



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

ES
170359
12/31/02

DEC 3 2002

REPLY TO THE ATTENTION OF:

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Michael Wagner
Attorney for City of East St. Louis
521 West Main St.
P.O. Box 509
East St. Louis, IL 62201

Re: North Alcoa Site
East St. Louis, IL

Dear Sir:

Enclosed please find a copy of the executed Administrative Order by Consent ("AOC") for Remedial Investigation/Feasibility Study issued in connection with the above-referenced matter pursuant to Section 122 of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended, 42 U.S.C. §9622. Thank you for your cooperation in this matter.

If you have any questions regarding this AOC, please contact Janet R. Carlson, Associate Regional Counsel, at (312) 886-6059 or Dion Novak, Remedial Project Manager, at (312) 886-4737.

Sincerely yours,

William E. Muho, Director
Superfund Division

Enclosure

cc: Tom Miller, IEPA
Tom Crause, IEPA

bcc: Docket Analyst, ORC (C-14J)
Janet Carlson, ORC (C-14J)
Dion Novak (SR-6J)
Fouad Dababneh, RESS (SR-6J)
Tom Marks, RESS (SR-6J)
Tony Audia, PAAS (MF-10J)
✓ Records Center (SMR-7J)
Toni Lesser, Public Affairs (P-19J) w/out attachments



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REPLY TO THE ATTENTION OF:

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Ralph Waechter
Senior Counsel
Alcoa Corporate Center
201 Isabella Street
at 7th Street Bridge
Pittsburgh, PA 15212-5858

Re: North Alcoa Site
East St. Louis, IL

Dear Sir:

Enclosed please find a copy of the executed Administrative Order by Consent ("AOC") for Remedial Investigation/Feasibility Study issued in connection with the above-referenced matter pursuant to Section 122 of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended, 42 U.S.C. §9622. Thank you for your cooperation in this matter.

If you have any questions regarding this AOC, please contact Janet R. Carlson, Associate Regional Counsel, at (312) 886-6059 or Dion Novak, Remedial Project Manager, at (312) 886-4737.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Wm. E. Munro".

William E. Munro, Director
Superfund Division

Enclosure

cc: Tom Miller, IEPA
Tom Crause, IEPA

bcc: Docket Analyst, ORC (C-14J)
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5

IN THE MATTER OF:

North Alcoa Site

Alcoa Inc. and City of East St. Louis,

Respondents

Proceeding Under Sections 104, 122(a), and 122(d)(3) of the Comprehensive Environmental Response, Compensation, and Liability Act as amended (42 U.S.C. Sections 9604, 9622(a), 9622(d)(3)).

U.S. EPA Docket No.

V-W-03-C-728

ADMINISTRATIVE ORDER ON CONSENT FOR REMEDIAL INVESTIGATION/FEASIBILITY STUDY

I. INTRODUCTION

1. This Administrative Order on Consent (Consent Order) is entered into voluntarily by the United States Environmental Protection Agency (U.S. EPA), Alcoa, Inc. and City of East St. Louis (Respondents). The Consent Order concerns the preparation of, performance of, and reimbursement for all oversight costs incurred by U.S. EPA in connection with a remedial investigation and feasibility study (RI/FS) for the North Alcoa Site located in East St. Louis, St. Clair County, Illinois, as well as past response costs.

II. JURISDICTION

2. This Consent Order is issued under the authority vested in the President of the United States by sections 104, 122(a) and

122(d)(3) of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended, 42 U.S.C. Sections 9604, 9622(a), 9622(d)(3) (CERCLA). This authority was delegated to the Administrator of U.S. EPA on January 23, 1987, by Executive Order 12580, 52 Fed. Reg. 2926 (1987), and further delegated to Regional Administrators on September 13, 1987, by EPA Delegation No. 14-14-C. This authority has been redelegated by the Regional Administrator to the Director, Superfund Division, U.S. EPA Region 5 by EPA Delegation No. 14-14-C on May 2, 1996.

3. Respondents agree to undertake all actions required by the terms and conditions of this Consent Order. In any action by U.S. EPA or the United States to enforce the terms of this Consent Order, Respondents consent to and agree not to contest the authority or jurisdiction of the U.S. EPA to issue or enforce this Consent Order, and agree not to contest the validity of this Order or its terms.

III. PARTIES BOUND

4. This Consent Order shall apply to and be binding upon U.S. EPA and shall be binding upon Respondents, their agents, successors and assigns. Without admitting any liability whatsoever, Respondents agree to be jointly and severally responsible for carrying out all actions required of them by 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 Respondents or of the facility or Site shall alter Respondents' responsibilities under this Consent Order.

5. Respondents shall provide a copy of this Consent Order to any subsequent owners or successors before ownership rights or stock or assets in a corporate acquisition are transferred. Respondents shall provide a copy of this Consent Order to all contractors, subcontractors, laboratories, and consultants which are retained to conduct any work performed under this Consent Order, within fourteen (14) days after the effective date of this Consent Order or the date of retaining their services, whichever is later. Respondents shall condition any such contracts upon satisfactory compliance with this Consent Order. Notwithstanding the terms of any contract, Respondents are responsible for compliance with this Consent Order and for ensuring that their subsidiaries, employees, contractors, consultants, subcontractors, agents and attorneys comply with this Consent Order. U.S. EPA will consider that work approved by U.S. EPA under this Consent Order to be consistent with the NCP.

IV. DEFINITIONS

6. Unless otherwise expressly provided herein, terms used in this Consent Order that are defined in CERCLA or in

regulations promulgated under CERCLA shall have the meaning assigned to them in CERCLA or in such regulations. Whenever terms listed below are used in this Consent Order or in the appendices attached hereto and incorporated hereunder, the following definitions shall apply:

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

"Consent Order" shall mean this Consent Order and all attachments hereto.

"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 Consent Order, where the last day would fall on a Saturday, Sunday, or Federal holiday, the period shall run until the close of business of the next working day.

"Effective Date" shall mean the date on which this Consent Order is signed by the Director of the Superfund Division, U.S. EPA, Region 5.

"Respondents" shall mean Alcoa Inc. and the City of East St. Louis, their employees, agents, successors, assigns and authorized representatives.

"Site" or "Facility" or "North Alcoa Site" shall mean the facility as that term is defined at 42 U.S.C. Section 9601(9),

which includes the following areas in East St. Louis, Illinois:

1) the property located north of Missouri Ave., which is approximately bounded by 29th St. to the west, Alton Southern Railroad to the east and Lake Drive to the north; and 2) areas located north of Missouri Ave. where hazardous substances have or may have come to be located from former Alcoa operations.

V. STATEMENT OF PURPOSE

7. In entering into this Consent Order, the objectives of U.S. EPA and Respondents are: (a) to determine the nature and extent of contamination and any threat to the public health, welfare, or the environment caused by the release or threatened release of hazardous substances, pollutants or contaminants at or from the Site or facility, by conducting a remedial investigation; (b) to determine and evaluate alternatives for remedial action (if any) to prevent, mitigate or otherwise respond to or remedy any release or threatened release of hazardous substances, pollutants, or contaminants at or from the Site or facility, by conducting a feasibility study; and (c) to recover response and oversight costs incurred by U.S. EPA with respect to this Consent Order.

8. The activities conducted under this Consent Order are subject to approval by U.S. EPA and shall provide all appropriate necessary information for the RI/FS, and for a record of decision that is consistent with CERCLA and the National Contingency Plan

(NCP), 40 C.F.R. Part 300. The activities conducted under this Consent Order shall be conducted in compliance with all applicable U.S. EPA guidance, policies, procedures and the NCP.

VI. U.S. EPA FINDINGS OF FACT

9. The North Alcoa Site includes property located on the north side of the 3000 block of Missouri Avenue that has been impacted by former operations of Alcoa's East St. Louis Works plant.

10. The Respondent, the City of East St. Louis, is a municipal corporation in the State of Illinois and currently owns a large portion of the Site located north of Missouri Avenue.

11. The Respondent, Alcoa, is a corporation incorporated in the State of Pennsylvania and formerly owned the property noted in Figure 1.

12. Alcoa's former East St. Louis Works on Missouri Avenue was constructed primarily for the purpose of refining bauxite into alumina. In addition, the East St. Louis Works also engaged in the production of fluoride, as well as bauxite and fluoride based chemicals, including cryolite, aluminum fluorides and sodium acid fluoride. The material remaining after alumina is extracted during bauxite refining is known as "red mud". The former East St. Louis Works began operations in or about 1903 and ceased bauxite refining in or about 1957. Alcoa transferred the property to a number of entities in the late 1950s and early

1960s.

13. Red mud resulting from bauxite refining at the East St. Louis Works was placed in disposal areas at the Site. Initially the red mud was disposed of at the edge of the former Pittsburgh Lake, an old oxbow of the Mississippi River. The land formerly occupied by Pittsburgh Lake now consists of over 40 acres of emergent wetlands, 167 acres of upland forest and 22 acres of open water. There are residential neighborhoods located to the north and south of the Site. The Site is also bordered to the east by Frank Holten State Park. Both sides of Missouri Avenue are currently occupied by a number of businesses.

14. Later Alcoa constructed three impoundments (with gypsum berms) over time at the Site for disposal of the red mud. (See Figure 2 generally) Alcoa ceased disposal of red mud at the last impoundment with the cessation of bauxite refining operations at the East St. Louis Works in 1957. There may be red mud deposits in other areas of the Site. Some areas are covered with a layer of black cindery fill material.

15. In 1996, the Illinois Environmental Protection Agency's Site Assessment Program, working in cooperation with U.S. EPA Region 5, began work on a CERCLA redevelopment assessment of the former Alcoa Property. IEPA took 118 soil samples and nine groundwater samples on the north side of Missouri Avenue of the former Alcoa Property. The results of this study are reported in

the "CERCLA Redevelopment Assessment" Report. Hazardous substances, including lead, cadmium, arsenic, cyanide and chromium were detected at the Site.

16. In August, 1997, the Illinois EPA took six sediment and five surface water samples on the north side of Missouri Avenue, which showed elevated levels of lead, arsenic, cadmium and cyanide.

17. In November 1999, the U.S. Army Corps of Engineers took geotech probe samples on the north side of Missouri Avenue which detected elevated levels of lead and cyanide. In November 2001, the U.S. Army Corps of Engineers took ten samples of red mud on the north side of Missouri Avenue, which showed elevated levels of arsenic and chromium.

18. U.S. EPA's contractor, Ecology and Environment, Inc. conducted an assessment of the former Alcoa Property (a total of 23 samples) and reported the results in a Letter Report dated July 5, 2000. This Letter Report documents elevated levels of lead in the red mud/berm edge of the "Brown" or "West" pond and in the cinders south of the bermed ponds. The Letter Report also documents levels of arsenic in the gypsum berms and cinders. Chromium was detected in the red mud and cyanide was detected in the cinders.

VII. U.S. EPA's CONCLUSIONS OF LAW AND DETERMINATIONS

19. The Site is a "facility" as defined in section 101(9)

of CERCLA, 42 U.S.C. Section 9601(9).

20. Wastes and constituents thereof at the Site identified in paragraphs 14 through 18 are "hazardous substances" as defined in section 101(14) of CERCLA, 42 U.S.C. Section 9601(14), or constitute "any pollutant or contaminant" that may present an imminent and substantial danger to public health or welfare under section 104(a)(1) of CERCLA.

21. The presence of hazardous substances at the Site or the past, present or potential migration of hazardous substances currently located at or emanating from the Site, constitute actual and/or threatened "releases" as defined in section 101(22) of CERCLA, 42 U.S.C. Section 9601(22).

22. Respondents are "persons" as defined in section 101(21) of CERCLA, 42 U.S.C. Section 9601(21).

23. Respondents are responsible parties under sections 104, 107 and 122 of CERCLA, 42 U.S.C. Sections 9604, 9607 and 9622.

24. The actions required by this Consent Order are necessary to protect the public health or welfare or the environment, or in the public interest, 42 U.S.C. Section 9622(a), are consistent with CERCLA and the NCP, 42 U.S.C. Sections 9604(a)(1), 9622(a), and will expedite effective remedial action and minimize litigation, 42 U.S.C. Section 9622(a).

VIII. NOTICE

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

IX. WORK TO BE PERFORMED

26. All work performed under this Consent Order shall be under the direction and supervision of qualified personnel. Within 10 days of the effective date of this Order, and before the work outlined below begins, Respondents shall notify U.S. EPA in writing of the names, titles, and qualifications of the personnel, including contractors, subcontractors, consultants and laboratories to be used in carrying out such work. With respect to any proposed contractor, the Respondents shall demonstrate that the proposed contractor has a quality system which complies with ANSI/ASQC E4-1994, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs," (American National Standard, January 5, 1995), by submitting a copy of the proposed contractor's Quality Management Plan (QMP). The QMP should be prepared in accordance with "EPA Requirements for Quality Management Plans (QA/R-2)" (EPA/240/B-01/002, March 2001) or equivalent documentation as determined by U.S. EPA. The

qualifications of the persons undertaking the work for Respondents shall be subject to U.S. EPA's review, for verification that such persons meet minimum technical background and experience requirements. This Order is contingent on Respondents' demonstration to U.S. EPA's satisfaction that Respondents are qualified to perform properly and promptly the actions set forth in this Consent Order. If U.S. EPA disapproves in writing of any person's technical qualifications, Respondents shall notify U.S. EPA of the identity and qualifications of the replacement within 30 days of the written notice. If U.S. EPA subsequently disapproves of the replacement, U.S. EPA reserves the right to terminate this Order and to conduct a complete RI/FS, and to seek reimbursement for costs and penalties from Respondents. During the course of the RI/FS, Respondents shall notify U.S. EPA in writing of any changes or additions in the personnel used to carry out such work, providing their names, titles, and qualifications. U.S. EPA shall have the same right to approve changes and additions to personnel as it has hereunder regarding the initial notification.

27. Respondents shall conduct activities and submit deliverables as provided by the attached RI/FS Statement of Work, which is incorporated by reference, for the development of the RI/FS. All such work shall be conducted in accordance with CERCLA, the NCP, and U.S. EPA guidance including, but not limited

to, the "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA" (OSWER Directive # 9355.3-01), "Guidance for Data Usability in Risk Assessment" (OSWER Directive #9285.7-05) and guidance referenced therein, and guidance referenced in the Statement of Work, as may be amended or modified by U.S. EPA. The general activities that Respondents are required to perform are identified below, followed by a list of deliverables. The tasks that Respondents must perform are described more fully in the Statement of Work and guidance. The activities and deliverables identified below shall be submitted to U.S. EPA as provided. All work performed under this Consent Order shall be in accordance with the schedules herein, and in full accordance with the standards, specifications, and other requirements of the work plan and sampling and analysis plan, as initially approved or modified by U.S. EPA, and as may be amended or modified by U.S. EPA from time to time.

A. Task 1: RI/FS Work Plan. Within 120 calendar days of the effective date of this Order, Respondents shall submit to U.S. EPA and Illinois EPA a complete RI/FS Work Plan and Schedule as described in the attached Statement of Work. This plan shall consist of a summary of existing information on operations, sampling results and disposal at the Site, a field sampling plan and a quality assurance project plan (QAPP), as described in the

Statement of Work and guidances, including without limitation, "U.S. EPA Guidance for Quality Assurance Project Plans (QA/G-5)" (EPA/600/R-98/018, February 1998), and "EPA Requirements for Quality Assurance Project Plans (QA/R-5)" (EPA 240/B-01/003, March 2001). If U.S. EPA disapproves of or requires revisions to the RI/FS Work Plan and Schedule, in whole or in part, Respondents shall amend and submit to U.S. EPA a revised plan and schedule which is responsive to the directions in all U.S. EPA comments, within 30 days of receiving U.S. EPA's comments.

B. Task II: Remedial Investigation. Following U.S. EPA approval or modification of the RI/FS Work Plan and Schedule, Respondents shall conduct the Remedial Investigation according to the U.S. EPA approved Work Plan and Schedule, and the attached Statement of Work. Respondents shall complete the Remedial Investigation within the deadlines established by the RI/FS Work Plan.

C. Task III: Remedial Investigation Report. In accordance with the schedule contained in the Final RI/FS Work Plan approved by U.S. EPA, Respondents shall submit a draft remedial investigation report consistent with the attached Statement of Work and RI/FS Work Plan to U.S. EPA and Illinois EPA. If U.S. EPA disapproves of or requires revisions to the remedial investigation report, in whole or in part, Respondents shall amend and submit to U.S. EPA a revised Remedial Investigation

Report which is responsive to the directions in all U.S. EPA comments, within 30 days of receiving U.S. EPA's comments. Data included in the draft remedial investigation report shall also be formatted and submitted electronically according to U.S. EPA specifications.

D. Task IV: Feasibility Study Report. Within 730 calendar days after the effective date of the Consent Order, Respondents shall submit a Feasibility Study Report as described in the attached Statement of Work and consistent with RI/FS Guidance to U.S. EPA and Illinois EPA. If U.S. EPA disapproves of or requires revisions to the Feasibility Study Report in whole or in part, Respondents shall amend and submit to U.S. EPA a Revised Feasibility Study Report which is responsive to the directions in all U.S. EPA comments, within 30 days of receiving U.S. EPA's comments. The report as amended, and the administrative record, shall provide the basis for the proposed plan under CERCLA Sections 113(k) and 117(a) by U.S. EPA, and shall document the development and analysis of remedial alternatives.

E. Task V: Community Relations Plan and Technical Assistance Plan. U.S. EPA will prepare a Community Relations Plan, in accordance with U.S. EPA guidance and the NCP. Respondents shall provide information supporting U.S. EPA's community relations programs. Within 120 calendar days of the effective date of the Consent Order, Respondents shall submit to

U.S. EPA, a Technical Assistance Plan for providing and administering \$50,000 of Respondents' funds to be used by selected representatives of the community to hire independent technical advisors during the response activities conducted pursuant to this Consent Order and through U.S. EPA's issuance of the Record of Decision (ROD). The Technical Assistance Plan will be submitted as part of the RI/FS Work Plan. If U.S. EPA disapproves of or requires revisions to the Technical Assistance Plan, in whole or in part, Respondents shall amend and submit to U.S. EPA a revised TAP that is responsive to U.S. EPA comments, within 30 days of receiving U.S. EPA's comments. The TAP shall state that Respondents will provide and administer any additional amounts needed if the selected community group demonstrates such a need prior to EPA's issuance of this ROD. Any eligible community group shall be: 1) a group of people who may be affected by a release or threatened release at the Site; 2) incorporated as a nonprofit organization for the purposes of the Site or otherwise established as a charitable organization that operates within the geographical range of the Site and is already incorporated as a nonprofit organization; and 3) able to demonstrate its capability to adequately and responsibly manage any funds awarded. Any group is ineligible if it is: 1) a potentially responsible party (PRP) at the Site or represents such a PRP or is a group whose ability to represent the interests

of the affected individuals might be limited as a result of receiving money or services from a PRP; 2) affiliated with a national organization; 3) an academic institution; 4) a political subdivision; or 5) a group established or presently sustained by government entities, a PRP, or any ineligible entity.

28. U.S. EPA reserves the right to comment on, modify and direct changes for all deliverables. At U.S. EPA's discretion, Respondents must fully correct all deficiencies and incorporate and integrate all information and comments supplied by U.S. EPA either in subsequent or resubmitted deliverables. All plans, reports, and other items required to be submitted to U.S. EPA under this Consent Order shall, upon approval or modification by U.S. EPA, be enforceable under this Consent Order.

29. Respondents shall not proceed further with any subsequent activities or tasks until receiving U.S. EPA approval for the following deliverables: RI/FS Work Plan and Schedule, Remedial Investigation Report and Feasibility Report. While awaiting U.S. EPA approval on these deliverables, Respondents shall proceed with all other tasks and activities which may be conducted independently of these deliverables, in accordance with the schedule set forth in this Consent Order.

30. Upon receipt of the Feasibility Study Report, U.S. EPA may evaluate, as necessary, the estimates of the risk to the public and environment that are expected to remain after a

particular remedial alternative has been completed.

31. U.S. EPA reserves the right to stop Respondents from proceeding further, either temporarily or permanently, on any task, activity or deliverable at any point during the RI/FS. Respondents agree not to conduct any work or to mine the red mud or gypsum on the Site without U.S. EPA written authorization. Section 122(e)(6) of CERCLA states that no potentially responsible party may undertake any remedial action at the facility unless such remedial action has been authorized by the President.

32. In the event that Respondents amend or revise a report, plan or other submittal upon receipt of U.S. EPA comments, if U.S. EPA subsequently disapproves of the revised submittal, or if subsequent submittals do not fully reflect U.S. EPA's directions for changes, U.S. EPA retains the right to seek stipulated or statutory penalties; perform its own studies, modify and/or complete the RI/FS (or any portion of the RI/FS) under CERCLA and the NCP, and seek reimbursement from the Respondents for its costs; and/or seek any other appropriate relief.

33. In the event that U.S. EPA takes over some of the tasks, Respondents shall incorporate and integrate information supplied by U.S. EPA into the final RI/FS report.

34. Neither failure of U.S. EPA to expressly approve or disapprove of Respondents' submissions within a specified time

period, nor the absence of comments, shall be construed as approval by U.S. EPA. Whether or not U.S. EPA gives express approval for Respondents' deliverables, Respondents are responsible for preparing deliverables acceptable to U.S. EPA.

35. 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 U.S. EPA's Designated Project Coordinator of such shipment of hazardous substances. However, the notification of shipments shall not apply to any such off-site shipments when the total volume of such shipments will not exceed 10 cubic yards.

(a) The notification of any off-site shipment of hazardous substances 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.

(b) The identity of the receiving facility that is to

receive any shipment of hazardous substances and state will be determined by Respondents following the award of the contract for the RI/FS. Respondents shall provide all relevant information, including information under the categories noted in paragraph 35(a) above, on the off-site shipments, as soon as practical after the award of the contract and before the hazardous substances are actually shipped.

X. MODIFICATION OF THE WORK PLAN

36. If at any time during the RI/FS process, Respondents identify a need for additional data, a memorandum documenting the need for additional data shall be submitted to the U.S. EPA Project Coordinator within twenty (20) days of identification. U.S. EPA in its discretion will determine whether the additional data will be collected by Respondents and whether it will be incorporated into reports and deliverables.

37. In the event of conditions at the Site posing an immediate threat to human health or welfare or the environment, Respondents shall notify U.S. EPA and the state immediately. In the event of unanticipated or changed circumstances at the Site, Respondents shall notify the U.S. EPA Project Coordinator by telephone within 24 hours of discovery of the unanticipated or changed circumstances. In addition to the authorities in the NCP, in the event that U.S. EPA determines that the immediate threat or the unanticipated or changed circumstances warrant

changes in the Statement of Work and RI/FS Work Plan, U.S. EPA shall modify or amend the Statement of Work and RI/FS Work Plan in writing accordingly. Respondents shall perform the Statement of Work and RI/FS Work Plan as modified or amended.

38. U.S. EPA may determine that in addition to tasks defined in the Statement of Work and initially approved RI/FS Work Plan, other additional work may be necessary to accomplish the objectives of the RI/FS as set forth in this Consent Order, including the Statement of Work for this RI/FS. U.S. EPA may require that the Respondents perform these response actions in addition to those required by the Statement of Work and initially approved RI/FS Work Plan, including any approved modifications, if it determines that such actions are necessary for a complete RI/FS. Respondents shall confirm their willingness to perform the additional work in writing to U.S. EPA within 7 days of receipt of the U.S. EPA request or Respondents shall invoke dispute resolution. Subject to U.S. EPA resolution of any dispute, Respondents shall implement the additional tasks which U.S. EPA determines are necessary. The additional work shall be completed according to the standards, specifications, and schedule set forth or approved by U.S. EPA in a written modification to the Statement of Work and RI/FS Work Plan or written Statement of Work and RI/FS Work Plan supplement. U.S. EPA reserves the right to conduct the work itself at any point,

to seek reimbursement from Respondents, and/or to seek any other appropriate relief.

XI. QUALITY ASSURANCE

39. Respondents shall assure that work performed, samples taken and analyses conducted conform to the requirements of the Statement of Work, the Quality Assurance Pilot Plan (QAPP) component of the U.S. EPA approved RI/FS Work Plan, and guidance identified therein. Respondents will assure that field personnel used by Respondents are properly trained in the use of field equipment and in chain of custody procedures. Respondents shall only use laboratories which have a documented quality system that complies with ANSI/ASQC E4-1994, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs," (American National Standard, January 5, 1995) and "EPA Requirements for Quality Management Plans (QA/R-2)" (EPA/240/B-01/002, March 2001) or equivalent documentation as determined by U.S. EPA. U.S. EPA may consider laboratories accredited under the National Environmental Laboratory Accreditation Program (NELAP) to meet the quality system requirements.

XII. FINAL RI/FS, PROPOSED, PLAN, PUBLIC COMMENT RECORD OF DECISION, ADMINISTRATIVE RECORD

40. U.S. EPA retains the responsibility for the release to the public of the RI/FS report. U.S. EPA retains responsibility for the preparation and release to the public of the proposed

plan and record of decision in accordance with CERCLA and the NCP.

41. Respondents shall submit a final RI/FS Report to U.S. EPA. U.S. EPA shall provide Respondents with copies of the final RI/FS report (if it differs from that submitted by Respondents), proposed plan and record of decision.

42. U.S. EPA will determine the contents of and maintain the administrative record file for selection of the remedial action. Respondents shall submit to U.S. EPA documents developed during the course of the RI/FS upon which selection of the response action may be based. Respondents shall provide copies of plans, task memoranda for further action, quality assurance memoranda and audits, raw data, field notes, laboratory analytical reports and other reports. Upon request by U.S. EPA, Respondents shall submit in electronic form (according to U.S. EPA specifications) all portions of any report or other deliverable that Respondents are required to submit pursuant to this Consent Order. Respondents must additionally submit any previous studies conducted under state, local or other federal authorities relating to selection of the response action, and all communications between Respondents and state, local or other federal authorities concerning selection of the response action.

XIII. PROGRESS REPORTS AND MEETINGS

43. Respondents shall make presentations at, and

participate in, meetings at the request of U.S. EPA during the initiation, conduct, and completion of the RI/FS. In addition to discussion of the technical aspects of the RI/FS, topics will include anticipated problems or new issues. Meetings will be scheduled at reasonable times by U.S. EPA.

44. In addition to the deliverables set forth in this Order, Respondents shall provide to U.S. EPA monthly progress reports by the 10th day of every month. With respect to the preceding month, these progress reports shall, at a minimum, (1) describe the actions which have been taken to comply with this Consent Order during that month; (2) include hard copies and electronic copies of all results of sampling and tests and all other data received by the Respondents; (3) describe work planned for the next two months with schedules relating such work to the overall project schedule for RI/FS 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.

XIV. SAMPLING, ACCESS, AND DATA AVAILABILITY/ADMISSIBILITY

45. All results of sampling, tests, modeling or other data (including raw data) generated by Respondents, or on Respondents' behalf, during implementation of this Consent Order, shall be submitted to U.S. EPA in the subsequent monthly progress report as described in Section XIII of this Order in both paper and

electronic format according to U.S. EPA specifications. U.S. EPA will make available to the Respondents validated data generated by U.S. EPA unless it is exempt from disclosure by any federal or state law or regulation.

46. Respondents will verbally notify U.S. EPA at least 15 days prior to conducting significant field events as described in the Statement of Work or U.S. EPA approved RI/FS Work Plan. At U.S. EPA's verbal or written request, or the request of U.S. EPA's oversight assistant, Respondents shall allow split or duplicate samples to be taken by U.S. EPA (and its authorized representatives) of any samples collected by the Respondents in implementing this Consent Order. All split samples of Respondents shall be analyzed by the methods identified in the QAPP.

47. At all reasonable times, U.S. EPA and its authorized representatives shall have the authority to enter and freely move about all property at the Site and off-site areas where work, if any, is being performed, for the purposes of inspecting conditions, activities, the results of activities, records, operating logs, and contracts related to the Site or Respondents and their contractor pursuant to this Consent Order; reviewing the progress of the Respondents in carrying out the terms of this Consent Order; conducting tests as U.S. EPA or its authorized representatives deem necessary; using a camera, sound recording

device or other documentary type equipment; and verifying the data submitted to U.S. EPA by the Respondents. The Respondents shall allow these persons to inspect and copy all records, files, photographs, documents, sampling and monitoring data, and other writings related to work undertaken in carrying out this Consent Order. Nothing herein shall be interpreted as limiting or affecting U.S. EPA's right of entry or inspection authority under federal law. All parties with access to the Site under this paragraph shall comply with all approved health and safety plans under the RI/FS Work Plan.

48. The Respondents may assert a claim of business confidentiality covering part or all of the information submitted to U.S. EPA pursuant to the terms of this Consent Order under 40 C.F.R. Section 2.20., provided such claim is allowed by section 104(e)(7) of CERCLA, 42 U.S.C. Section 9604(e)(7). This claim shall be asserted in the manner described by 40 C.F.R. Section 2.203(b) and substantiated at the time the claim is made. Information determined to be confidential by U.S. 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 U.S. EPA, it may be made available to the public by U.S. EPA or the state without further notice to the Respondents. Respondents agree not to assert confidentiality claims with respect to any data related to site conditions, sampling, or monitoring.

49. In entering into this Consent Order, Respondents waive any objections to any data gathered, generated, or evaluated by U.S. EPA, the state or Respondents in the performance or oversight of the work that has been verified according to the quality assurance/quality control (QA/QC) procedures required by the Consent Order or any U.S. EPA-approved RI/FS Work Plans. If Respondents object to any other data relating to the RI/FS not subject to required QA/QC procedures, Respondents shall submit to U.S. EPA a report that identifies and explains their objections, describes the acceptable uses of the data, if any, and identifies any limitations to the use of the data. The report must be submitted to U.S. EPA within fifteen (15) days of the monthly progress report containing the data.

50. If the Site, or the off-site area that is to be used for access or is within the scope of the RI/FS, is owned in whole or in part by parties other than those bound by this Consent Order, Respondents will obtain, or use its best efforts to obtain, Site access agreements from the present owner(s) within 30 days of the effective date of this Consent Order. Such agreements shall provide access for U.S. EPA, its contractors and oversight officials, the state and its contractors, and the Respondents or their authorized representatives, and such agreements shall specify that Respondents are not U.S. EPA's representative with respect to liability associated with Site

activities. Copies of such agreements shall be provided to U.S. EPA prior to Respondents' initiation of field activities. Respondents' best efforts shall include providing reasonable compensation to any off-site property owner. U.S. EPA has discretion to waive the requirement for Respondents to pay reasonable compensation for access to a property owner that U.S. EPA determines to be a potentially responsible party. If access agreements are not obtained within the time referenced above, Respondents shall immediately notify U.S. EPA of their failure to obtain access. In its sole discretion, U.S. EPA may assist Respondents in obtaining access. In its sole discretion, U.S. EPA may obtain access for the Respondents, perform those tasks or activities with U.S. EPA contractors, or terminate the Consent Order in the event that Respondents cannot obtain access agreements. In the event that U.S. EPA performs those tasks or activities with U.S. EPA contractors and does not terminate the Consent Order, Respondents shall perform all other activities not requiring access to that site, and shall reimburse U.S. EPA for all costs incurred in performing such activities. Respondents additionally shall integrate the results of any such tasks undertaken by U.S. EPA into its reports and deliverables. Furthermore, the Respondents agree to indemnify the U.S. Government as specified in Section XXV of this Consent Order. Respondents also shall reimburse U.S. EPA for all costs and

attorney fees incurred by the United States to obtain access for the Respondents.

XV. DESIGNATED PROJECT COORDINATORS

51. Documents including reports, approvals, disapprovals, and other correspondence which must be submitted under this Consent Order, shall be sent by certified mail, return receipt requested, or by overnight delivery service to the following addressees or to any other addressees which the Respondents and U.S. EPA designate in writing:

(a) Documents to be submitted to U.S. EPA should be sent to:

Dion Novak
US EPA, Region 5,
Superfund Division, Mail Code SR-6J
77 W. Jackson Boulevard
Chicago, Illinois 60604

(b) Documents to be submitted to Illinois Environmental Protection Agency should be sent to:

Tom Crause
Illinois EPA
P.O. Box 19276
Springfield, IL 62794

Tom Miller
Illinois EPA
2009 Mall Street
Collinsville, IL 62234

(c) Documents to be submitted to the Respondents should be sent to:

Alcoa:

Ron Weddell
Alcoa Alumina & Chemicals, L.L.C.
State Hwy 35
Point Comfort, TX 77978

City of East St. Louis:

City Manager
City of East St. Louis
301 River Park Drive
East St. Louis, IL 62201

Michael Wagner
Attorney for City of East St. Louis
Hinshaw Law Firm
P.O. Box 509
521 W. Main St.
Belleville, IL 62222

52. On or before the effective date of this Consent Order, U.S. EPA and the Respondents shall each designate their own Project Coordinator. Each Project Coordinator shall be responsible for overseeing the implementation of this Consent Order. To the maximum extent possible, communications between the Respondents and U.S. EPA shall be directed to the Project Coordinator by mail, with copies to such other persons as U.S. EPA, the state, and Respondents may respectively designate. Communications include, but are not limited to, all documents, reports, approvals, and other correspondence submitted under this Consent Order. For some communications, including comments, approvals and other correspondence, electronic mail may be appropriate. The Project Managers may agree which communications

are appropriately sent by electronic mail.

53. U.S. EPA and Respondents each have the right to change their respective Project Coordinator. The other party must be notified in writing at least 10 days prior to the change.

54. U.S. EPA's Project Coordinator shall have the authority lawfully vested in a Remedial Project Manager (RPM) and On-Scene Coordinator (OSC) by the NCP. In addition, U.S. EPA's Project Coordinator shall have the authority consistent with the NCP, to halt any work required by this Consent Order, and to take any necessary response action when s/he determines that conditions at the Site may present an immediate endangerment to public health or welfare or the environment. The absence of the U.S. EPA Project Coordinator from the area under study pursuant to this Consent Order shall not be cause for the stoppage or delay of work.

55. U.S. EPA may 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. Section 9604(a). The oversight assistant may observe work and make inquiries in the absence of U.S. EPA, but is not authorized to modify the RI/FS Work Plan and Statement Of Work.

XVI. OTHER APPLICABLE LAWS

56. Respondents shall comply with all laws that are applicable when performing the RI/FS. No local, state, or

federal permit shall be required for any portion of any action conducted entirely on-site, including studies, where such action is selected and carried out in compliance with section 121 of CERCLA.

XVII. RECORD PRESERVATION

57. All records and documents in U.S. EPA's and Respondents' possession that relate in any way to the Site shall be preserved during the conduct of this Consent Order and for a minimum of ten (10) years after commencement of construction of any remedial action. The Respondents shall acquire and retain copies of all documents that relate to the Site and are in the possession of its employees, agents, accountants, contractors, or attorneys. After this 10 year period, the Respondents shall notify U.S. EPA at least ninety (90) days before the documents are scheduled to be destroyed. If U.S. EPA requests that the documents be saved, the Respondents shall, at no cost to U.S. EPA, give U.S. EPA the documents or copies of the documents.

XVIII. DISPUTE RESOLUTION

58. Any disputes concerning activities or deliverables required under this Consent Order, for which dispute resolution has been expressly provided for, shall be resolved as follows: If the Respondents object to any U.S. EPA notice of disapproval or requirement made pursuant to this Consent Order, Respondents shall notify U.S. EPA's Project Coordinator in writing of their

objections within (fourteen) 14 days of receipt of the disapproval notice or requirement. Respondents' written objections shall define the dispute, state the basis of Respondents' objections, and be sent certified mail, return receipt requested or by overnight delivery service. U.S. EPA and Respondents then have an additional fourteen (14) days to reach agreement unless this period is extended by mutual agreement. In the event that the parties cannot resolve the dispute, then the position advanced by U.S. EPA is binding, unless Respondents request a determination by U.S. EPA's Chief of the Remedial Response Branch within 14 days after conclusion of the negotiation period. Respondents' request for a determination by U.S. EPA's Remedial Response Branch Chief shall include a written Statement of Position on the matter including, but not limited to any factual data, analysis or opinions supporting that position and any supporting documentation. The Branch Chief's determination is U.S. EPA's final decision. Respondents shall proceed in accordance with U.S. EPA's final decision regarding the matter in dispute, regardless of whether Respondents agree with the decision. If Respondents do not agree to perform or does not actually perform the work in accordance with U.S. EPA's final decision, U.S. EPA reserves the right in its sole discretion to conduct the work itself, to seek reimbursement from the Respondents, to seek enforcement of the decision, to seek

stipulated penalties, and/or to seek any other appropriate relief.

59. Respondents are not relieved of their obligations to perform and conduct activities and submit deliverables on the schedule set forth in the work plan, while a matter is pending in dispute resolution. With respect to the disputed matter, stipulated penalties shall continue to accrue from the first day of noncompliance but payment shall be stayed pending resolution of the dispute. Paragraph 65 addresses stipulated penalties during and after dispute resolution.

XIX. DELAY IN PERFORMANCE/STIPULATED PENALTIES

60. For each day that the Respondents fail to complete a deliverable in a timely manner or fail to produce a deliverable of acceptable quality, or otherwise fails to perform in accordance with the requirements of this Consent Order, Respondents shall be liable for stipulated penalties. Penalties begin to accrue on the day that performance is due or a violation occurs, and extend through the period of correction. Where a revised submission by Respondents is required, stipulated penalties shall continue to accrue until a satisfactory deliverable is produced, however stipulated penalties will not accrue during the period, if any, beginning on the 31st day after U.S. EPA's receipt of such submission until U.S. EPA notifies Respondents of any deficiency. U.S. EPA will provide written

notice for violations that are not based on timeliness; nevertheless, penalties shall accrue from the day a violation commences. Payment shall be due within 30 days of receipt of a demand letter from U.S. EPA.

61. Respondents shall pay interest on the unpaid balance, which shall begin to accrue at the end of the 30-day period, at the rate established by the Department of Treasury pursuant to 30 U.S.C. Section 3717.

62. Respondents shall make all payments by forwarding a check to:

U.S. Environmental Protection Agency
Superfund Accounting
P.O. Box 70753
Chicago, Illinois 60673

Checks should identify the name of the Site, the Site identification number (B5J4), the account number, and the title of this Order. A copy of the check and/or transmittal letter shall be forwarded to the U.S. EPA Project Coordinator.

63. Stipulated penalties shall accrue in the amount of \$1,000 per day, per violation, for the first seven days of noncompliance; \$1,500 per day, per violation, for the 8th through 14th day of noncompliance; \$2,000 per day, per violation, for the 15th day through the 30th day; and \$3,000 per day per violation for all violations lasting beyond 30 days for the violations noted in subparagraphs 1 and 2 below:

1) Respondents' failure to submit any document specified

in Exhibit A of the Statement of Work in accordance with the Schedule set forth in Exhibit A of the Statement of Work and the U.S. EPA approved RIFS Work Plan

2) Respondents' failure to complete the implementation of work as prescribed in the Statement of Work and the approved RIFS Work Plan and Schedule.

64. Respondents shall be liable for stipulated penalties in the amount of \$500 per day for the first week or part thereof and \$1000 per day for each week or part thereof thereafter for failure to meet any other obligation under this Consent Order.

65. Respondents may dispute U.S. EPA's right to the stated amount of penalties by invoking the dispute resolution procedures under Section XVIII herein. Penalties shall accrue but need not be paid during the dispute resolution period. If Respondents do not prevail upon resolution, all penalties shall be due to U.S. EPA within 30 days of resolution of the dispute. If Respondents prevail upon resolution, no penalties shall be paid.

66. In the event that U.S. EPA provides for corrections to be reflected in the next deliverable and does not require resubmission of that deliverable, stipulated penalties for that interim deliverable shall cease to accrue on the date of such decision by U.S. EPA.

67. The stipulated penalties provisions do not preclude U.S. EPA from pursuing any other remedies or sanctions which are available to U.S. EPA because of the Respondents' failure to comply with this Consent Order, including but not limited to

conduct of all or part of the RI/FS by U.S. EPA. U.S. EPA will not seek civil penalties pursuant to Section 122(1) of CERCLA for any violation for which a stipulated penalty is provided herein, except in the case of a willful violation of the Consent Order. Payment of stipulated penalties does not alter Respondents' obligation to complete performance under this Consent Order.

XX. FORCE MAJEURE

68. "Force majeure", for purposes of this Consent Order, is defined as any event arising from causes entirely beyond the control of the Respondents and of any entity controlled by Respondents, including their contractors and subcontractors, that delays the timely performance of any obligation under this Consent Order notwithstanding Respondents' best efforts to avoid the delay. The requirement that the Respondents exercise "best efforts to avoid the delay" includes using best efforts to anticipate any potential force majeure event and best efforts to address the effects of any potential force majeure event (1) as it is occurring and (2) following the potential force majeure event, such that the delay is minimized to the greatest extent practicable. Examples of events that are not force majeure events include, but are not limited to, increased costs or expenses of any work to be performed under this Order or the financial difficulty of Respondents to perform such work.

69. If any event occurs or has occurred that may delay the

performance of any obligation under this Order, whether or not caused by a force majeure event, Respondents shall notify by telephone the Remedial Project Manager or, in his or her absence, the Director of the Superfund Division, U.S. EPA Region 5, within 48 hours of when the Respondents knew or should have known that the event might cause a delay. Within five business days thereafter, Respondents shall provide in writing the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to mitigate the effect of the delay; and a statement as to whether, in the opinion of Respondents, such event may cause or contribute to an endangerment to public health, welfare or the environment. Respondents shall exercise best efforts to avoid or minimize any delay and any effects of a delay. Failure to comply with the above requirements shall preclude Respondents from asserting any claim of force majeure.

70. If U.S. EPA agrees that the delay or anticipated delay is attributable to force majeure, the time for performance of the obligations under this Order that are directly affected by the force majeure event shall be extended by agreement of the parties, pursuant to section XXVI of this Order, for a period of time not to exceed the actual duration of the delay caused by the force majeure event. An extension of the time for performance of

the obligation directly affected by the force majeure event shall not, of itself, extend the time for performance of any subsequent obligation.

71. If U.S. EPA does not agree that the delay or anticipated delay has been or will be caused by a force majeure event, or does not agree with Respondents on the length of the extension, the issue shall be subject to the dispute resolution procedures set forth in section XVIII of this Order. In any such proceeding, to qualify for a force majeure defense, Respondents shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a force majeure event, that the duration of the delay was or will be warranted under the circumstances, that Respondents did exercise or are exercising due diligence by using their best efforts to avoid and mitigate the effects of the delay, and that Respondents complied with the requirements of paragraphs 68 and 69.

72. Should Respondents carry the burden set forth in paragraph 71 and prevail upon resolution, the delay at issue shall be deemed not to be a violation of the affected obligation of this Consent Order and no penalties need to be paid.

XXI. REIMBURSEMENT OF PAST COSTS

73. Within thirty (30) days of the effective date of this Consent Order, Respondents shall remit a certified or cashiers

check to U.S. EPA in the amount of \$ 13,821.02, together with interest that has accrued thereon at the rate of interest specified for the Hazardous Substances Superfund under CERCLA section 107(a), for all past response costs incurred by the United States at the Site through March 31, 2002.

74. Checks should be made payable to the Hazardous Substances Superfund and should include the name of the Site, the Site identification number (B5J4), the operable unit, if any, the Regional Lock Box Number account number and the title of this Order. Checks should be forwarded to:

U.S. Environmental Protection Agency
Superfund Accounting
P.O.Box 70753
Chicago, IL 60673

75. A copy of the check should be sent simultaneously to the U.S. EPA Project Coordinator.

XXII. REIMBURSEMENT OF RESPONSE AND OVERSIGHT COSTS

76. Following the issuance of this Consent Order, U.S. EPA shall submit to the Respondents on a periodic basis an accounting of all response costs including oversight costs incurred by the U.S. Government with respect to this RI/FS. Response costs may include, but are not limited to, costs incurred by the U.S. Government in overseeing Respondents' implementation of the requirements of this Consent Order and activities performed by the government as part of the RI/FS and community relations, including any costs incurred while obtaining access. Costs shall

include all direct and indirect costs, including, but not limited to, time and travel costs of U.S. EPA personnel and associated indirect costs, contractor costs, cooperative agreement costs, compliance monitoring, including the collection and analysis of split samples, inspection of RI/FS activities, Site visits, discussions regarding disputes that may arise as a result of this Consent Order, review and approval or disapproval of reports, and costs of redoing any of Respondents' tasks pursuant to this Consent Order. U.S. EPA's itemized cost summary shall serve as the basis for payment demands.

77. Respondents shall, within thirty (30) days of receipt of each accounting, remit a certified or cashier's check for the amount of those costs. If payment is not made within thirty (30) days of receipt of U.S. EPA's itemized cost summary, interest shall accrue from the date of the receipt of the itemized cost summary. The interest rate is the rate of interest on investments for the Hazardous Substances Superfund in section 107(a) of CERCLA.

78. Checks should be made payable to the Hazardous Substances Superfund and should include the name of the Site, the Site identification number(B5J4), the account number and the title of this Order. Checks should be forwarded to:

U.S. Environmental Protection Agency
Superfund Accounting
P.O. Box 70753
Chicago, Illinois 60673

79. Copies of the transmittal letter and check should be sent simultaneously to the U.S. EPA Project Coordinator.

80. Respondents agree to limit any disputes concerning costs to accounting errors and the inclusion of costs outside the scope of this Consent Order. Respondents shall identify any contested costs and the basis of their objection. All undisputed costs shall be remitted by Respondents in accordance with the schedule set forth above. Disputed costs shall be paid by Respondents into an escrow account while the dispute is pending. Respondents bear the burden of establishing an U.S. EPA accounting error or the inclusion of costs outside the scope of this Consent Order.

XXIII. RESERVATIONS OF RIGHTS AND REIMBURSEMENT OF OTHER COSTS

81. U.S. EPA reserves the right to bring an action against the Respondents under section 107 of CERCLA for recovery of all response costs including oversight costs, incurred by the United States at the Site that are not reimbursed by the Respondents, any costs incurred in the event that U.S. EPA performs the RI/FS or any part thereof, and any future costs incurred by the United States in connection with response activities conducted under CERCLA at this Site.

82. U.S. EPA reserves the right to bring an action against Respondents to enforce the past costs and response and oversight cost reimbursement requirements of this Consent Order, to collect

stipulated penalties assessed pursuant to section XIX of this Consent Order, and to seek penalties pursuant to section 109 of CERCLA, 42 U.S.C. Section 9609.

83. Except as expressly provided in this Order, each party reserves all rights and defenses it may have. Nothing in this Consent Order shall affect U.S. EPA's removal authority or U.S. EPA's response or enforcement authorities including, but not limited to, the right to seek injunctive relief, stipulated penalties, statutory penalties, and/or punitive damages. Notwithstanding any other provision in this Consent Order, U.S. EPA reserves all rights against Respondents with respect to liability for the area south of Missouri Avenue in East St. Louis, Illinois.

84. Following satisfaction of the requirements of this Consent Order, Respondents shall have resolved their liability to U.S. EPA for the work performed by Respondents pursuant to this Consent Order. Respondents are not released from liability, if any, for any response actions taken beyond the scope of this Order regarding removals, other operable units, remedial design/remedial action of this operable unit, or activities arising pursuant to section 121(c) of CERCLA. Except as otherwise specifically provided for in this Order, in consideration and upon Respondents' payment of the response costs specified in Section XXII of this Order, U.S. EPA covenants not

to sue or to take administrative action against Respondents under Section 107(a) of CERCLA, 42 U.S.C. Section 9607(a), for recovery of response costs paid by Respondents in connection with this Order. These covenants not to sue are conditioned upon the complete and satisfactory performance by Respondents.

85. The Parties agree that the Respondents are entitled to protection from contribution actions or claims as provided by CERCLA Section 113(f)(2), 42 U.S.C. § 9613(f)(2) for matters addressed in this Consent Order and the attached SOW. Nothing in this Consent Order precludes Parties to this Consent Order from assessing any claims, causes of action, or demands against any person not a party to this Consent Order for indemnification, contribution or cost recovery.

XXIV. DISCLAIMER

86. By signing this Consent Order and taking actions under this Order, the Respondents do not admit U.S. EPA's Findings of Fact and Conclusions of Law. Furthermore, the participation of Respondents in this Order shall not be considered an admission of liability and is not admissible in evidence against the Respondents in any judicial or administrative proceeding other than a proceeding by the United States, including U.S. EPA, to enforce this Consent Order or a judgment relating to it. Respondents retain their rights to assert claims against other potentially responsible parties at the Site. However,

Respondents agree not to contest the validity or terms of this Order, or the procedures underlying or relating to it in any action brought by the United States, including U.S. EPA, to enforce its terms.

XXV. OTHER CLAIMS

87. In entering into this Order, Respondents waive any right to seek reimbursement under section 106(b) of CERCLA. Respondents also waive any right to present a claim under section 111 or 112 of CERCLA. This Order does not constitute any decision on preauthorization of funds under section 111(a)(2) of CERCLA. Respondents further waive all other statutory and common law claims against U.S. EPA, including, but not limited to, contribution and counterclaims, relating to or arising out of conduct of the RI/FS.

88. 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, firm, partnership, subsidiary or corporation not a signatory to this Consent Order for any liability it may have arising out of or relating in any way to the generation, storage, treatment, handling, transportation, release, or disposal of any hazardous substances, pollutants, or contaminants found at, taken to, or taken from the Site.

89. Respondents shall bear their own costs and attorneys fees.

XXVI. FINANCIAL ASSURANCE, INSURANCE, AND INDEMNIFICATION

90. Respondents assure that they have the financial ability to perform the work and any other obligations required under this Consent Order.

91. Prior to commencement of any work under this Order, Respondents shall secure, and shall maintain in force for the duration of this Consent Order, Commercial General Liability ("CGL") for bodily injury and property damage, including contractual liability insurance and automobile liability insurance, with limits of \$2 million, combined single limit per occurrence and in the aggregate, for each coverage, naming as an additional insured the United States.

92. (a) Respondents shall also secure, and maintain in force for the duration of this Order the following:

i. Professional Errors and Omissions Insurance in the amount of \$1 million per claim.

ii. Named Peril and Time Element Pollution Liability Insurance in the amount of \$1 million per claim/\$2 million aggregate for third party bodily injury and property damage.

(b) For the duration of this Order, Respondents shall satisfy, or shall ensure that their contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of employer's liability insurance and workmen's

compensation insurance for all persons performing work on behalf of the Respondents, in furtherance of this Order.

(c) If Respondents demonstrate by evidence satisfactory to U.S. EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering the same risks but in a lesser amount, then with respect to that contractor or subcontractor Respondents need provide only that portion of the insurance described above which is not maintained by the contractor or subcontractor.

(d) Prior to commencement of any work under this Order, and annually thereafter on the anniversary of the effective date of this Order, Respondents shall provide to U.S. EPA certificates of such insurance. Respondents may satisfy the insurance limits specified herein with any combination of primary and excess/umbrella insurance policies.

93. At least 7 days prior to commencing any work under this Consent Order, Respondents shall certify to U.S. EPA that the required insurance has been obtained by that contractor.

94. The Respondents agree to indemnify and hold the United States Government, its agencies, departments, agents, and employees harmless from any and all claims or causes of action arising from or on account of acts or omissions of Respondents, their employees, agents, servants, receivers, successors, or assignees, or any persons including, but not limited to, firms,

corporations, subsidiaries and contractors, in carrying out activities under this Consent Order. The United States Government or any agency or authorized representative thereof shall not be held as a party to any contract entered into by Respondents in carrying out activities under this Consent Order.

XXVII. EFFECTIVE DATE AND SUBSEQUENT MODIFICATION

95. The effective date of this Consent Order shall be the date it is signed by U.S. EPA.

96. This Consent Order may be amended by mutual agreement of U.S. EPA and Respondents. Amendments shall be in writing and project coordinators do not have the authority to sign amendments to this Consent Order.

97. No informal advice, guidance, suggestions, or comments by U.S. EPA regarding reports, plans, specifications, schedules, and any other writing submitted by the Respondents will be construed as relieving the Respondents of their obligation to obtain such formal approval as may be required by this Order. Any deliverables, plans, technical memoranda, reports (other than progress reports), specifications, schedules and attachments required by this Consent Order are, upon approval by U.S. EPA, incorporated into this Order.

XXVIII. TERMINATION AND SATISFACTION

98. This Consent Order shall terminate when Respondents

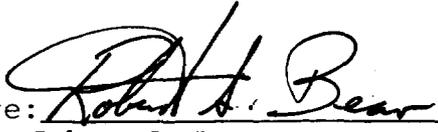
demonstrate in writing and certify to the satisfaction of U.S. EPA that all activities required under this Consent Order, including any additional work, payment of past costs, response and oversight costs, and any stipulated penalties demanded by U.S. EPA, have been performed and U.S. EPA has approved the certification. This notice shall not, however, terminate Respondents' obligation to comply with Sections XVI, XXI, and XXII of this Consent Order.

99. The certification shall be signed by a responsible official representing the Respondents. Each representative shall make the following attestation: "I certify to the best of my knowledge and belief that the information contained in or accompanying this certification is true, accurate, and complete." For purposes of this Consent Order, a responsible official is a corporate official who is in charge of a principal business function.

THE UNDERSIGNED PARTY enters into this Administrative Order on Consent in the matter of the North Alcoa Superfund Site.

12/17/02
DATE

FOR Alcoa Inc.

Signature: 
Name: Robert S. Bear
Title: Director, Remediation Operations
Address: 201 Isabella Street
Pittsburgh, PA 15212

THE UNDERSIGNED PARTY enters into this Administrative Order on Consent in the matter of the North Alcoa Superfund Site.

FOR _____

DATE

Signature: _____
Name: _____
Title: _____
Address: _____

THE UNDERSIGNED PARTY enters into this Administrative Order on Consent in the matter of the North Alcoa Superfund Site.

FOR CITY OF EAST ST. LOUIS

12/23/02
DATE

Signature: 
Name: MICHAEL L. WAGNER
Title: ATTORNEY FOR CITY OF EAST ST. LOUIS
Address: 521 WEST MAIN STREET
P.O. BOX 509
EAST ST. LOUIS, IL 62201

THE UNDERSIGNED PARTY enters into this Administrative Order on Consent in the matter of the North Alcoa Superfund Site.

FOR _____

DATE

Signature: _____
Name: _____
Title: _____
Address: _____

THE UNDERSIGNED PARTY enters into this Administrative Order on Consent in the matter of the North Alcoa Superfund Site

12/31/02
DATE



William E. Muno
Superfund Division Director
U.S. Environmental Protection Agency
Region 5



FIGURE 2

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY	SITE: FORMER ALCOA PROPERTY SITE ILE 000 000 001
1993 AERIAL PHOTOGRAPH SHOWING FORMER ALCOA PROPERTY	
Scale: 1:4800	
LEGEND:	<input type="checkbox"/> Site Location



**STATEMENT OF WORK
FOR A REMEDIAL INVESTIGATION AND FEASIBILITY STUDY
AT THE FORMER ALCOA SITE
EAST ST. LOUIS, ST. CLAIR COUNTY, ILLINOIS**

INTRODUCTION

Alcoa's former East St. Louis Works (ESLW) was constructed primarily for the purpose of refining bauxite ore into alumina. In addition, the former East St. Louis Works also engaged in the production of fluoride, as well as bauxite and fluoride based chemicals, including cryolite, aluminum fluorides, and sodium acid fluoride. The former ESLW began operations in or about 1903 and ceased bauxite refining in or about 1957. The material remaining after aluminum is extracted during bauxite refining is known as "red mud", or bauxite residue. The red mud was placed initially at the edge of the former Pittsburgh Lake, and in three impoundments (with gypsum berms). Alcoa ceased disposal of red mud at the last impoundment with the cessation of bauxite refining operations at the ESLW in or about 1957. There may be red mud deposits in other areas of the site. Alcoa transferred the property to a number of entities in the late 1950's and 1960's. The City of East St. Louis now owns the three red mud impoundments and gypsum berms located north of Missouri Avenue.

PURPOSE:

The purpose of this Statement of Work (SOW) is to set forth requirements for the preparation of a Remedial Investigation and Feasibility Study (RI/FS) at the North Alcoa Site in East St. Louis, Illinois. The Site to be evaluated in the RI is defined in the AOC as: 1) the property located north of Missouri Avenue, which is approximately bounded by 29th Street to the west, Alton Southern Railroad to the east, and Lake Drive to the north; and 2) areas located north of Missouri Avenue where hazardous substances have or may have come to be located from former Alcoa operations. The RI shall evaluate the nature and extent of contamination at and from the Site and also assess the risk from this contamination on human health and the environment. The RI shall provide sufficient site data necessary to evaluate remedial technologies. The FS Report shall evaluate alternatives for addressing the risk to human health and the environment from the contamination at and from the Site. The RI and FS Reports shall be conducted, at a minimum, consistent with the "Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA" (U.S. EPA, Office of Emergency and Remedial Response, October, 1988) and any other guidance that U.S. EPA uses to conduct an RI/FS, as well as any additional requirements in the Administrative Order. The Respondents shall furnish all personnel, materials, and services necessary for, or incidental to, performing the RI/FS at the Site, except as otherwise specified herein.

At the completion of the RI/FS, U.S. EPA will be responsible for the selection of a Site remedy and will document this selection in a Record of Decision (ROD). The remedial action selected by U.S. EPA will meet the cleanup standards specified in CERCLA Section 121. That is, the selected remedial action will be protective of human health and the environment, will be in compliance with, or include a waiver of, applicable or relevant and appropriate requirements of

other laws, will be cost-effective, will use permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable, and will address the statutory preference for treatment as a principal element. The final RI and FS Reports as adopted by U.S. EPA will, with the administrative record, form the basis for the selection of the Site's remedy and will provide the information necessary to support the development of the ROD.

U.S. EPA will provide oversight of the Respondents' activities throughout the RI/FS, including all field sampling activities. The Respondents will support U.S. EPA's initiation and conduct of activities related to the implementation of oversight activities.

SCOPE:

The tasks to be completed as part of this RI/FS are:

Task 1: RI/FS Work Plan

Task 2: Remedial Investigation

Task 3: RI Report

Task 4: Feasibility Study Report

Task 5: Progress Reports

Task 6: Technical Assistance Plan

TASK 1: RI/FS WORK PLAN

Within 120 calendar days of the effective date of the Administrative Order, the Respondents shall submit a draft RI/FS Work Plan to U.S. EPA and Illinois EPA that addresses all data acquisition activities. The objective of this RI/FS support sampling is to further determine the extent of contamination at the Site beyond that already identified by previous Site investigations and to collect Site data necessary to evaluate remedial technologies. Respondents will use applicable and relevant EPA and State guidance in conducting the RI/FS, in developing sampling designs for information and data collection activities that support site characterization, human health risk assessment, ecological risk problem formulation and assessment, and evaluation of remedial alternatives. The plan shall include a summary of existing information on past site operations and waste disposal and existing site characterization and sampling data on the site. The plan shall contain a description of equipment specifications, required analyses, sample types, and sample locations and frequencies. The plan shall address specific hydrologic, hydrogeologic, and air transport characterization methods including, but not limited to, geologic mapping, geophysics, field screening, drilling and well installation, flow determination, and soil/groundwater/surface water/sediment/waste sampling to determine extent of contamination. Areas to be studied beyond the former Alcoa northern property boundaries and waste ponds include the nearby wetlands and nearby residential, industrial and commercial properties, including any private and municipal wells and well fields.

The Respondents shall identify the data requirements of specific remedial technologies that may be necessary to evaluate remedial activities in the RI/FS, and the Respondents shall provide a schedule stating when events will take place and when deliverables will be submitted.

Respondents shall prepare the RI/FS Work Plan with the following information:

A. Site Background

A brief summary of the Site location, general Site physiography, hydrology, and geology shall be included. A review of known historical processes, waste generation, and waste disposal practices. A detailed map showing locations of former industrial processes shall also be presented. A summary description of the data already available shall be included which will highlight the areas of known contamination and the levels detected. Tables shall be included to display the minimum and maximum levels of detected contaminants across the Site and nearby areas.

B. Data Gap Description

The Respondents shall make an analysis of the currently available data to determine the areas of the Site and nearby areas which require additional data in order to define the extent of contamination for purposes of implementing a remedial action. A description of the number, types, and locations of additional samples to be collected shall be included in this section of the Work Plan.

Descriptions of the following activities shall also be included. Sampling results of the media shall be considered in the human health and ecological risk assessments.

i. Waste Characterization

Within the Work Plan, the Respondents shall include a program for characterizing the waste materials at the Site. This shall include an analysis of current information/data on past operational, waste generation and waste disposal practices at the Site. This characterization may include remote sensing (e.g. soil gas surveys, geophysical surveys, magnetometry, ground penetrating radar) to properly investigate fill areas on the Site. For buried wastes, test pits/trenches and soil borings shall be included in the Work Plan to determine waste depths and volume, and to determine the extent of cover over fill areas when such information is not already known. The Work Plan shall also include soil gas surveys for the areas on and around fill areas of the Site. The Work Plan shall also include geophysical characterization methods, such as ground penetrating radar or magnetometry.

ii. Hydrogeologic Investigation

The Work Plan shall address the hydrogeology of the site and will include investigative tasks to determine: the flowpaths, contaminant concentrations and mobility of groundwater pollutants at and from the Site; regional and local groundwater flow direction and quality; local uses of groundwater, including

number, location, depth, use of nearby private and municipal wells; and current and potential future impacts to private and municipal wells from the Site. The Work Plan shall also develop a strategy to determine horizontal and vertical distribution of contaminants, including extent of any groundwater contaminant plume, and may include other hydraulic tests such as slug tests and pump tests.

iii. Soils and Sediments Investigation

The Respondents shall include a program to determine the extent of contamination of surface and subsurface soils at the Site, and to determine the extent of Site-related contamination of surface and subsurface soils near the Site, especially in residential areas, within the Work Plan. The Work Plan shall include investigations to determine the leachability of Site contamination into the groundwater at and near the Site. The Work Plan shall also determine the extent, including depth, of contamination of sediments in the site wetlands and any other nearby creeks and wetlands that may exist. The Work Plan shall also require collection of samples of any leachate present from the areas described as fill.

iv. Surface Water Investigation

Within the Work Plan, the Respondents shall include a program to determine the extent of surface water contamination including leachate from fill, in the site wetlands, and any other nearby creeks, wetlands or other surface water areas that may have been impacted by the Site.

v. Air Investigation

Within the Work Plan, the Respondents shall include a program to characterize the air pathway at and from the Site. The program will determine the extent of atmospheric contamination originating from the various source areas at and from the Site. The program shall address the tendency of the contamination identified at the Site to enter the atmosphere, local wind patterns, and the degree of hazard posed by direct inhalation of contaminants in the air. Respondents shall investigate potential contaminant migration in air from the Site to surrounding areas. The air investigation may include modeling of air borne migration of contaminants from the Site to surrounding areas.

vi. Ecological Assessment

Within the Work Plan, the Respondents shall include a plan for collecting data for the purpose of assessing the impact, if any, to aquatic and terrestrial ecosystems within and adjacent to the Site, including the site wetlands, surface water and Frank Holten State Park, as a result of the disposal, release, and

migration of contaminants at and from the Site. This assessment will be performed consistent with EPA guidance on conducting Ecological Risk Assessments. The EPA process includes a preliminary problem formulation and screening level risk analysis, which is used to determine the Assessment Endpoints on which the more detailed risk analysis should focus. The Baseline problem formulation will then be prepared to describe the detailed risk analysis for the Assessment Endpoints. EPA will review and comment on each phase in the development of the Baseline Problem Formulation prior to the work plan submission and a schedule will be given to EPA outlining this preliminary review within ten days of the effective date of this AOC. The preliminary Problem Formulation, screening level risk analysis, baseline Problem Formulation will be presented in the workplan. The plan shall include a description of the ecosystems affected, an evaluation of toxicity, an assessment of endpoint organisms, and the exposure pathways. The Baseline Problem Formulation will identify the data needed to perform the proposed risk analyses and will also include a description of any sampling, toxicity testing or trapping to be included as part of the assessment. The ecological assessment shall be conducted in accordance with U.S. EPA guidance, including "Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments" (June 5, 1997; EPA 540-R-97-006).

vii. Treatability Studies

Within the Work Plan, the Respondents shall include a program for any pilot or treatability test(s) necessary to determine the implementability and effectiveness of technologies where sufficient information is not otherwise available.

C. Sampling Procedures

The Respondents shall include a description of the depths of sampling, parameters to be analyzed, equipment to be used, decontamination procedures to be followed, sample quality assurance, data quality objectives, and sample management procedures to be used in the field. All sampling and analyses performed shall conform to U.S. EPA direction, approval, and guidance regarding sampling, quality assurance/quality control ("QA/QC"), data validation, and chain of custody procedures. The Respondents shall ensure that the laboratory used to perform the analyses participates in a QA/QC program that complies with U.S. EPA guidance.

Upon request by U.S. EPA, the Respondents shall have such a laboratory analyze samples submitted by U.S. EPA for quality assurance monitoring. The Respondents shall provide to U.S. EPA the QA/QC procedures followed by all sampling teams and laboratories performing data collection and/or analysis. The Respondents shall also ensure provision of analytical tracking information consistent with OSWER Directive No. 9240.0-2B, "Extending the Tracking of Analytical Services to PRP-Lead Superfund Sites."

Upon request by U.S. EPA, the Respondents shall allow U.S. EPA or its authorized representatives to take split and/or duplicate samples of any samples collected by the Respondents or their contractors or agents. The Respondents shall notify U.S. EPA not less than 10 business days in advance of any sample collection activity. U.S. EPA shall have the right to take any additional samples that it deems necessary.

When applicable, the "TRW Recommendations for Sampling and Analysis of Soil at Lead (Pb) Sites," OSWER 9285.7-38, April, 2000 guidance should be used to collect and analyze soil lead samples.

i. Quality Assurance Project Plan (QAPP)

The Respondents shall prepare a Site-specific QAPP covering sample analysis and data handling for samples collected during the RI, based on the Administrative Order and guidance provided by U.S. EPA. The QAPP shall be consistent with the requirements of the U.S. EPA Contract Lab Program (CLP) for laboratories proposed outside the CLP. Respondents shall follow the U.S. EPA Region 5 Superfund Division Model QAPP guidance to prepare the QAPP.

The QAPP shall be prepared in accordance with "EPA Requirements of Quality Assurance Project Plans (QA/R-5)" (EPA/240/B-01/003, March 2001) and "EPA Guidance for Quality Assurance Project Plans (QA/G-5)" (EPA/600/R-98/018, February 1998).

The Respondents will demonstrate, in advance to U.S. EPA's satisfaction, that each laboratory it may use is qualified to conduct the proposed work. This includes use of methods and analytical protocols for the chemicals of concern in the media sampled within detection and quantification limits consistent with both QA/QC procedures and data quality objectives (DQO) approved in the QAPP for the Site by U.S. EPA. The laboratory must have and follow an approved QA program. If a laboratory not in the CLP is selected, methods consistent with CLP methods that would be used at this Site for the purposes proposed and QA/QC procedures approved by U.S. EPA will be used. The Respondents shall only use laboratories which have a documented Quality Assurance Program which complies with ANSI/ASQC E-4 1994, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs," (American National Standard, January 5, 1995) and "EPA Requirements for Quality Management Plans (QA/R-2)" (EPA/240/B-01-002, March 2001) or equivalent documentation as determined by U.S. EPA.

The Respondents shall participate in a pre-QAPP meeting or conference call with U.S. EPA. The purpose of this meeting or conference call is to discuss QAPP requirements and obtain any clarification needed to prepare the QAPP.

ii. Field Sampling Plan activities in Work Plan

The Respondents shall develop a Field Sampling Plan as part of the Work Plan, as described in "Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA," October, 1988. The Field Sampling Plan should supplement the QAPP and cover all RI sample collection activities. The Respondents shall submit draft and final versions of the Field Sampling Plan according to the schedule in the RI/FS Work Plan.

D. Health and Safety Plan

The Respondents shall prepare a Site Health and Safety Plan which is designed to protect on-site personnel, area residents, and nearby workers from physical, chemical, and all other hazards posed by sampling events described in this SOW. The Health and Safety Plan shall develop the performance levels and criteria necessary to address the following areas:

- General requirements
- Personnel
- Levels of protection
- Safe work practices and safe guards
- Medical surveillance
- Personal and environmental air monitoring
- Personal hygiene
- Decontamination - personal and equipment
- Site work zones
- Contaminant control
- Contingency and emergency planning (including response to fires/explosions)
- Logs, reports, and record keeping

The Health and Safety Plan shall, at a minimum, follow U.S. EPA guidance document "Standard Operating Safety Guides" (Publication 9285.1-03, PB92-963414, June, 1992), and all OSHA requirements as outlined in 29 CFR 1910.

E. Schedule

The Respondents shall include a schedule which identifies timing for initiation and completion of all tasks to be completed as part of this RI/FS Work Plan. A Final RI/FS Work Plan shall be submitted to U.S. EPA and Illinois EPA within 30 calendar days of the receipt of U.S. EPA's comments on the draft RI/FS Work Plan.

TASK 2: REMEDIAL INVESTIGATION

The Respondents shall conduct the Remedial Investigation according to the U.S. EPA approved Work Plan and schedule. The Respondents shall coordinate activities with U.S. EPA's Remedial Project Manager (RPM) prior to mobilization, during field activities and shall communicate by telephone the progress of field activities at the end of every week. Within the monthly reports, the Respondents shall provide the RPM or the entity designated by the RPM with all laboratory data obtained in the previous month in both hard copy and electronic form according to U.S. EPA specifications. In addition, the Respondents shall submit monthly technical memorandum that summarizes field activities (including drilling locations, depths and field notes if requested by RPM), problems encountered, solutions to problems, and upcoming field activities.

TASK 3: REMEDIAL INVESTIGATION (RI) REPORT

According to the schedule in the Final RI/FS Work Plan (Task 1) as approved by U.S. EPA, the Respondents shall submit to U.S. EPA, for review, a draft RI Report addressing the requirements set forth in the RI/FS workplan. The RI Report shall be consistent with the Administrative Order and this SOW. Respondents shall complete the RI Report in accordance with the following requirements:

RI Report Outline:

1 Executive Summary

The Executive Summary shall provide a general overview of the contents of the RI. It shall contain a brief discussion of the Site and the current and/or potential threats posed by conditions at the Site.

2 Site Characterization

The RI shall summarize available data on the physical, demographic, and other characteristics of the Site and the nearby areas. Specific topics which shall be addressed in the Site characterization are detailed below. The Site characterization shall concentrate on those characteristics necessary to evaluate and select an appropriate remedy.

2.1 Site Description and Background

The Site description includes current and historical information. The following types of information shall be included, where available and as appropriate, in the Site-specific conditions and the scope of the remedial action.

- 2.1.1 Site Location and Physical Setting
- 2.1.2 Present and Past Facility Operations and Disposal Practices
- 2.1.3 Geology/Hydrology/Hydrogeology

- 2.1.4 Current and Past Groundwater Use in the Site Area
- 2.1.5 Surrounding Land Use and Populations
- 2.1.6 Sensitive Ecosystems
- 2.1.7 Meteorology/Climatology

2.2 Groundwater Fate and Transport

- Contaminant Characteristics
- Groundwater Fate and Transport Processes
- Groundwater Contaminant Migration Trends
- Groundwater Modeling

2.3 Previous Removal Actions

The Site characterization section shall also describe any previous removal and remedial actions at the Site and nearby areas. Previous information shall be organized as follows:

- The scope and objectives of the previous removal action(s)
- The amount of time spent on the previous removal action(s)
- The nature and extent of hazardous substances, pollutants, or contaminants treated or controlled during the previous removal action(s) (including all monitoring conducted)
- The technologies used and/or treatment levels used for the previous removal action(s).

2.4 Source, Nature, and Extent of Contamination

This section shall summarize the available Site characterization data, including the locations of the hazardous substances, pollutants, or contaminants; the quantity, volume, size, or magnitude of the contamination; and the physical and chemical attributes of the hazardous pollutants or contaminants.

2.5 Analytical Data

This section shall present the available data, including, but not limited to, soil, groundwater, surface water, sediments, and air. This section should discuss any historical data gaps that were identified, and the measures taken to develop all necessary, additional data.

2.6 Human Health Risk Assessment

Respondents shall conduct a human health risk assessment that focuses on actual and potential risks to persons coming into contact with on-site contaminants as well as risks to the nearby residential and industrial worker populations from exposure to contaminated groundwater, soils, sediments, surface water, air, and ingestion of

contaminated organisms in nearby ecosystems that have been impacted by contaminants migrating from the Site. The human health risk assessment shall define central tendency and reasonable maximum estimates of exposure for current land use conditions and reasonable future land use conditions. The human health risk assessment shall use data from the Site and nearby areas to identify the contaminants of concern (COC), provide an estimate of how and to what extent human receptors might be exposed to these contaminants, and provide an assessment of the health effects associated with these contaminants. The human health risk assessment shall project the potential risk of health problems occurring if no cleanup action is taken at the Site and/or nearby areas, and establish target action levels for COCs (carcinogenic and non-carcinogenic).

Respondents shall conduct human health risk assessment in accordance with U.S. EPA guidance including, at a minimum: "Risk Assessment Guidance for Superfund (RAGS), Volume I - Human Health Evaluation Manual (Part A)," Interim Final (EPA-540-1-89-002)," OSWER Directive 9285.7-01A; December 1, 1989; and "Risk Assessment Guidance for Superfund (RAGS), Volume I - Human Health Evaluation Manual (Part D, Standardized Planning, Reporting, and Review of Superfund Risk Assessments)," Interim, (EPA 540-R-97-033), OSWER 9285.7-01D, January, 1998.

Respondents shall also conduct the human health risk assessment in accordance with the following additional guidance found in the following USEPA OSWER directives:

- 1) "Clarification to the 1994 Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities," OSWER Directive 9200.4-27; August, 1998,
- 2) "Implementation of the Risk Assessment Guidance for Superfund (RAGS) Volume I - Human Health Evaluation Manual, (Part D, Standardized Planning, Reporting, and Review of Superfund Risk Assessments) (Interim)," OSWER Directive 9285.7-01D-1; December 17, 1997,
- 3) "Soil Screening Guidance: Technical Background Document," OSWER Directive 9355.4-17A; May 1, 1996,
- 4) "Soil Screening Guidance: User's Guide," Publication 9355.4-23; April, 1996,
- 5) "Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities," OSWER Directive 9355.4-12; July 14, 1994,
- 6) "Guidance Manual for the Integrated Exposure Uptake Biokinetic (IEUBK) Model for Lead in Children," Publication 9285.7-15-1; February, 1994, and associated, clarifying Short Sheets on IEUBK Model inputs, including but not limited to OSWER 9285.7-32 through 34, as listed on the OSWER lead internet site at www.epa.gov/superfund/programs/lead/prods.htm.

7) "Integrated Exposure Uptake Biokinetic (IEUBK) Model for Lead in Children," Version 0.99D, NTIS PB94-501517, 1994 or "Integrated Exposure Uptake Biokinetic (IEUBK) Model for Lead in Children," Windows© version, 2001,

8) "Risk Assessment Guidance for Superfund: Volume I - Human Health Evaluation Manual: (Part B, Development of Risk-based Preliminary Remediation Goals)," Interim, OSWER Directive 9285.7-01B; December, 1991, and

9) "Human Health Evaluation Manual, Supplemental Guidance: Standard Default Exposure Factors," OSWER Directive 9285.6-03; March 25, 1991.

Respondents shall also comply with the guidance on assessing human health risk associated with adult exposures to lead in soil as found in the following document: "Recommendations of the Technical Review Workgroup for Lead for an Interim Approach to Assessing Risks Associated with Adult Exposures to Lead in Soil," December, 1996. This document may be downloaded from the Internet at the following address: www.epa.gov/superfund/programs/lead/prods.htm.

The human health risk assessment shall also include the following elements:

- Hazard Identification (sources). The Respondents shall review available information on the hazardous substances present at the Site and nearby areas, and identify the major COCs. COCs should be selected based on their detected concentrations and intrinsic toxicological properties.
- Conceptual Site Model and Exposure/Pathway Analysis.
- Characterization of Site and Potential Receptors.
- Exposure Assessment. The Respondents shall develop central tendency and reasonable maximum estimates of exposure for current and potential land use conditions at and near the Site.
- Toxicity Assessment
- Risk Characterization.
- Identification of Limitations/Uncertainties.

2.7 Ecological Risk Assessment

Respondents shall conduct the ecological risk assessment in accordance with U.S. EPA guidance including, at a minimum: "Ecological Risk Assessment Guidance for

Superfund, Process for Designing and Conducting Ecological Risk Assessments, (EPA-540-R-97-006, June 1997), OSWER Directive 9285.7-25.

The ecological risk assessment shall describe the data collection activities conducted as part of Task 1(B)(vi) as well as the following information:

- Hazard Identification (sources). The Respondents shall review available information on the hazardous substances present at and adjacent to the Site and identify the major COCs.
- Dose-Response Assessment. COCs should be selected based on their intrinsic toxicological properties.
- Preparation of Conceptual Exposure/Pathway Analysis.
- Characterization of Site and Potential Receptors.
- Selection of Chemicals, Indicator Species, and End Points. In preparing the assessment, the Respondents shall select representative chemicals, indicator species (species that are especially sensitive to environmental contaminants), and end points on which to concentrate.
- Exposure Assessment. The exposure assessment shall identify the magnitude of actual exposures, the frequency and duration of these exposures, and the routes by which receptors are exposed. The exposure assessment shall include an evaluation of the likelihood of such exposures occurring and shall provide the basis for the development of acceptable exposure levels.
- Toxicity Assessment/Ecological Effects Assessment. The toxicity and ecological effects assessment shall address the types of adverse environmental effects associated with chemical exposures, the relationships between magnitude of exposures and adverse effects, and the related uncertainties for contaminant toxicity (e.g., weight of evidence for adverse effects).
- Risk Characterization. During risk characterization, chemical-specific toxicity information, combined with quantitative and qualitative information from the exposure assessment, shall be compared to measured levels of contaminant exposure levels and the levels predicted through environmental fate and transport modeling. These comparisons shall determine whether concentrations of contaminants at or near the Site are affecting or could potentially affect the environment.
- Identification of Limitations/Uncertainties. The Respondents shall identify critical assumptions (e.g., background concentrations and conditions) and uncertainties in the report.

TASK 4: FEASIBILITY REPORT

Within 730 calendar days from the effective date of the Consent Order, the Respondents shall submit to U.S. EPA, for review, a draft FS Report, in accordance with the following requirements:

FS Report Outline:

1 Executive Summary

The Executive Summary shall provide a general overview of the contents of the FS Report. In addition, it shall contain a brief discussion of the Site and the current and/or potential threats posed by conditions at the Site.

2 Detailed Analysis of Alternatives

The Feasibility Study shall evaluate defined alternatives against the short and long-term aspects of three broad criteria: effectiveness, implementability, and cost.

2.1 Effectiveness

The effectiveness of an alternative refers to its ability to meet the objective regarding the scope of the remedial action. The "Effectiveness" discussion for each alternative shall evaluate the degree to which the technology would mitigate threats to human health and the environment. Criteria to be considered include:

2.1.1 Overall Protection of Human Health and the Environment

How well each alternative protects human health and the environment shall be discussed in a consistent manner. Assessments conducted under other evaluation criteria, including long-term effectiveness and permanence, short-term effectiveness, and compliance with ARARs shall be included in the discussion. Any unacceptable short-term impacts shall be identified. The discussion shall focus on how each alternative achieves adequate protection and describe how the alternative will reduce, control, or eliminate risks at the Site and nearby areas through the use of treatment, engineering controls, or institutional controls.

2.1.2 Compliance with ARARs and Other Criteria, Advisories, and Guidance

The detailed analysis shall summarize which requirements are applicable or relevant and appropriate to an alternative and describe how the alternative meets those requirements. A summary table may be employed to list potential ARARs.

In addition to ARARs, other Federal or State advisories, criteria, or guidance to be considered (TBC) may be identified.

2.1.3 Long-Term Effectiveness and Permanence

This evaluation assesses the extent and effectiveness of the controls that may be required to manage risk posed by treatment of residuals and/or untreated wastes at the Site. The following components shall be considered for each alternative: magnitude of risk, and adequacy and reliability of controls.

2.1.4 Reduction of Toxicity, Mobility, or Volume Through Treatment

The Respondents' analysis shall address U.S. EPA's policy of preference for treatment including an evaluation based on the following subfactors for a particular alternative:

- The treatment process(es) employed and the material(s) it will treat
- The amount of the hazardous or toxic materials to be destroyed or treated
- The degree of reduction expected in toxicity, mobility, or volume
- The degree to which treatment will be irreversible
- The type and quantity of residuals that will remain after treatment
- Whether the alternative will satisfy the preference for treatment

2.1.5 Short-Term Effectiveness

The Respondents' analysis shall address the short-term effectiveness criterion which evaluates the effects of the alternative during implementation before the remedial objectives have been met. Alternatives shall also be evaluated with respect to their effects on human health and the environment following implementation. The following factors shall be addressed as appropriate for each alternative:

- Protection of the community
- Protection of the workers
- Environmental impacts
- Time until response objectives are achieved

2.2 Implementability

The Feasibility Study shall include an assessment of the implementability of each alternative in terms of the technical and administrative feasibility and the availability of the goods and services necessary for each alternative's full execution. The following factors shall be considered under this criterion:

2.2.1 Technical Feasibility

The degree of difficulty to construct and operate the technology; the reliability of the technology, the availability of necessary services and materials; the scheduling aspects of implementing the alternatives during and after implementation; the potential impacts on the local community during construction operations; and the environmental conditions with respect to set-up, construction, and operation shall be described. Potential future removal actions shall also be discussed. The ability to monitor the effectiveness of the alternatives may also be described.

2.2.2 Administrative Feasibility

The administrative feasibility factor evaluates those activities needed to coordinate with other offices and agencies. The administrative feasibility of each alternative shall be evaluated, including the need for off-site permits, adherence to applicable non-environmental laws, and concerns of other regulatory agencies. Factors that shall be considered include, but are not limited to, the following: statutory limits, permits, and waivers.

2.2.3 Availability of Services and Materials

The Feasibility Study must determine if off-site treatment, storage, and disposal capacity; equipment, personnel, services and materials; and other resources necessary to implement an alternative shall be available in time to maintain the remedial schedule.

2.2.4 State and Community Acceptance

State and community acceptance will be considered by U.S. EPA before a final remedial action is decided. The Respondents need only mention in the Feasibility Study that U.S. EPA will consider and address State and community acceptance of an alternative when making a recommendation and in the final selection of the alternative in the ROD.

2.3 Cost

The Feasibility Study shall evaluate each alternative to determine its projected costs. The evaluation should compare each alternative's capital, and operations and maintenance costs. The present worth of each alternative should be calculated.

2.3.1 Direct Capital Costs

Costs for construction, materials, land, transportation, analysis of samples, and treatment shall be presented.

2.3.2 Indirect Capital Costs

Costs for design, legal fees, and permits shall be presented.

2.3.3 Long-Term Operations and Maintenance Costs

Costs for maintenance and long-term monitoring shall be presented.

3 **Comparative Analysis of Remedial Action Alternatives**

Once remedial action alternatives have been described and individually assessed against the evaluation criteria described in Section 5 above, the Feasibility Study shall include a comparative analysis to evaluate the relative performance of each alternative in relation to each of the criteria. The purpose of the analysis shall be to identify advantages and disadvantages of each alternative relative to one another so that key tradeoffs that would affect the remedy selection can be identified.

SCHEDULE

The Respondents shall hold monthly meetings either in person or via teleconference with U.S. EPA to review the RI/FS progress.

Respondents shall submit a draft RI Report to U.S. EPA according to the schedule in the Final RI/FS Work Plan as approved by U.S. EPA. Respondents shall submit the amended RI, if required, to U.S. EPA for approval within 30 calendar days of the receipt of U.S. EPA's comments on the draft RI.

Respondents shall submit a draft FS to U.S. EPA within 730 calendar days from the effective date of the Consent Order. Respondents shall submit the Final FS to U.S. EPA for approval within 30 calendar days of the receipt of U.S. EPA's comments on the draft FS.

TASK 5: PROGRESS REPORTS

On or before the tenth day of each month, the Respondents shall submit monthly written progress reports to U.S. EPA and Illinois EPA concerning actions undertaken pursuant to the Consent Order and this SOW, beginning 30 calendar days after the effective date of the Administrative Order, until termination of the Consent Order, unless otherwise directed in writing by the RPM. These reports shall describe all significant developments during the preceding period, including the work performed and any problems encountered, analytical data validated during the reporting period or reference other submittals if the data and results were submitted under separate cover, and developments anticipated during the next reporting period, including a schedule of work to be performed, anticipated problems, and actual or planned resolutions of past or anticipated problems.

TASK 6: Community Relations and Technical Assistance Plan

The development and implementation of community relations activities are the responsibility of U.S. EPA. The critical community relations planning steps performed by U.S. EPA include conducting community interviews and developing a community relations plan. Although implementation of the community relations plan is the responsibility of EPA, the Respondents, if directed by U.S. EPA, may assist by providing information regarding the site's history, participating in public meetings, or by preparing fact sheets for distribution to the general public. The extent of PRP involvement in community relations is left to the discretion of U.S. EPA. All PRP-conducted community relations activities will be subject to oversight by U.S. EPA.

The Respondents shall prepare a plan, hereinafter referred to as the Technical Assistance Plan or TAP, for providing and administering an initial \$50,000 of Respondents' funds to be used by selected representatives of the community to hire technical advisors, independent from the Respondents, to help interpret and comment on Site-related documents developed under this SOW and through U.S. EPA's issuance of the Record of Decision (ROD). The Respondents shall submit to U.S. EPA its Technical Assistance Plan for Agency approval as part of the RI/FS Work Plan.

As part of the Technical Assistance Plan, the Respondents shall propose a method, including an application process, minimum eligibility requirements, and selection criteria, for awarding and administering the funds above. Any eligible community group shall be: 1) a group of people who may be affected by a release or threatened release at the Site; 2) incorporated as a nonprofit organization for the purposes of the Site or otherwise established as a charitable organization that operates within the geographical range of the Site and is already incorporated as a nonprofit organization; and 3) able to demonstrate its capability to adequately and responsibly manage any funds awarded. Any group is ineligible if it is: 1) a potentially responsible party (PRP) at the Site or represents such a PRP or is a group whose ability to represent the interests of the affected individuals might be limited as a result of receiving money or services from a PRP; 2) affiliated with a national organization; 3) an academic institution; 4) a political subdivision; or 5) a group established or presently sustained by government entities, a PRP, or any ineligible entity.

Also as part of the TAP, Respondents shall include a proposed plan for documenting the eligibility of the selected community group, and informing the group and U.S. EPA if it believes any individual member is ineligible to participate in the group. Respondents shall also include a plan for informing the selected group of the activities that it can and cannot be undertaken with Respondents' funds. The TAP shall also include a proposal for offering and, if accepted, transferring up to \$5,000 to the selected group to cover its estimated need for funds for an initial start-up period.

Also as part of the TAP, Respondents shall include a plan for providing assistance to the selected community group in the solicitation for an independent Technical Advisor. Finally, Respondents shall include a proposed plan for negotiating a contract with the selected community organization and the independent Technical Advisor. The contract shall specify the duties of the Respondents,

community group, and Technical Advisor, respectively, and establish a dispute resolution process.

The Respondents may hire a third party to coordinate and administer the TAP (hereinafter referred to as the TAP Coordinator). However, any such TAP Coordinator shall be approved by U.S. EPA. It is the Respondents' burden to demonstrate that the TAP Coordinator is qualified to perform this task. If the Respondents opt to hire a TAP Coordinator, then it shall submit in writing that person's name, title, and qualifications to U.S. EPA within fifteen (15) days of the effective date of this Consent Order. Additionally, the Respondents shall designate within fifteen (15) days of the effective date of this Consent Order an outreach coordinator who will be responsive to the public's inquiries and questions about the Site, including information about the application process and administration of the TAP. Respondents shall also propose a plan for arranging for and hosting meetings between its Outreach Coordinator, the community group, the Technical Advisor, and other interested individuals.

The Respondents shall discuss the implementation of the TAP within the monthly progress reports.

Exhibit A
SCHEDULE FOR MAJOR DELIVERABLES

Deliverable	Deadline
TASK 1: Draft RI/FS Work Plan	120 calendar days after effective date of Consent Order
TASK 1: Final RI/FS Work Plan	30 calendar days after receipt of U.S. EPA comments
TASK 3: Draft RI Report	According to the schedule contained in the Final RI/FS Work as approved by U.S. EPA
TASK 3: Final RI Report	30 calendar days after receipt of U.S. EPA comments on draft RI Report
TASK 4: Draft FS	Within 730 calendar days after effective date of the Consent Order unless otherwise approved by U.S. EPA in the Final RI/FS Work Plan
TASK 4: Final FS	With 30 calendar days after receipt of U.S. EPA comments on draft FS Report
TASK 5: Monthly Progress Reports	10th business day of each month (commencing the first month after effective date of Consent Order)
TASK 6: Draft Technical Assistance Plan	120 calendar days after effective date of the Order (in the RI/FS Work Plan)
TASK 6: Final Technical Assistance Plan	30 calendar days after U.S. EPA comments on Draft Technical Assistance Plan
Miscellaneous Documents	In accordance with submittal date provided by RPM