTICE OF INTENT TO COMPLY

42. Respondents shall provide, not later than five (5) days after the effective date of this Order, written notice to EPA's Remedial Project Manager (RPM) stating whether they will comply with the terms of this Order. If Respondents do not unequivocally commit to perform the RD and RA as provided by this Order, they shall be deemed to have violated this Order and to have failed or refused to comply with this Order. Respondents' 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(s) under sections 106(b) and 107(c)(3) of CERCLA. The absence of a response by EPA to the notice required by this Paragraph shall not be deemed to be acceptance of Respondent's assertions.

VIII. PARTIES BOUND

43. This Order shall apply to and be binding upon each Respondent identified in Paragraph 1, their directors, officers, employees, agents, successors, and assigns. Respondents are jointly and severally responsible for carrying out all activities required by this Order. No change in the ownership, corporate status, or other control of any Respondent shall alter any of the

Respondents' responsibilities under this Order.

44. Respondents shall provide a copy of this Order to any prospective owners or successors before a controlling interest in Respondents' assets, property rights, or stock are transferred to the prospective owner or successor. Respondents 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. Respondents shall also provide a copy of this Order to each person representing any 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 the Respondents within the meaning of section 107(b)(3) of CERCLA, 42 U.S.C. § 9607(b)(3). Notwithstanding the terms of any contract, Respondents are responsible for compliance with this Order and for ensuring that their contractors, subcontractors and agents comply with this Order, and perform any Work in accordance with this Order.

45. Within five (5) days after the effective date of this Order, each Respondent that owns real property comprising all or part of the Site shall record a copy or copies of this Order in the appropriate governmental office where land ownership and transfer records are filed or recorded, and shall ensure that the recording of this Order is indexed to the titles of each and every property at the Site so as to provide notice to third parties of the issuance and terms of this Order with respect to those properties. Respondents shall, within 15 days after the effective date of this Order, send notice of such recording and indexing to EPA.

46. Not later than sixty (60) days prior to any transfer of any real property interest in any property included within the Site, Respondents shall submit a true and correct copy of the transfer document(s) to EPA, and shall identify the transferee by name, principal business address and effective date of the transfer.

IX. WORK TO BE PERFORMED

47. Respondents shall cooperate with EPA in providing information regarding the Work to the public. As requested by EPA, Respondents shall participate in the preparation of such information for distribution to the public and in public meetings which may be held or sponsored by EPA to explain activities at or relating to the Site.

48. All aspects of the Work to be performed by Respondents 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 EPA. Within ten (10) days after the effective date of this Order, Respondents shall notify EPA 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. If at any time Respondents propose to use a different project manager, Respondents shall notify EPA and shall obtain approval from EPA before the new project manager performs any Work under this Order.

49. EPA will review Respondent's selection of a project manager according to the terms of this Paragraph and Section XIV of this Order. If EPA disapproves of the selection of the project manager, Respondents shall submit to EPA within thirty (30) days after receipt of EPA's disapproval of the project manager previously selected, a list of project managers, including primary support entities and staff, that would be acceptable to Respondents. EPA will thereafter provide written

notice to Respondents of the names of the project managers that are acceptable to EPA. Respondents may then select any approved project manager from that list and shall notify EPA of the name of the project manager selected within twenty-one (21) days of EPA's designation of approved project managers.

A. Remedial Design

50. Within thirty (30) days after the effective date of this Order, Respondents shall submit a work plan for the Remedial Design and Remedial Action at the Site ("RD/RA Work Plan") to EPA for review and approval. Upon its approval by EPA, the RD/RA Work Plan shall be incorporated into and become enforceable under this Order.

51. Within thirty (30) days after Respondents select an approved project manager, Respondents shall prepare, and submit to EPA for review, a Site Health and Safety Plan for field design activities. The Site Health and Safety Plan shall conform to the applicable Occupational Safety and Health Administration and EPA requirements, including but not limited to, 29 C.F.R. § 1910.120

52. The Remedial Design portion of the RD/RA Work Plan or the Remedial Design for each phase of the Work, if EPA agrees that the Work can proceed in phases, 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/or the SOW. The Remedial Design of the RD/RA Work Plan shall include plans and schedules for implementation of all remedial design and pre-design tasks identified in the SOW, including but not limited to, plans and schedules for the completion of: (1) design, construction, operation and sampling; (2) a Construction Quality Assurance Plan; (3) an in-situ biological treatability study with a pilot report and subsequent evaluation report unless EPA, after a reasonable opportunity for review and comment by the State, concludes that in-situ biological treatment is not feasible.

Design submittals shall include (1) a preliminary design submittal; and (2) a pre-final/final design submittal, with the pre-final design submittal serving as the final design submittal if EPA has no further comments on the pre-final design submittal.

53. The preliminary design submittal specified in paragraph 52 shall include, at a minimum, the following: (1) design criteria; (2) results of additional field sampling and pre-design work; (3) project delivery strategy; (4) preliminary plans, drawings and sketches; (5) required specifications in outline form; and (7) preliminary construction schedule.

54. The pre-final/final design submittal specified in paragraph 52 shall include, at a minimum, the following: (1) final plans and specifications; (2) Operation and Maintenance Manual; (3) Construction Quality Assurance Plan; (4) Field Sampling Plan; and (5) Contingency Plans. The Construction Quality Assurance Plan shall detail the approach to quality assurance during construction activities at the Site, and shall specify a quality assurance official ("QA Official"), independent of the Supervising Contractor, to conduct a quality assurance program during the construction phase of the project.

B. Remedial Action

55. The Remedial Action portion of the RD/RA Work Plan or the Remedial Action of each phase of the Work, if EPA agrees that the Work can proceed in phases, shall provide for construction and implementation of the remedy set forth in the ROD and for 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 RD/RA Work Plan and approved by EPA.

56. The Remedial Action portion of the RD/RA Work Plan or the Remedial Action of each phase of the Work, if EPA agrees that the Work can proceed in phases, shall include the following: (1) schedule for completion of the Remedial Action; (2) method for

selection of the contractor; (3) schedule for developing and submitting the Groundwater Monitoring Plan, Health and Safety Plan, Groundwater Management Zone Plan, Sampling and Analysis Plan, Compliance Monitoring Plan, and Contingency Plan; (4) methods for satisfying permitting requirements; (5) Operation and Maintenance Manual; (6) tentative formulation of the Remedial Action team; (7) procedures and plans for the decontamination of equipment and the disposal of contaminated materials. The Remedial Action portion of the RD/RA Work Plan shall also include the methodology for implementation of the Construction Quality Assurance Plan and a schedule for implementation of all Remedial Action tasks identified in the final design submittal and shall identify the initial formulation of the Respondents' Remedial Action Project Team (including, but not limited to, the Supervising Contractor).

57. Upon approval of the RD/RA Work Plan by EPA, after a reasonable opportunity for review and comment by the State, and submittal of the Health and safety Plan for all field activities to EPA, Respondents shall implement the RD/RA Work Plan according to the schedule in the approved RD/RA Work Plan. Respondents shall submit to EPA all plans, submittals and other deliverables required under the approved RD/RA Work Plan in accordance with the approved RD/RA Work Plan. Unless otherwise directed by EPA, Respondents shall not commence further Remedial Design activities nor physical Remedial Action activities at the Site prior to approval of the RD/RA Work Plan.

58. Respondents shall continue to implement the Remedial Action and O&M until the Performance Standards are achieved and for so long thereafter as is otherwise required under this Order. If the Work is implemented in phases, each phase of the Work shall achieve the Performance Standards for that phase of the Work and all phases of the Work, taken together, shall attain the Performance Standards specified in the ROD and in Section III

of the SOW. Any violation of the approved RD/RA Workplan shall be a violation of this Order.

59. If Respondents seek to retain a construction contractor to assist in the performance of the Remedial Action, then Respondents shall submit a copy of the contractor solicitation documents to EPA not later than five (5) days after publishing the solicitation documents.

60. Within ten (10) days after EPA approves the RA Work Plan, Respondents shall notify EPA in writing of the name, title, and qualifications of any construction contractor proposed to be used in carrying out Work under this Order. EPA shall thereafter provide written notice of the name(s) of the contractor(s) it approves, if any. Respondents may select any approved contractor from that list and shall notify EPA of the name of the contractor selected within twenty one (21) days of EPA's designation of approved contractors. If at any time Respondents propose to change the construction contractor, Respondents shall notify EPA and shall obtain approval from EPA as provided in this Paragraph, before the new construction contractor performs any work under this Order. If EPA disapproves of the selection of any contractor as the construction contractor, Respondents shall submit to EPA a list of contractors that would be acceptable to them within thirty (30) days after receipt of EPA's disapproval of the contractor previously selected.

61. The Work performed by Respondents pursuant to this Order shall, at a minimum, achieve the Performance Standards specified in the Record of Decision and in Section III of the SOW.

62. Notwithstanding any action by EPA, Respondents remain fully responsible for achievement of the Performance Standards in the Record of Decision and Statement of Work. Nothing in this Order, or in EPA's approval of the Statement of Work, or in the RD/RA Work Plan, or approval of any other submission, shall be

deemed to constitute a warranty or representation of any kind by EPA that full performance of the Remedial Design or Remedial Action will achieve the Performance Standards set forth in the ROD and in Section III of the SOW. Respondents' compliance with such approved documents does not foreclose EPA from seeking additional work to achieve the applicable performance standards.

63. Respondents shall, prior to any off-site shipment of hazardous substances from the Site to an out-of-state waste management facility, provide written notification to the appropriate state environmental official in the receiving state and to EPA's RPM of such shipment of hazardous substances. However, the notification of shipments 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.

1. The notification shall be in writing, and shall include the following information, where available: (1) the name and location of the facility to which the hazardous substances are to be shipped; (2) the type and quantity of the hazardous substances to be shipped; (3) the expected schedule for the shipment of the hazardous substances; and (4) the method of transportation. Respondents shall notify the receiving state of major changes in the shipment plan, such as a decision to ship the hazardous substances to another facility within the same state, or to a facility in another state.
2. The identity of the receiving facility and state will be determined by Respondents following the award of the contract for Remedial Action construction. Respondents shall provide all relevant information, including information under the categories noted in Paragraph 1 above, on the off-Site shipments as soon as practicable after the award of the contract and before the

hazardous substances are actually shipped.

64. Within thirty (30) days after Respondents conclude that the Remedial Action has been fully performed, Respondents shall so notify EPA and shall schedule and conduct a pre-certification inspection to be attended by Respondents and EPA. The pre-certification inspection shall be followed by a written report submitted within thirty (30) days of the inspection by a registered professional engineer and Respondents' Project Coordinator certifying that the Remedial Action has been completed in full satisfaction of the requirements of this Order. If, after completion of the pre-certification inspection and receipt and review of the written report, EPA determines that the Remedial Action or any portion thereof has not been completed in accordance with this Order, EPA shall notify Respondents in writing of the activities that must be undertaken to complete the Remedial Action and shall set forth in the notice a schedule for performance of such activities. Respondents shall perform all activities described in the notice in accordance with the specifications and schedules established therein. If EPA concludes, following the initial or any subsequent certification of completion by Respondents that the Remedial Action has been fully performed in accordance with this Order, EPA may notify Respondents that the Remedial Action has been fully performed. EPA's notification shall be based on present knowledge and Respondents' certification to EPA, and shall not limit EPA's right to perform periodic reviews pursuant to section 121(c) of CERCLA, 42 U.S.C. § 9621(c), or to take or require any action that in the judgment of EPA is appropriate at the Site, in accordance with 42 U.S.C. §§ 9604, 9606, or 9607.

65. Within thirty (30) days after Respondents conclude that all phases of the Work have been fully performed, that the Performance Standards have been attained, and that all Operation and Maintenance activities have been completed, Respondents shall

submit to EPA a written report by a registered professional engineer certifying that the Work has been completed in full satisfaction of the requirements of this Order. EPA shall require such additional activities as may be necessary to complete the Work or EPA may, based upon present knowledge and Respondent's certification to EPA, issue written notification to Respondents that the Work has been completed, as appropriate. EPA's notification shall not limit EPA's right to perform periodic reviews pursuant to section 121(c) of CERCLA, 42 U.S.C. § 9621(c), or to take or require any action that in the judgment of EPA is appropriate at the Site, in accordance with 42 U.S.C. §§ 9604, 9606, or 9607.

X. FAILURE TO ATTAIN PERFORMANCE STANDARDS

66. In the event that EPA determines that additional response activities are necessary to meet applicable Performance Standards, EPA may notify Respondents that additional response actions are necessary.

67. Unless otherwise stated by EPA, within thirty (30) days of receipt of notice from EPA that additional response activities are necessary to meet any applicable Performance Standards, Respondents shall submit for approval by EPA a work plan for the additional response activities. The plan shall conform to the applicable requirements of Sections IX, XVI, and XVII of this Order. Upon EPA's approval of the plan pursuant to Section XIV, Respondents shall implement the plan for additional response activities in accordance with the provisions and schedule contained therein.

XI. EPA PERIODIC REVIEW

68. Under section 121(c) of CERCLA, 42 U.S.C. § 9621(c), and any applicable regulations, EPA 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 EPA certifies completion of the Work, Respondents shall conduct

the requisite studies, investigations, or other response actions as determined necessary by EPA in order to permit EPA to conduct the review under section 121(c) of CERCLA. As a result of any review performed under this Paragraph, Respondents may be required to perform additional Work or to modify Work previously performed.

XII. ADDITIONAL RESPONSE ACTIONS

69. EPA may determine that in addition to the Work identified in this Order and attachments to this Order, additional response activities may be necessary to protect human health and the environment. If EPA determines that additional response activities are necessary, EPA may require Respondents to submit a work plan for additional response activities. EPA may also require Respondents to modify any plan, design, or other deliverable required by this Order, including any approved modifications.

70. Not later than thirty (30) days after receiving EPA's notice that additional response activities are required pursuant to this Section, Respondents shall submit a work plan for the response activities to EPA for review and approval. Upon approval by EPA, the work plan is 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 EPA, Respondents shall implement the work plan according to the standards, specifications, and schedule in the approved work plan. Respondents shall notify EPA of their intent to perform such additional response activities within seven (7) days after receipt of EPA's request for additional response activities.

XIII. ENDANGERMENT AND EMERGENCY RESPONSE

71. In the event of any action or occurrence during the performance of the Work which causes or threatens to cause a release of a hazardous substance or which may present an immediate threat to public health or welfare or the environment,

Respondents shall immediately take all appropriate action to prevent, abate, or minimize the threat, and shall immediately notify EPA's Remedial Project Manager (RPM) or, if the RPM is unavailable, EPA's Alternate RPM. If neither of these persons is available, Respondents shall notify the EPA Emergency Response Unit, Region 9. Respondents shall take such action in consultation with EPA's RPM and in accordance with all applicable provisions of this Order, including, but not limited to, the Health and Safety Plan and the Contingency Plan. In the event that Respondents fail to take appropriate response action as required by this Section, and EPA takes that action instead, Respondents shall reimburse EPA for all costs of the response action not inconsistent with the N.C.P. Respondents shall pay the response costs in the manner described in Section XXIV of this Order, within thirty (30) days of Respondents' receipt of demand for payment that includes an "Aerojet General Cost Summary," which includes direct and indirect costs incurred by EPA and its contractors.

72. 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.

XIV. EPA REVIEW OF SUBMISSIONS

73. After review of any deliverable, plan, report or other item which is required to be submitted for review and approval pursuant to this Order, EPA may: (a) approve the submission; (b) approve the submission with modifications; (c) disapprove the submission and direct Respondent(s) to re-submit the document after incorporating EPA's comments; or (d) disapprove the submission and assume responsibility for performing all or any

part of the response action. As used in this Order, the terms "approval by EPA," "EPA approval," or a similar term means the action described in Paragraphs (a) or (b) of this Paragraph.

74. In the event of approval or approval with modifications by EPA, Respondents shall proceed to take any action required by the plan, report, or other item, as approved or modified by EPA.

75. Upon receipt of a notice of disapproval or a request for a modification, Respondents shall, within twenty-one (21) days or such longer time as specified by EPA in its notice of disapproval or request for modification, correct the deficiencies and resubmit the plan, report, or other item for approval. Notwithstanding the notice of disapproval, or approval with modifications, Respondents shall proceed, at the direction of EPA, to take any action required by any non-deficient portion of the submission.

76. If any submission is not approved by EPA, Respondents shall be deemed to be in violation of this Order.

XV. PROGRESS REPORTS

77. In addition to the other deliverables set forth in this Order, Respondents shall provide monthly progress reports to EPA with respect to actions and activities undertaken pursuant to this Order. The progress reports shall be submitted on or before the fifteenth day of each month following the effective date of this Order. Respondents' obligation to submit progress reports continue until EPA gives Respondents written notice that the Work has been completed. At a minimum, these progress reports shall: (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 EPA; (3) describe all work planned for the next quarter with schedules relating such work to the overall project schedule for RD/RA completion; and (4) describe all problems encountered and any anticipated problems, any actual

or anticipated delays, and solutions developed and implemented to address any actual or anticipated problems or delays.

XVI. QUALITY ASSURANCE, SAMPLING AND DATA ANALYSIS

78. Respondents shall use the quality assurance, quality control, and chain of custody procedures, for all treatability, design, compliance and monitoring samples defined in their Quality Assurance Project Plan(s), which must receive approval by EPA prior to implementation. Any Quality Assurance Plan shall be in accordance with "EPA Requirements for Quality Assurance Project Plans (QA/R5)" (EPA /240/B-01/003, March 2001); "Guidance for Quality Assurance Project Plans (QA/G5)" (EPA/600/R-98/018, February 1998); and subsequent revisions to these documents. To provide quality assurance and maintain quality control, Respondent(s) shall:

1. Use only California-certified laboratories which have a documented Quality Assurance Program that has been reviewed and evaluated by EPA.
2. Ensure that the laboratory used by the Respondent(s) for analyses, utilizes EPA methods or performs according to a method or methods deemed satisfactory to EPA, and submits all protocols to be used for analyses to EPA at least thirty (30) days before beginning analyses.
3. Ensure that EPA personnel and EPA's authorized representatives are allowed access to the laboratory and personnel utilized by the Respondent(s) for analyses.

79. Respondents shall notify EPA not less than fourteen (14) days in advance of any sample collection activity. At the request of EPA, Respondents shall allow split or duplicate samples to be taken by EPA or its authorized representatives, of any samples collected by Respondents with regard to the Site or pursuant to the implementation of this Order. In addition, EPA

shall have the right to take any additional samples that EPA deems necessary.

XVII. COMPLIANCE WITH APPLICABLE LAWS

80. All activities by Respondents pursuant to this Order shall be performed in accordance with the requirements of all Federal and state laws and regulations. EPA has determined that the activities contemplated by this Order are consistent with the National Contingency Plan (N.C.P.).

81. Except as provided in section 121(e) of CERCLA and the N.C.P., no permit shall be required for any portion of the Work conducted entirely on-Site. Where any portion of the Work requires a Federal or state permit or approval, Respondents shall submit timely applications and take all other actions necessary to obtain and to comply with all such permits or approvals.

82. This Order is not, and shall not be construed to be, a permit issued pursuant to any Federal or state statute or regulation.

83. All materials removed from the Site shall be disposed of or treated at a facility approved by EPA's RPM and in accordance with section 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3); with the U.S. EPA "Revised Off-Site policy," OSWER Directive 9834.11, November 13, 1987; and with all other applicable Federal, state, and local requirements.

XVIII. REMEDIAL PROJECT MANAGER

84. All communications, whether written or oral, from Respondents to EPA shall be directed to EPA's Remedial Project Manager or Alternate Remedial Project Manager. Respondents shall submit to EPA three copies of all documents, including plans, reports, and other correspondence, which are developed pursuant to this Order, and shall send these documents by overnight mail.

EPA's Remedial Project Manager is:

Charles Berrey

US EPA, Region 9, SFD-7-2

75 Hawthorne St.
San Francisco, CA 94105
EPA's Alternate Remedial Project Manager is:
Kathi Moore
US EPA, Region 9, SFD-7-2
75 Hawthorne St.
San Francisco, CA 94105

85. EPA has the unreviewable right to change its Remedial Project Manager or Alternate Remedial Project Manager. If EPA changes its Remedial Project Manager or Alternate Remedial Project Manager, EPA will inform Respondents in writing of the name, address, and telephone number of the new Remedial Project Manager or Alternate Remedial Project Manager.

86. EPA's RPM and Alternate RPM shall have the authority lawfully vested in a Remedial Project Manager (RPM) and On-Scene Coordinator (OSC) by the National Contingency Plan, 40 C.F.R. Part 300. EPA's RPM or Alternate RPM shall have authority, consistent with the National Contingency Plan, to halt any work required by this Order, and to take any necessary response action.

87. Within ten (10) days after the effective date of this Order, Respondents shall designate a Project Coordinator and shall submit the name, address, and telephone number of the Project Coordinator to EPA for review and approval. Respondents' Project Coordinator shall be responsible for overseeing Respondents' implementation of this Order. If Respondents wish to change their Project Coordinator, Respondents shall provide written notice to EPA, five (5) days prior to changing the Project Coordinator, of the name and qualifications of the new Project Coordinator. Respondents' selection of a Project Coordinator shall be subject to EPA approval.

XIX. ACCESS TO SITE NOT OWNED BY RESPONDENT(S)

88. If the Site, the off-Site area that is to be used for

access, property where documents required to be prepared or maintained by this Order are located, or other property subject to or affected by the clean up, is owned in whole or in part by parties other than those bound by this Order, Respondents will obtain, or use their best efforts to obtain, site access agreements from the present owner(s) within thirty (30) days of the effective date of this Order. Such agreements shall provide access for EPA, its contractors and oversight officials, the state and its contractors, and Respondents or Respondents' authorized representatives and contractors, and such agreements shall specify that Respondents are not EPA's representatives with respect to liability associated with Site activities.

Respondents shall save and hold harmless the United States and its officials, agents, employees, contractors, subcontractors, or representatives for or from any and all claims or causes of action or other costs incurred by the United States including, but not limited to, attorneys fees and other expenses of litigation and settlement arising from or on account of acts or omissions of Respondents, their officers, directors, employees, agents, contractors, subcontractors, and any persons acting on their behalf or under their control, in carrying out activities pursuant to this Order, including any claims arising from any designation of Respondents as EPA's authorized representatives under section 104(e) of CERCLA. Copies of such agreements shall be provided to EPA prior to Respondents' initiation of field activities. Respondents' best efforts shall include providing reasonable compensation to any off-Site property owner. If access agreements are not obtained within the time referenced above, Respondents shall immediately notify EPA of their failure to obtain access. Subject to the United States' non-reviewable discretion, EPA may use its legal authorities to obtain access for the Respondents, may perform those response actions with EPA contractors at the property in question, or may terminate the

Order if Respondents cannot obtain access agreements. If EPA performs those tasks or activities with contractors and does not terminate the Order, Respondents shall perform all other activities not requiring access to that property, and shall reimburse EPA, pursuant to Section XXIV of this Order, for all costs incurred in performing such activities. Respondents shall integrate the results of any such tasks undertaken by EPA into their reports and deliverables. Respondents shall reimburse EPA, pursuant to Section XXIV of this Order, for all response costs (including attorney fees) incurred by the United States to obtain access for Respondents.

XX. SITE ACCESS AND DATA/DOCUMENT AVAILABILITY

89. Respondents shall allow EPA and its authorized representatives and contractors to enter and freely move about all property at the Site and off-Site areas subject to or affected by the Work under this Order or where documents required to be prepared or maintained by this Order are located, for the purposes of inspecting conditions, activities, the results of activities, records, operating logs, and contracts related to the Site or Respondents and their representatives or contractors pursuant to this Order; reviewing the progress of the Respondents in carrying out the terms of this Order; conducting tests as EPA or its authorized representatives or contractors deem necessary; using a camera, sound recording device or other documentary type equipment; and verifying the data submitted to EPA by Respondents. Respondents shall allow EPA and its authorized representatives to enter the Site, to inspect and copy all records, files, photographs, documents, sampling and monitoring data, and other writings related to work undertaken in carrying out this Order. Nothing herein shall be interpreted as limiting or affecting EPA's right of entry or inspection authority under Federal law.

90. Respondents may assert a claim of business

confidentiality covering part or all of the information submitted to EPA pursuant to the terms of this Order under 40 C.F.R. § 2.203, provided such claim is not inconsistent with section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), or other provisions of law. This claim shall be asserted in the manner described by 40 C.F.R. § 2.203(b) and substantiated by Respondent(s) at the time the claim is made. Information determined to be confidential by EPA will be given the protection specified in 40 C.F.R. Part 2. 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 the Respondents. Respondents shall not assert confidentiality claims with respect to any data related to Site conditions, sampling, or monitoring. Respondents shall maintain for the period during which this Order is in effect, an index of documents that Respondents claim contain confidential business information. The index shall contain, for each document, the date, author, addressee, and subject of the document. Upon written request from EPA, Respondents shall submit a copy of the index to EPA.

XXI. RECORD PRESERVATION

91. Respondents shall provide to EPA upon request, copies of all documents and information within their possession and/or control or that of their 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. Respondents shall also make available to EPA for purposes of investigation, information gathering, or testimony, their employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.

92. Until ten (10) years after EPA provides notice that all

Work required under this Order has been completed, each Respondent shall preserve and retain all records and documents 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, Respondents shall notify the United States at least ninety (90) calendar days prior to the destruction of any such records or documents, and upon request by the United States, Respondents shall deliver any such records or documents to EPA.

93. Until ten (10) years after EPA provides notice that all Work required under this Order has been completed, Respondents shall preserve, and shall instruct their contractors and agents to preserve, all documents, records, and information of whatever kind, nature or description relating to the performance of the Work. Upon the conclusion of this document retention period, Respondents shall notify the United States at least ninety (90) days prior to the destruction of any such records, documents or information, and, upon request of the United States, Respondents shall deliver all such documents, records and information to EPA.

94. Within ten (10) days after the effective date of this Order, Respondents shall submit a written certification to EPA's RPM that they have not altered, mutilated, discarded, destroyed or otherwise disposed of any records, documents or other information relating to their potential liability with regard to the Site since notification of potential liability by the United States or the State or the filing of suit against it regarding the Site. Respondents shall not dispose of any such documents without prior approval by EPA. Respondents shall, upon EPA's request and at no cost to EPA, deliver the documents or copies of the documents to EPA.

XXII. DELAY IN PERFORMANCE

95. Any delay in performance of this Order that, in EPA's judgment, is not properly justified by Respondents under the terms of this Paragraph shall be considered a violation of this Order. Any delay in performance of this Order shall not affect Respondents' obligations to fully perform all obligations under the terms and conditions of this Order.

96. Respondents shall notify EPA of any delay or anticipated delay in performing any requirement of this Order. Such notification shall be made by telephone to EPA's RPM or Alternate RPM within forty eight (48) hours after Respondents first knew or should have known that a delay might occur. Respondents shall adopt all reasonable measures to avoid or minimize any such delay. Within five (5) business days after notifying EPA by telephone, Respondents shall provide written notification fully describing the nature of the delay, any justification for delay, any reason why Respondents 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 is not a justification for any delay in performance.

XXIII. ASSURANCE OF ABILITY TO COMPLETE WORK

97. Respondents shall demonstrate their ability to complete the Work required by this Order and to pay all claims that arise from the performance of the Work by obtaining and presenting to EPA within thirty (30) days after approval of the RD/RA Work Plan, one of the following: (1) a performance bond; (2) a letter of credit; (3) a guarantee by a third party; or (4) internal financial information to allow EPA to determine that Respondents have sufficient assets available to perform the Work.

Respondents shall demonstrate financial assurance in an amount no less than the estimate of cost for the remedial design and remedial action contained in the Record of Decision for the Site. If Respondents seek to demonstrate ability to complete the remedial action by means of internal financial information, or by guarantee of a third party, they shall re-submit such information annually, on the anniversary of the effective date of this Order. If EPA determines that such financial information is inadequate, Respondents shall, within thirty (30) days after receipt of EPA's notice of determination, obtain and present to EPA for approval one of the other three forms of financial assurance listed above. At least seven (7) days prior to commencing any Work at the Site pursuant to this Order, Respondents shall submit to EPA a certification that Respondents or their 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 Respondents pursuant to this Order. Respondents shall ensure that such insurance or indemnification is maintained for the duration of the Work required by this Order.

XXIV. REIMBURSEMENT OF RESPONSE COSTS

98. Respondents shall reimburse EPA, upon written demand, for all response costs incurred by the United States in overseeing Respondent's implementation of the requirements of this Order or in performing any response action which Respondents fail to perform in compliance with this Order. EPA may submit to Respondents on a periodic basis an accounting of all response costs incurred by the United States with respect to this Order. EPA's certified Agency Financial Management System summary data (SPUR Reports), or such other summary as certified by EPA, shall serve as basis for payment demands.

99. Respondents shall, within thirty (30) days of receipt

of each EPA accounting, remit a certified or cashier's check for the amount of those costs. Interest shall accrue from the later of the date that payment of a specified amount is demanded in writing or the date of the expenditure. The interest rate is the rate established by the Department of the Treasury pursuant to 31 U.S.C. § 3717 and 4 C.F.R. § 102.13.

100. Checks shall be made payable to the Hazardous Substances Superfund and shall include the name of the Site, the Site identification number, the account number and the title of this Order. Checks shall be forwarded to:

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

101. Respondents shall send copies of each transmittal letter and check to the EPA's RPM.

XXV. UNITED STATES NOT LIABLE

102. 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 Respondents, or their directors, officers, employees, agents, representatives, successors, assigns, contractors, or consultants in carrying out any action or activity pursuant to this Order. Neither EPA nor the United States may be deemed to be a party to any contract entered into by Respondents or their directors, officers, employees, agents, successors, assigns, contractors, or consultants in carrying out any action or activity pursuant to this Order.

XXVI. ENFORCEMENT AND RESERVATIONS

103. EPA reserves the right to bring an action against Respondents 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 and not reimbursed by Respondents. 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 as provided in Section 107(a) of CERCLA.

104. Notwithstanding any other provision of this Order, at any time during the response action, EPA may perform its own studies, complete the response action (or any portion of the response action) as provided in CERCLA and the N.C.P., and seek reimbursement from Respondents for its costs, or seek any other appropriate relief.

105. Nothing in this Order shall preclude EPA from taking any additional enforcement actions, including modification of this Order or issuance of additional Orders, and/or additional remedial or removal actions as EPA may deem necessary, or from requiring Respondents in the future to perform additional activities pursuant to Section 106(a) of CERCLA, 42 U.S.C. § 9606(a), Section 7003 of RCRA, 42 U.S.C. § 6973 or any other applicable law. Respondents shall be liable under CERCLA Section 107(a), 42 U.S.C. § 9607(a), for the costs of any such additional actions.

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

107. Respondents shall be subject to civil penalties under Section 106(b) of CERCLA, 42 U.S.C. § 9606(b), of not more than \$27,500 for each day in which Respondents willfully violate, or fail or refuse to comply with this Order without sufficient cause. In addition, failure to properly provide response action under 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 a result of such failure to take proper action.

108. 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 it may have arising out of or relating in any way to the Site.

109. If a court issues an order that invalidates any provision of this Order or finds that Respondents have sufficient cause not to comply with one or more provisions of this Order, Respondents shall remain bound to comply with all provisions of this Order not invalidated by the court's order.

XXVII. ADMINISTRATIVE RECORD

110. Upon request by EPA, Respondents must submit to EPA all documents related to the selection of the response action for possible inclusion in the administrative record file.

XXVIII. EFFECTIVE DATE AND COMPUTATION OF TIME

111. This Order shall be effective thirty (30) days after the Order is signed by the Director of the Superfund Division, EPA Region 9. All times for performance of ordered activities shall be calculated from this effective date.

XXIX. OPPORTUNITY TO CONFER

112. Respondents may, within ten (10) days after the date this Order is signed, request a conference with the Director of the Superfund Division, EPA, Region 9, to discuss this Order. If requested, the conference shall occur at US EPA, 75 Hawthorne St., San Francisco, California.

113. The purpose and scope of the conference shall be limited to issues involving the implementation of the response actions required by this Order and the extent to which Respondents intend to comply with this Order. This conference is not an evidentiary hearing, and does not constitute a proceeding to challenge this Order. It does not give Respondents a right to seek review of this Order, or to seek resolution of potential

liability, and no official stenographic record of the conference will be made. At any conference held pursuant to Respondents' request, Respondents may appear in person or by an attorney or other representative.

114. Requests for a conference must be by telephone followed by written confirmation mailed that day to Charles Berrey, Remedial Project Manager, US EPA, Region 9, 75 Hawthorne St., San Francisco 94105, telephone number (415) 972-3146.

So Ordered, this __ day of August, 2002.

BY: _____
Jane Diamond
Acting Director, Superfund Division
U.S. Environmental Protection Agency
Region 9